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A Cognitive-linguistic Study of Change-of-state Constructions: Analytical Perspectives and Pedagogical Applications
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A Cognitive-linguistic Study of Change-of-state Constructions: Analytical Perspectives and Pedagogical Applications

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Resumen

La presente tesis realiza una investigación lingüística transversal sobre la familia de construcciones de cambio de estado, incluida la construcción de movimiento causado, la construcción resultativa, la construcción incoativa, la construcción causativa y la construcción media. No solo proporciona la descripción y explicación comparativa de cada construcción en L2 (inglés) y L1 (chino) desde una perspectiva cognitivista, sino que también aplica los hallazgos teóricos a las actividades pedagógicas en el contexto del inglés como lengua extranjera (EFL). En el estudio se adopta un enfoque de investigación cualitativa basada en corpus.

Después de revisar teorías representativas en gramáticas de construcción, se ha demostrado que el Modelo Léxico Construccional (MLC) aporta una base teórica sólida que logra una adecuación explicativa y proporciona un marco de análisis unificado mediante la integración del lexicalismo y el construccionismo. En los análisis detallados de cada miembro de las construcciones de cambio de estado, hemos encontrado cómo se codifica el cambio de estado y se muestran las similitudes y diferencias en L1 y L2. Al explorar los factores de constricción, encontramos que la metáfora, la metonimia, los rasgos tipológicos, la iconicidad y la telicidad motivan las construcciones.

En el campo pedagógico, este estudio aporta una muestra práctica en tres pasos de implementación pedagógica para profesionales chinos del inglés como lengua extranjera: (i) enseñar la motivación cognitiva que subyace a las oraciones que contienen ciertas construcciones en inglés y compararlas con las respectivas en L1, (ii) ilustrar la construcción meta con una amplia selección de ejemplos reales en inglés, y (iii) practicar la construcción con el fin de conseguir precisión y fluidez (repetir los pasos 1 o 2 si es necesario). Se han diseñado en detalle quince muestras de aplicación pedagógica en un formato amigable.

Abstract

The present dissertation conducts cross-linguistic research on the family of change-of-state constructions, including the caused-motion construction, the resultative construction, the inchoative construction, the causative construction, and the middle construction. It not only provides the comparative description and explanation of each construction in L2 (English) and L1 (Chinese) from a cognitivist perspective but also applies the theoretical findings to pedagogical pursuits in the context of English as a foreign language (EFL). A corpus-based qualitative research approach is adopted in the study.

After reviewing representative theories in Construction Grammars, the Lexical Constructional Model(LCM) has been proved to be a solid theoretical foundation that achieves explanatory adequacy and provides a unified framework of analysis by integrating lexicalism and constructionism. In the detailed analyses of each member of change-of-state constructions, we have found how the change of state is captured and the similarities and differences in L1 and L2 are displayed. When exploring the licensing factors, we have found the metaphor, metonymy, typological preference, iconicity and telicity motivate the constructions.

In the pedagogical field, this study develops a practical three-step sample of pedagogical implementation for Chinese EFL teachers: (i) teach the cognitive motivation behind sentences that contain certain English constructions and compare them with L1, (ii) illustrate the target construction with ample selection of real English examples, and (iii) practice the construction in terms of accuracy and fluency (repeat Step 1 or 2 if necessary). Fifteen teaching samples are designed in detail in a user-friendly style.

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construction

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List of abbreviations

AP   Adjectival Phrase

BCC   Beijing Language and Culture University Chinese Corpus

BNC   British National Corpus

CL   Cognitive Linguistics

CMC   Caused-motion Construction

COCA   Corpus of Contemporary American English

COS   Change-of-state

CPG   Cognitive Pedagogical Grammar

CT   Constructional Template

CCG   Cognitive Construction Grammar

DOR   Direct Object Restriction

EFL   English as a foreign language

FCG   Fillmore's Case Grammar

LCM   Lexical Constructional Model

L1   Mandarin Chinese

L2   English

LT   Lexical Template

NP   Noun Phrase

OCR   Optical Character Recognition

PG   Pedagogical Grammar

PP   Prepositional Phrase

RCG   Radical Construction Grammar

RRG   Role and Reference Grammar

SVC   Serial Verb Construction

VP   Verb Phrase

Chapter 1

Introduction

1.1 Aims of the study

Changes of state are frequent in daily life. It is only natural that languages abound with ways to express them. The notion of state[1] can refer to a physical condition (e.g., a state of being *liquid / solid, open / closed, whole / broken*, etc.) or to a mental stage (e.g., being in *a nervous / confused / excited* state). When a change of state happens, there is a change from one state to another state. Linguistic expressions may capture all or only some of the aspects of such a change. For example, *The vase broke* captures the final state, while *The door is opening* captures the process of becoming open.

Other scholars have investigated change-of-state (COS) verbs (Levin 1993; Koontz-Garboden and Beavers 2017), events of state change (Talmy 1985; Croft 2017), and change of state in certain constructions, such as the resultative construction (Goldberg and Jackendoff 2004). Based on their findings, we believe that COS expressions are achieved by the coercion between components in constructions, and we should study COS verbs. Furthermore, changes of state are captured by various types of construction, which we consider members of the family of COS constructions.

This dissertation aims to explore the cognitive mechanisms that underlie the family of COS constructions and to find cognitive-based pedagogical

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[1] State [Def. 1]. (n. d.). Merriam-Webster Online. Retrieved September 2, 2017, from https://www.merriam-webster.com/dictionary/state.

implementations of COS constructions for teaching English as a foreign language (EFL). A cross-linguistic study of the cognitive mechanisms can be useful to EFL learners by making them aware of the difference between their first language and the target language. In this dissertation, I select the case in which English is the target of second language acquisition and Mandarin Chinese is the first language of EFL learners because both English and Mandarin Chinese abound in different COS constructions uses and they belong to different families of languages. The comparison between the two languages is helpful for finding similarities and differences that may affect the acquisition of English in foreign language teaching contexts. The present dissertation aims to find answers to the following three questions:

(1) What are the similarities and differences between English and Chinese COS constructions?

(2) What are the licensing factors of the similar or different expressions in English and Chinese COS constructions?

(3) How is it possible to improve the teaching of English COS constructions to Chinese EFL learners?

1.2 The five constructions under analysis

When exploring the branches of COS constructions, we find that there are five constructions denoting changes of state: the *caused-motion construction* (CMC), the *resultative construction*, the *inchoative construction*, the *causative construction*, and the *middle construction*. They are briefly described below.

In the CMC, an entity, i.e., the causer, acts on another entity, i.e., the causee, causing the displacement of the causee along a certain path (Talmy 1985). This construction consists of two sub-events in a cause-effect relationship. For instance,

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(1) *John cracked ice into a glass.*

The causer is *John*, and *ice* is the cause. The first sub-event caused the following effect, which is the second sub-event: the ice moved into a glass. The path is the trail of the ice from outside the glass to inside the glass. According to Goldberg (1995), the CMC bears the central sense of X CAUSES Y to MOVE Z. The movement of Z is not autonomous and is caused by a force from X.

The resultative construction is a conceptual-syntactic pattern whose semantic pole is based on the action-result relation (Luzondo and Ruiz de Mendoza 2015). For example,

(2) *Peter wiped the table clean.*

Clean is the resultant state that is achieved by the action *wiping* in (2). A possible paraphrase of resultative sentences is: 'an entity undergoes a change of state as a result of a prior action'. Thus, a resultative sentence denotes a certain resultant state, and it bears an action-result relation to the preceding verb.

The inchoative construction describes a specific event in which patient-subjects change state as the result of the verbal action. Syntactically, it is in the active form, and the verb is transitive but used without an object (Wright 2002; Labelle 1992). For example,

(3) *The glass broke.*

Break is a transitive verb but there is no object here. We can understand that the patient of breaking is the glass, which is put in the subject position. According to Ruiz de Mendoza and Miró (2019), the subject is envisaged as if it were the agent, but it is actually the patient.

In the causative construction, the causer performs an action that leads to some change in the causee's state. For example,

(4) *Peter broke the cup.*

In (4), the causer's action results in the cup being in a broken state, which shows that causative constructions are essentially relations between two events: a causing event and a caused event. This kind of sentence includes four elements: a causer, a causee, a causative force, and a caused result. Unlike the CMC, the causative construction does not involve a path of motion. The caused event is not a motion event.

The middle construction is active in form but passive in meaning (Negro 2011). The subject of the sentence is a passive participant of the event denoted by the verb. It often evaluates the property of the subject or describes its capacity. For example,

(5) *This glass breaks easily.*

Example (5) is an active sentence from the syntactic perspective. But it does not show the real causer that applies a force to the glass. The *glass* is the patient, but the verb is not in the passive form. *Easily* evaluates the property of the glass which allows it to be broken without difficulty.

The five constructions above are related to one another. All of them can be found to express a change of state. For example, we can express the change of state of a window being broken with these constructions as follows:

Resultative construction:	*Peter broke the window open.*
Caused-motion construction:	*Peter broke the window into pieces.* (figurative motion)
Inchoative construction:	*The window broke.*

Causative construction: *Peter broke the window*.

Middle construction: *This window will break easily*.

It should be noted that scholars disagree about the resultative nature of the CMC. Some argue that this construction does not belong to the resultative family, since the resultant state is a change of location (cf. Goldberg 1995). Others contend that a change of location, while not a change of state in the proper sense of this term, involves a change in the external environment of an object. (cf. Ruiz de Mendoza and Luzondo 2016). The conditions surrounding an object can be understood as a type of external state that can affect the internal state of objects (Peña 2003). For example, if a person dives into freezing water, he or she will be extremely cold. This is one of the reasons people tend to identify changes of state with changes of location. This identification underlies the metaphors STATES ARE LOCATIONS (e.g., *She is in a bad mood*), A CHANGE OF STATE IS A CHANGE OF LOCATION (e.g., *She went from bad to worse*), and A CAUSED CHANGE OF STATE IS A CAUSED CHANGE OF LOCATION (e.g., *The loss of her father pushed her into a depression*). This metaphor underlies the use of prepositional phrases in the place of resultative adjectives in expressions such as *Peter broke the window into tiny pieces*. This phenomenon has been studied extensively in Ruiz de Mendoza and Luzondo (2016).

1.3 The structure of this dissertation

This dissertation consists of ten chapters. The first three chapters establish the foundation for the ensuing discussions. Chapter 1 is a general introduction that briefly states the purpose and scope of the study, identifies the members of the family of COS constructions, and proposes the research questions.

Chapter 2 describes the methodology adopted in this dissertation. This chapter explains why we use a corpus-based qualitative approach and describes how the data are selected from English and Chinese computerized corpora and search engines.

The theoretical background is reviewed in Chapter 3, which contains three sections. First, we review the previous studies on COS constructions, such as verbs and events indicating a change of state. Second, the standard theories of construction grammar are discussed, including Fillmore's *Case Grammar* (FCG), Langacker's *Cognitive Grammar* (CG), Goldberg's *Cognitive Construction Grammar* (CCG), and Croft's *Radical Construction Grammar* (RCG). Third, the chapter introduces the *Lexical Constructional Model* (LCM), which integrates lexicalism and constructionism.

Chapters 4 to 8 provide a detailed analysis of the five types of constructions: the resultative construction, the CMC, the causative construction, the inchoative construction, and the middle construction. Each chapter follows the approach of identifying the features, determining how the change of state is realized in this construction, describing the situation in L2 (English) and the situation in L1 (Chinese), conducting cross-linguistic comparisons and exploring relevant licensing factors.

Building on the theoretical findings of the previous chapters, Chapter 9 explores possible pedagogical applications. This chapter discusses Cognitive Pedagogical Grammar (CPG), potential L1 transfer in L2 acquisition and pedagogical implications. Then, we select three relevant examples for each construction (fifteen in total) and design detailed steps for teaching in the EFL classroom.

Finally, Chapter 10 concludes this dissertation by summarizing the major findings of the present research, showing the originality of this study and

illustrating further lines of research that could arise from the proposals and analysis carried out in this dissertation.

Chapter 2

Methodology

2.1 A corpus-based qualitative approach

The present dissertation is based on corpus data from various sources that will be addressed below. The important function of a corpus can be seen from Kennedy's (2000: 4) remarks:

> "A corpus constitutes an empirical basis not only for identifying the elements and structural patterns which make up the systems we use in a language, but also for mapping out our use of these systems. A corpus can be analysed, and compared with other corpora or parts of corpora to study variation. Most importantly, it can be analysed distributionally to show how often particular phonological, lexical, grammatical, discoursal or pragmatic features occur, and also where they occur."

Ways to do research based on corpora diverge into so-called *corpus-based* and *corpus-driven* approaches (cf. Leech 1992; McEnery and Wilson 1996). In general, corpus-based research aims to verify existing theories and assumptions quantitatively (Stubbs 1993; Tognini-Bonelli 2001; Teubert 2005). On the other hand, corpus-driven research is bottom-up, and its focus lies mainly on describing language at word level (McEnery and Costas Gabrielatos 2006). There is a third way to explore linguistic phenomena with the help of a corpus: *corpus-based qualitative research*. In this third way, the scholar looks for occurrences of a given phenomenon in a corpus and makes a preliminary analysis, which may provide him or her with a

set of initial hypotheses. Further searches in the corpus may contribute to reinforcing, modifying, or discarding the initial analysis. Occasionally, if the development of the research so demands, the researcher may choose to use some complementary statistical or even experimental back-up. This complementary option may provide inroads into other scientific disciplines that have connections with language, such as sociolinguistics, psycholinguistics, and cognitive science (see Halliday 1978: 11).

A qualitative corpus-based approach to linguistic analysis makes use of a combination of induction and deduction. Typically, an inductive methodology draws generalizations from specific (and usually partial) observations. To give a trivial example of inductive methodology, if an ornithologist investigating ravens finds that all the ravens he or she has observed are black, he or she may issue the following tentative postulate: Likely, all ravens are black. If the researcher were to find a white raven, he or she would modify the initial hypothesis accordingly: Likely, most ravens are black, but some ravens are white. This methodology has the advantage of allowing the researcher to formulate generalizations based on observation. It further allows the researcher to group related observations into patterns, as in the example of the black and white ravens. These patterns provide descriptions of a phenomenon. However, the researcher may want to extend his or her research even further by relating ravens to other fowl. He or she may thus reason about ravens as follows: If many ravens are black, then some birds can be black. If the postulate in the "if" part of this reasoning is true (i.e. it has not been proven false by any counter observation), and the entailment relation between ravens and fowl is correct (ravens are birds), then the "then" part follows logically as a valid deduction and some birds can be black. This kind of reasoning is useful to motivate observable and describable phenomena. It serves as a stepping stone to go into still further explorations where ravens are studied in terms of birds in general and other kinds of bird in particular. With such explorations,

the study of ravens will go beyond the world of black ravens into other domains of inquiry thus providing a more complete picture of the phenomenon.

Linguistic research is essentially not any different from the trivial example provided above. It may be noticed that observation was inductively followed by description, which was deductively followed by motivation. Let us consider the case of English resultative constructions. A paradigmatic example of such construction is the well-known transitive sentence *The blacksmith hammered the metal flat*, which contains a resultative adjective (*flat*) that acts as a secondary predication by modifying the object of the verb. Corpus searches can help us find many examples of this pattern:

He painted the wall red.   (WebCorp)[2]

She wiped the table clean.   (Google Books)[3]

She wiped the floor dry with a floor rag.   (Google Books)[4]

Once the pattern has been attested to be productive in terms of the verbal classes and the types of objects and resultative adjectives, the analyst may want to proceed to make a descriptive approach of this resultative pattern. This description should include the features that the verb classes and the rest of the clausal elements have in common. For example, the construction can only take verbs designating a change of state and the adjectival phrase should hold for all of the object, not just one part of it unless explicit mention is made of the opposite. Thus, *The painter painted the wall red* is interpreted in the sense that the whole wall was painted. If only part of the wall was painted, it should be mentioned: *The painter painted the wall red, but some parts need another hand of paint*. After this, one more step could take us into more complex

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descriptions of the resultative pattern, which would list intransitive uses of the verb (e.g., *The river froze solid*), the existence of fake reflexives (e.g., *He shouted himself hoarse*) or the use of prepositional phrases to indicate result when an adjective is not available (e.g., *The glass broke into tiny little fragments*). Still, one more step would relate resultatives to other constructions containing an implicit resultative ingredient and the intransitivization of the verb, such as the inchoative (e.g., *The door closed*), which can be contrasted with the intransitive resultative (e.g., *The door slammed shut*). With these two last steps (and possibly others that could follow from these ones), the researcher will be proceeding deductively, rather than inductively, into motivating the phenomenon in terms of its relations with other phenomena, which can be internal or external to the linguistic system itself.

The observations made above bring us into the domain of the well-known debate on linguistics over the standards of adequacy of linguistic accounts, an idea that was popularized by Chomsky (1965). It is not our purpose to go into the debate, but a few comments are in order. Chomsky argued that a model of grammar should aim to achieve *explanatory adequacy*. By this notion, Chomsky understood the provision of a principled choice between competing accounts. This choice should allow the linguist to make valid generalizations that accounted for the relevant data. An explanatorily adequate grammar should be able to provide the mechanisms to produce all possible well-formed sentences of a language and no non-sentence (i.e. no impossible sentence). In connection to the study of resultatives, an explanatorily adequate account would explain why *The child broke the vase into pieces* is possible, while **The child destroyed the vase into pieces* is not. The reason for this, provided by Levin (1993) is that *destroy* is not a COS verb. It designates cessation of existence. Of course, explanatory adequacy builds on *observational adequacy* (the enumeration of observations) and then on *descriptive adequacy* (the arrangement of the data). Some functionalist accounts of language have

added other standards of adequacy. For example, Dik's *Functional Grammar* includes psychological, pragmatic, and typological adequacy (Dik 1997ab). There are still other proposed standards (e.g., computational, sociological, etc.; cf. Butler 2009). In Cognitive Linguistics (CL), standards of adequacy are termed *commitments*. Lakoff (1990) puts forward two commitments: the *generalization commitment* and the *cognitive commitment*. The former is basically the Chomskian standard of explanatory adequacy. The latter comes close to Dik's standard of psychological adequacy, with more emphasis on the need to make linguistic accounts consonant with all empirical findings in the cognitive sciences. It goes beyond traditional psycholinguistic experimental work into brain imaging, eye tracking, and other kinds of empirical approach (Valenzuela and Soriano 2005; Aziz-Zadeh and Damasio 2008; Olkoniemi, Ranta and Kaakinen 2016).

In this dissertation, we aim to achieve explanatory adequacy, which will take the form of what Goldberg (2006), inspired in Lakoff (1987, 1990) and also on work by formal linguists, has termed *surface generalizations*. These are high-level (deductive) formulations ranging over a broad variety of inductively-obtained formulations. To these we add the cognitive commitment and, because of the object of our research, the standards of pragmatic and typological adequacy. These are necessary because of our emphasis on motivating structure and grammatical function by looking at communicative factors (which include cultural contexts), cognitive factors (including metaphor and metonymy as constraints on some processes) and cross-linguistic or comparative analysis, which will account for relevant differences between Chinese and English for the development of a Cognitive Pedagogical approach to the constructions under scrutiny.

The combination of CL and Corpus Linguistics can yield fruitful analytical insights. As Schmid (2000: 39) argues, *cognitive corpus linguistics* is intended

to put forward questions on human cognition and answer them through corpus data within the scope of CL. Simply, it refers to analysis between language phenomena and cognition through the methodology of corpus linguistics. This dissertation uses corpora to address specific language uses and explain them from a cognitivist perspective. To be specific, it follows the "from-corpus-to-cognition" principle and thus falls broadly under the category of cognitive corpus linguistics. However, the approach, although based on attested examples from corpora, is not qualitative enough but quantitative because of the nature of our cross-linguistic and contrastive aims. Thus, we require a fine-grained study of the semantic composition and formal realization of specific uses in English and Chinese, which includes hypothesizes on the factors motivating such uses.

2.2 Data sources

2.2.1 Computerized corpora

The data in this dissertation is selected from the British National Corpus (BNC), the Corpus of Contemporary American English (COCA), and the Beijing Language and Culture University Chinese Corpus (BCC).

(a) BNC

The BNC includes 100 million words samples, covering written and oral English from a wide scope of sources (Davies 2004). It demonstrates British English since the late twentieth century.

According to Dash and Arulmozi (2018), around 90% of the BNC is the written sample. They are extracted from professional books, widespread novels, specialist journals for all fields, local and national newspapers, published/unpublished letters, etc. The left 10% of the BNC is spoken language data, most of which is informal conversation. The recording is made

by volunteers of various backgrounds so as to realize a statistic balance (Aston and Burnard 1998). There are two subsets which are based on the BNC, named as BNC Sampler and BNC Baby. The former one is a manually corrected version, with 2 million words of written and oral language. The latter one contains 4 million words from 4 different genres.

There are two main advantages to the BNC. First, the BNC contains relatively comprehensive styles, which is not restricted to a specific thematic area. Second, it includes snippets of text, which are called samples. It contains texts which is up to 45,000 words, or samples by several authors in magazines or newspaper articles (Meyer 2002). The inclusion of excerpts allows a larger range of different texts and examine related contexts.

The disadvantages are: (i) It only includes modern British English (no other data that are used in other English-speaking countries); (ii) the data collected at the BNC began in 1975 and lasted until 1994. After the completion of the project in 1994, the database do not add new texts, but the body before the publication of the second edition has been revised slightly with the name BNC World.

(b) COCA

The COCA (available at http://corpus.byu.edu/coca) is a freely-accessible corpus of English. It contains over 450 million written and spoken samples, which are sub-divided into fiction, magazine, newspaper, and academic parts (Davies 2008, 2009). It covers 20 million words for every year from 1990 to present. It is sufficiently scalable, updated, balanced in register, and comparable over time to see real-time language change. Thus, the COCA provides a good balance of capacity, genres, and availability.

This large corpus is easy for us to search contents by frequency and compare the frequency of different words or fixed language patterns. It provides convenience to conduct comparisons between different genres (e.g., newspapers, TV scripts, or academic journals).

(c) BCC

The BCC (available at http://bcc.blcu.edu.cn/) is large-scale Chinese corpus with a total of about 15 billion words (Wu 2017). It includes linguistic data from various sources: journals, novels, Wei-bo (a popular social network in China like FaceBook), ancient Chinese books and so on (Xun 2016). The main advantage is that the database is kept updating regularly. A shortcoming of the BCC is that it is still a raw corpus, meaning that the data provided have not any linguistic tags.

2.1.2 Search engines

We also made use of reliable search engines to collect data. The internet searching results have been widely accepted in linguistic researches (Bergh and Zanchetta 2008; Sha 2010; Sharoff 2006). The advantage of using web as a linguistic research resource is to get latest, real, and huge-sized language expressions. As Morley (2006) argues, when we need to test some special sentences, standard corpora cannot provide sufficient similar examples for the rare but correct expressions. Thus, we need to use search engines to fill in the gap which is left by standard corpora. This dissertation adopted two solid search engines, WebCorp and Google Books, which are introduced in the following.

(a) WebCorp

WebCorp (available at http://www.webcorp.org.uk/) is a suite of tools which accesses to the World Wide Web and extracts a large collection of texts

from web pages according to user's keywords. WebCorp is designed by corpus linguists for linguistic researches, rather than commercial search engines (Renouf 2003). WebCorp presents a list of URLs (no more than 200) and concordance lines on a single results page based on search engines. According to Renouf *et al.* (2007), it is an efficient system to extract language data from the web and display raw linguistic materials. Figure 1 shows how WebCorp works in detail.
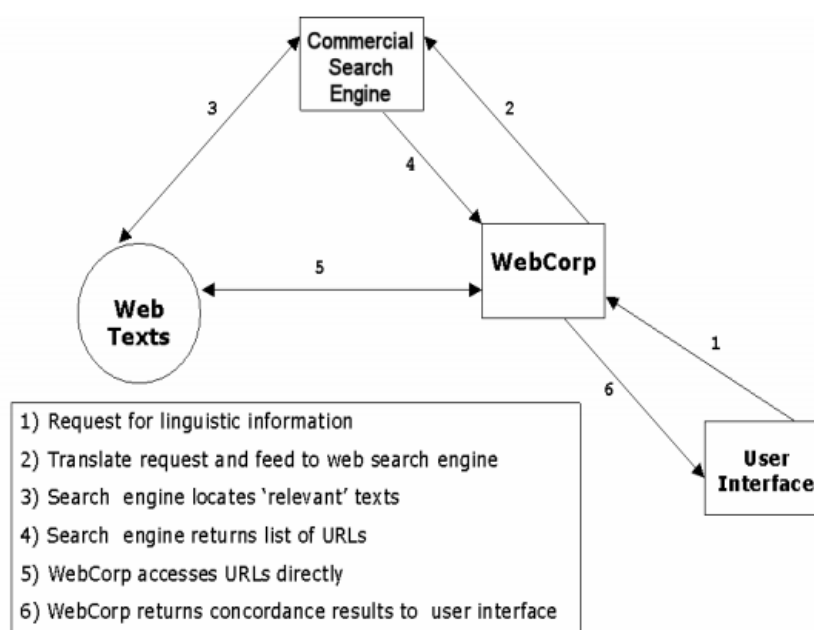
(Renouf *et al.* 2007: 48)

Figure 2.1 Diagram of WebCorp architecture

For the research in this dissertation, WebCorp has two advantages. First, WebCorp allows access to the World Wide Web as a corpus, so large and up-to-date electronic text corpora are available. It means WebCorp can show more latest examples of various constructions than computerized corpora and dictionaries.

Second, the search provided by WebCorp is convenient to test the frequency of verbs occurring in variants. Inserting the pattern [Verb the *

Preposition the *] in the search field we can find relevant caused-motion examples. We have tested different patterns to search for data and found that the pattern above finds more relevant instances in comparison to other patterns like [Verb * Preposition the *], [Verb the * Preposition *] and [Verb*Preposition*].Therefore, when we aim to examine the frequency of members of a verb class in variants, the pattern [Verb the*Preposition the*] is used to search for data. WebCorp subtracts texts from web pages (HTMLs), which favors a further selection.

However, searching for data in this way has one disadvantage. Searches cannot be exhaustive. For example, the above-mentioned search patterns cannot cover instances like *I threw three balls to Alice Obama*. For an exhaustive search, it is necessary to set up additional search patterns.

(b) Google Books

Google Books (available at https://books.google.com/) is a free digital search engine. It contains more than 5 million books and magazines which are over 900 billion words from many languages, including English, Spanish, Russian and Chinese. The periods range from the year 1500 to present.

However, some books are collected in the database by scanning and converted to text by optical character recognition (OCR). It results in some inaccurate data because of the limits of OCR.

In addition, it is noteworthy that, restricted by copyright laws on books, the public cannot have access to all of the pages in certain books. We can, instead, adopt the Google Books Ngram Viewer, a sub-branch of Google Books, to conduct related searches. It is an online search tool designed to chart the frequency of an n-gram. In the field of computational linguistics, an n-gram refers to a contiguous sequence of items. Google Books Ngram Viewer

visualizes the frequency of change of words or phrases in graphical form (Zeng and Greenfield 2015; Lin *et al.* 2012). However, people can use Google Books Corpus to search words or phrases of no more than 5-gram. The items can be phonemes, letters, words or phrases.

Chapter 3

Theoretical Background

This chapter provides an overview of the theoretical background on which the present research has been conducted. It looks through the previous studies on COS verbs and events, four important construction grammar approaches, and finally an overview of the LCM.

3.1 Change of state

3.1.1 Classification of verbs

Before we discuss the COS verbs, it is necessary to note that there is a general classification of verbs that includes the following four types. According to Vendler (1957, 1967) and Dowty (1979), state verb is nondynamic (e.g., feel, be ill); activity verb involves an open-ended process (e.g., cry, walk); achievement verb is used in a near instantaneous event that finishes as soon as it starts (e.g., find, see); and accomplishment verb involves a process which naturally has a endpoint (e.g., eat an apple, find your smartphone). The detailed categories put forward by Dowty (1979:54) are represented in Table 3.1.

Table 3.1 Four categories of verbs

State	Activity	Achievement	Accomplishment
know	run	recognize	paint a picture
believe	walk	spot	make a chair
have	swim	find	deliver a sermon
desire	push a cart	reach	draw a circle
love	drive a car	die	build a house

These categories above are called *aktionsart* or lexical aspect categories, as opposed to that address grammatical aspect (e.g., progressive, ingressive, etc.). They show the different properties of event types denoted by the verbal phrase. By contrast, *grammatical aspect*, also known as viewpoint, focuses on the differences in the perspectives on events, especially the distinction between perfective and imperfective. In this dissertation, the *aktionsart* will be discussed and it will cover the properties people can attribute to catagories of events in the denotation of specific lexical items.

Going further into these kinds of verbs, it can be found that the four types of eventuality involve two properties which are: (i) whether the event has a inherent endpoint/set terminal point (telic or nontelic), and (ii) whether the event is progressing/ developing or not (dynamic or having several stages).

The first type of eventuality is [+telic]. It means that the entity moves towards a natural endpoint , whose properties are decided by the event. The second type of eventuality is [-telic], which addresses cases in which, once an event has begun, it is able to continue indefinitely, because the nature of eventuality in this type does not determine the final point by itself. The telic or nontelic distinction divides event categories up into two groups: *achievement* and *accomplishment*, on the one hand, and *state* and *activity*, on the other. In other words, achievement verbs and accomplishment verbs are [+telic], while state verbs and activity verbs are [-telic].

The second property involved in the verb types is [+stages], which only applies when the verb can appear in the progressive form. For instance,

> *Peter is believing in the afterlife*.   (state)

> * Mary is losing her pen.   (achievement)

Mary is jumping.　　　　　　　　(activity)

Peter is drawing a portrait.　　　(accomplishment)

A sentence whose verb is in the progressive form shows that certain event is in progress. States are not in progress since they are naturally non-dynamic. Achievements do not go on in a period of time since they are instantaneous, i.e. they finish as soon as they start. This means achievements ends fast and do not extend over time. Thus, their stages cannot be separated. However, states are stable over time and they are non-dynamic, so no internal stage can be distinguished in them.

State:　　　　　　　[-telic] [-stages]

Activity:　　　　　　[-telic] [+stages]

Achievement:　　　　[+telic] [-stages]

Accomplishment:　　 [+telic] [+stages]

The classification put forward by Vendler (1957, 1967) and Dowty (1979) provides a representation of the event types that a sentence may contain. However, there are two disadvantages in it. First, the classification is not based on a uniform criterion. The event types are not identically elemental, but in a relation of inclusion; for example, an accomplishment can contain the meaning of an activity and the meaning of a state, as in *John killed Bill*, where *kill* can be represented as 'x CAUSES [y BECOME dead]'. Therefore, it is not correct to put activities and accomplishments on the same footing. Secondly, Dowty's analysis of activity verbs shows that only activity verbs have DO as a part of their logical structure: DO (x,[predicate' (x)]). But the other types of verbs can also have a DO part. For example, the accomplishment verb *drink* could be interpreted as: do' (x, [drink' (x,y)]) and be consumed (y).

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Among the four types, state predicates need to be paid more attention in order to distinguish them from the COS verbs studied in this thesis. Based on the discussion above, the table below summarizes the main characteristics of state verbs.

Table 3.2 Characteristic of state verbs

Diagnostics	Subject	Logical structure	Example
non-dynamic, non-controlled	attributee	predicate'(x) or (x, y)	*be tall, feel ill, see, asleep/sleepy*

3.1.2 Verbs of change of state

The COS verbs have been discussed by scholars for decades (Levin 1993; McKoon and Macfarland, 2000; Schäfer 2008; Zhang 2017). In general, a COS verb is used to describe an entity that undergoes a change of state in terms of shape or appearance with a material integrity (Hale and Keyser 1988; Rappaport Hovav and Levin 1998). COS verbs carry an important semantic property: they contain an inherent endpoint, which implies the start of a new state.

According to Klein (1992), the former state can be called a source state, and the latter is the target state. Verbs such as *open* and *break*, which convey the meaning of change of state, are considered COS verbs. For example,

(1) *Peter opened the door.*

(2) *Glass breaks easily.*

Example (1) shows an event which includes two states. The state of the door that has changed from a closed state to an open state. This change of state is resulted by the opening action. In example (2), the glass is ascribed the

property of being susceptible to undergo a change of state from undamaged to broken.

Levin (1993) presented a large amount of semantically coherent classes of verbs. She defined a classification as COS verbs by referring to a large quantity of work from other linguists, for which she provided detailed references in her books. Levin (1993: 240-241) argues that COS verbs can be classified into six types which are "*break* verbs, *bend* verbs, *cook* verbs, other alternating verbs of *change of state*, verbs of *entity-specific change of state* and verbs of *calibratable changes of state*". *Break* verbs, such as *crach and splatter,* refer to an action which leads to a change in material integrity of certain entity (Hale and Keyser 1988). Unlike *cut* verbs, they are pure verbs of change of state, which do not provide information about how the change comes about. *Bend* verbs (e.g., *bend*, *crease*, *crinkle*, *crumple*) mean that a change in the an entity's shape and it does not affect its integrity. *Cook* verbs , such as *bake* and *boil*, describe different methods of cooking food, containing the properties of both COS verbs and the *prepare*-type verbs. Other alternating COS verbs, such as *abate* and *air*, include various verbs which involve externally-caused changes of state. Besides, entity-specific COS verbs (e.g., *blister*, *blossom*, and *burn*) describe those changes of state which only happen to specific entities. That is, these verbs impose very narrow selectional restrictions on their arguments. Calibratable COS verbs refer to a positive or negative change through a scale (e.g., *balloon*, *climb*, and *decline*). They relate to entities that have a measurable attribute. The table below offers examples for each type.

Table 3.3 Types of change-of-state verbs

Types	Examples
Break verbs	*Peter broke the glass to pieces.*
Bend verbs	*Peter bent the rod into a U.*

Cook verbs	This oven bakes potatoes well.
Other alternating verbs of change of state	Cotton clothes dry easily.
Verbs of entity-specific change of state	The flowers bloomed.
Verbs of calibratable change of state	Oil soared in price.

(Levin 1993: 241-248)

Based on these categories, COS verbs are found to be different in terms of their argument structure. A patient tends to be a direct object in the sentence. When followed by an object, COS verbs are either telic (with a natural endpoint, such as *cut*) or nontelic, such as *warm* and *cool*. Regarding the property of telicity, some COS verbs are punctual, such as *break* and *crack*, while some are durative, such as *freeze* and *dry*. For example, *break* is obviously telic and punctual. By contrast, *dim* could be either telic or nontelic, because it conveys a meaning of gradual achievement; moreover, it is a durative verb. There are cases in which a COS verb can be presented as a grammatical subject while its status as semantic subject or object is not clear. For example, in *I am freezing*, the speaker is both the semantic object of natural agents (the temperature) and the semantic (and syntactic) subject of the experience of feeling cold.

Furthermore, the change caused by a telic COS verb could be either instantaneous or not, such as *erupt* and *cool*, respectively. The argument is realized by the non-aspectual lexicalized property, which is the change of state.

Another attention is focused on internally-caused and externally-caused COS verbs. As Rappaport Hovav and Levin (1998) argue, an internally caused

COS verb describes a change of state that comes from within an entity, such as *rot* and *bloom*, but an externally caused COS verb describes an action that is caused by an implied external force from an agent, or an instrument, or a natural force (e.g., *break*, *cut*, *explode*) and so on.

An externally-caused COS verb, such as *break*, includes a causing event (the action of breaking) and a resulting state (there is a broken object), both of which are connected to the external cause. An internally caused COS verb (e.g., *bloom* means 'produce flowers') shows a single event (the process of blooming to produce flowers) without an external cause. The lexical semantic representations for the two types can be summarized as:

"Externally-caused COS verb: [[a] CAUSE [BECOME [x <STATE>]]]

Internally-caused COS verb: [BECOME [x <STATE>]]"

(MacKoon and MacFarland 2000: 834)

3.1.3 Events of state change

Talmy (1985) treats the notion of change of state as an event type, and finds this event displays parallel semantic and syntactic properties to motion events. A state-change event includes changes or the invariant continuation of a certain property that is related to a particular situation or object. The state-change event consists of four semantic elements: [figure], [state change], [transition type] and [state]. The element [state change] here includes two components in the state-change process, that are, change and stasis. Besides, the core schema is [transition type] + [state].

In general, events of state change include two types: state change and stasis. However, on the basis of different criteria, it can be generally divided into three types as follows:

(i) According to the thematic role, it can be divided into agentive and nonagentive state change events.

(ii) According to the property of state change events, it can be divided into change in state of existence and change in condition. Change in state of existence can be subdivided into two kinds, that is, state from presence to absence and state from absence to presence.

(iii) According to the interaction relationship between interaction and causative, it can be divided into stative, inchoative and agentive.

In terms of the semantic structure, the domain of state change may be substantially structured in accordance with several different conceptualizations for the representation of a framing event before selecting one of them. In any language, the situation or object is conceptualized as the *figure* and the property as *ground*, so this type is the most basic and important. *He became ill* or *He is ill* is the formation of this conceptualization. Such sentences indicate that *he* is the figure. Combining the conceptualization of figure with Talmy's core elements on the framing event, one can clearly know the semantic structure of the state-change event and its core elements, as captured in Table 3.4.

Table 3.4 The semantic structure of state change event

Core elements	Semantic structure of the state-change event	*The candle flickered out*
Figural entity	Object or situation associated with a property	The candle (lighted)
Activating process	Change or stasis	The candle has changed from being lit to unlit.
Association function	Transition type	Out indicates that the candle has extinguished
Ground entity	State	The state of the candle

Table 3.4 shows that the figure of a state change event is the most common object or situation associated with a certain property. The semantic structure of *The candle flickered out* can be shown as: [the candle BECAME EXTINGUISHED] IN-THE-MANNER-OF [flickering]. The core schema is [the candle BECAME EXTINGUISHED]. It means that the candle changed from burned state to unlit state. The coevent is [flickering], which illustrates the manner in which the candle has become extinguished. The result of action is expressed by the satellite *out*, which shows a typical feature of English which is a satellite-framed language, which be further addressed in section 4.6.

Talmy (1985, 1991, 2000) proposes a two-category classification of languages from the point of view of how they code motion (cf. Levin and Rappaport Hovav 2019). He argues that languages can be divided into either *verb-framed* (V-framed) or *satellite-framed* (S-framed) languages. The former code motion in the verbal predicate (e.g., Spanish) and the latter code motion on the satellite (e.g., English). For example, the English sentence *He crawled into the room* would be rendered into Spanish as *Entró a gatas en la habitación* (lit. 'He entered the room crawling'). Spanish codes motion in the verb (*entró* 'entered') and manner of motion in a satellite (*a gatas* 'by crawling'). English codes motion in a satellite (*into* the room) and manner of motion in the verb (*crawled*). Generally, the framing type is determined by each language, with each language always exhibiting one of the two types. Nevertheless, Talmy confirms the existence of exceptions to this typology (see also Slobin 2004). In the field of state change, English exhibits more integration of parallel systems, including the S-framed type and the V-framed type. For instance.

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

b. *I killed him by burning him.*

(4) a. *I kick the door shut.*

　　　b. *I shut the door with a kick.*

<div align="right">(Talmy 2000: 240-241)</div>

In example (3a), the core schema is encoded in the phrase *to death*, while the coevent verb *burn* bears a cause relation to the framing satellite. In (3b), the core schema appears in the main verb *kill*. (4a) and (4b) are the same as (3a) and (3b). Thus, (3a) and (4a) follow an S-framed pattern, while (3b) and (4b) exhibit a V-framed pattern. This analysis confirms that the state change event includes exceptional phenomena in English, where the S-framed and V-framed types can occur almost equally. By contrast, Talmy (2000) argues that Mandarin Chinese is a far more thoroughgoing example of the satellite-framed type. The typological issue for Chinese will be further discussed in the later discussion (cf. section 5.6).

3.2 Construction Grammar(s)

Construction Grammar is both a grammar theory and a linguistic theory with rich content, unique perspectives, original methods, and strong explanatory power. It fuses almost all subjects of general linguistics, including phonology, morphology, lexicology, syntax, semantics, pragmatics, typology, and prosody. Many linguists have been devoted to studies of Construction Grammar(s), resulting in a diversity of approaches. In this section, four major theories of construction grammar will be overviewed, i.e., Fillmore's *Case Grammar* (FCG), Langacker's *Cognitive Grammar* (CG), Goldberg's *Cognitive Construction Grammar* (CCG), and Croft's *Radical Construction Grammar* (RCG). Other constructionist approaches have been described in detail in Dirven and Ruiz de Mendoza (2010) and Butler and Gonzálvez (2014).

3.2.1 Fillmore's *Case Grammar*

In FCG, put forward by Fillmore (1968), the case role exists in all languages. Fillmore argues that a case frame determines the meaning and usage of a verb, instead of the other way around, which partially negates the central role of verbs and focuses on the notion of structure. Fillmore (1982, 1985) later developed *Frame Semantics* to elaborate on the mapping between semantics and syntax, which underlies later cognitive-linguistic work on construal and image schemas (cf. Clausner and Croft 1999; Boas 2001, 2005; Geeraerts 2006).

With the study of idioms made by Fillmore *et al.* (1988), CG began to be established. In an analysis of the idiomatic connector *let alone*, they argued that an idiom is a form-meaning pairing, whose usage cannot be predicted merely from the perspective of the syntax-driven combination of its parts. In *I won't eat that food, let alone pay for it,* the role of *let alone* is to convey the idea that speaker is not willing to eat the food and that he is even less willing to pay for it (cf. Iza 2015). The speaker's degrees of reluctance are not predictable from the meaning of *let* and *alone* in combination (which would simply mean 'allow Y to be regarded as an isolated fact'). Idioms thus show typical distinctiveness, such that their comprehensive meanings cannot be determined exclusively from their syntactic and semantic properties. According to Kay and Fillmore (1999:1), "to adopt a constructional approach is to undertake a commitment in principle to account for the entirety of each language". In fact, the complexity of some idioms strongly suggests that every level of language can be dealt with in terms of the concept of construction.

In some ways, FCG is a transition or bridge that combines Transformational-Generative Grammar with Construction Grammar because there are numerous traces of the use of transformational-generative theories for analyzing constructions. Sometimes, FCG studies language forms and their

semantic and pragmatic meanings separately, which is a typical method employed by the transformational-generative school.

FCG should be excluded from the family of Cognitive Construction Grammars in that FCG partly employs formalism and generative structure to explain constructions, although it challenges many basic ideas of the transformational-generative school (Evans and Green, 2006). Another disadvantage of FCG is that it sometimes separates semantics from pragmatics to pursue formal explicitness.

3.2.2 Langacker's *Cognitive Grammar*

Although the term *construction* is not frequently used by Langacker in his theory, CG is a Construction Grammar model, which Langacker has explicitly acknowledged (cf. Langacker 2005, 2009).

CG fundamentally opposes objective semantics based on truth conditions. Langacker (1987a,b) holds that the real condition is not powerful enough to describe the meaning of linguistic expressions. There are two reasons. First, to implement the function of describing, the semantic structure must refer to the human knowledge system, which is essentially open. Second, the semantic structure reflects not only conceptual content but also people's organization and understanding of conceptual content. By adopting the views of Frame Semantics, CG regards meaning as conceptualization, which must be described by referring to cognitive processing. The ultimate goal of semantic analysis is to describe cognitive events constituted by human psychological experiences. As a member of Construction Grammars, CG emphases on the symbolic and semantic aspects of constructions which are traditionally analyzed from a   pure syntactic aspect (Croft and Cruse 2004).

The construal relationship discussed in CG is helpful for this dissertation. It refers to the connection between hearers and situations where the hearer conceptualizes or portrays, involving focal adjustments and imagery (Langacker 1987b). In other words, to construe is to use different images to understand and construct conceptual structures.

The linguistic expression has something to do with the scope of perception. However, describing a scene alone is not enough to express the meaning because, within the same scene, the difference in meaning depends on different images to which an entity is associated, which means the speaker may construct the same scene in ways that will evoke different brain experiences. For instance,

(5) a. *The vase is on the table.*

b. *The vase is lying on the table.*

c. *The vase is resting on the table.*

d. *The vase is supporting the clock.*

Example(5a) is the most neutral and abstract in meaning, while examples(5b)-(5d) offer a certain facet for further elaboration, highlighting this facet in a more detailed way. In (5b), the word *lying* calls attention to the alignment of the vase in a horizontal axis of table, while *resting* in (5c) stresses the static aspect of locative relationships. *Supporting* in (5d) highlights that the table gives a gravitational force to the vase. Therefore, expressions, though they are basically equivalent, may differ in meaning in terms of the contrasting image.

The reason why the same situation/scene may produce different images is related to the four parameters for construal, namely, *selection*, *perspective*,

abstraction/specificity, and *salience*. The selection decides which facet of a scene is highlighted. A certain object may have various attributes in terms of its shape, size, material, color or function; thus, a language user has to choose a focal point according to his/her own needs. Take the nominal expression *the big blue plastic cup* as an example. A full semantic characterization of *cup* requires numerous specifications, including shape, function, material, size, etc., which invokes a variety of cognitive domains (Langacker 1987a). In the above example, each modifier selects a particular domain with respect to the properties of the designated entity: *big* indicating the comparison scale for spatial extension, *blue* indicating color, *plastic* indicating material, and *the* indicating identification by the speech-act participant. Therefore, an indication of the domains selects a fundamental aspect of the description.

Different perspectives will produce different cognitive reference points and paths, which, once reflected in language, will naturally have different language expressions. The aspects of perspective are *figure/ground pairs*, *vantage point* and *subjectivity/objectivity* (Langacker 1987a).

Moreover, abstraction can be interpreted in two ways. First, abstraction is equivalent to the selection mentioned in the previous section, which involves the omission of certain domains or properties of the cognitive domain. For instance, we can abstract away from the size, color, material, or function of the physical object and focus on its shape only. Second, abstraction departs from immediate physical reality. The abstract thing cannot be directly revealed by the immediate sensory experience. Abstraction is the other side of specificity. The more abstract, the lower the level of specificity; the more specific, the higher the level of specificity.

In addition to the three elements mentioned above, there is another factor that is also crucial to semantic and grammatical structure: *salience*, which is also called *prominence*. In CL, the members of a higher degree of salience are

usually called *prototype* category members or typical members of the class (Rosch 1975, 1983; Rosch and Lloyd 1978) and function as cognitive reference points, activating other (less prominent or even marginalized) members. A reference point can, via its high degree of salience, form or activate a cognitive domain. Similarly, a certain member of a category can activate the whole category because of its high prominence. According to CG, there are two pairs of concepts related to salience: (1) *base* and *profile,* and (2) *trajectory* and *landmark*.

Trajectory/landmark can also be applied to interpret syntactic diversity and explain why the same situation can be depicted by various sentence forms. Look at the following sentences.

(6) a. *Floyd hit the glass (with the hammer).*

b. *The hammer (easily) hit the glass.*

c. *The glass broke (easily).*

In example (6a), the agent acts as the subject. In example(6b), the instrument is the subject; in (6c), the patient is the subject. These three elements have formed an action chain, involving energy flow. According to cognitive experience, the agent is usually the head of the action chain and the energetic head, while the patient is usually the tail of the action chain and the energetic tail. Energy flows from the head of the chain towards the tail of the chain; thus, the agent often acts as the subject and the patient acts as the object. If it is the other way around, it violates human cognitive experience and the sentence will not be accepted.

3.2.3 Goldberg's *Cognitive Construction Grammar*

Goldberg (1995, 2006, 2019) inherited the basic theories proposed by Fillmore, Lakoff, and Langaker and addresses linguistic studies with a panoramic view that holds that all language elements, be it morphemes, words, collocations or clauses, could be regarded as cases of construction. Compared to Langacker's cognitive construction theory, CCG enlarges the range of the notion of construction. Morphemes, words, phrases, clauses, sentences, and texts are all constructions. These language units of different levels are all considered the basic units of language, and all of them can be considered basic research units. CCG does not accept the verb-centered theory. It is the construction which controls argument structure; it is not only the verb, that plays a role in creating linguistic expressions.

Moreover, CCG claims to research language from the syntactic, semantic, and pragmatic perspectives. It does not merely focus on the level of syntax, and the research results are much more comprehensive than those using past models.

Goldberg (1995) illustrates some basic ideas. First, a construction is treated as an entrenched association of form and meaning, where the meaning of the whole construction does not necessarily come from its constituent parts. Goldberg's (1995: 205) gave an initial definition:

> "C is a CONSTRUCTION iffdefC is a form meaning pair <Fi, Si> such that some aspect of Fi or some aspect of Si is not strictly predictable from C's component parts or from other previously established constructions."

Later, Goldberg (2006) admitted that any entrenched or stable form-meaning pairing, even if fully compositional (e.g., the transitive construction) could be regarded as constructional. Single morphemes,

multimorphemes, partially filled idioms, fully fixed idioms, fixed phrases, and abstract syntactic patterns are all constructions because they are form-meaning pairings. In other words, constructions in the grammar, from morphemes to syntactic patterns, represent a continuum from concrete to abstract. Therefore, at the level of morphemes, the form of a construction is a concrete morpheme, such as *semi-, anti-, dis-,* and *un-.*

Second, constructions are considered the basic units of language. A construction itself carries meaning, independent of the lexical items in the sentence which instantiate it, and different constructions hold different meanings.

Third, the construction, instead of a verb, determines the argument structure. Goldberg (2006, 2019) provides empirical evidence and ample discussion on these and related issues. According to Transformational Grammar and to some functionalist approaches (e.g., Dik's 1997a, b), it is the verb that determines the layout of the argument-structure of the sentence (cf. Faber and Mairal 1999). However, Goldberg refutes this idea. For example, the word *sneeze* is originally an intransitive verb, and normally it cannot be argued that *sneeze* has a three-argument sense. Nevertheless, *sneeze* can appear in such a sentence as *Harry sneezed the tissue off the table*. It is clear that the whole meaning is by no means a simple combination of its components. It is the meaning of the causative construction that establishes the relationship between the verb *sneeze* and the noun *tissue*, in which sneezing produces a kind of force, causing the tissue fly off the table. This kind of effect is called *constructional coercion* (Michaelis 2003).

Fourth, the mapping between semantics and syntax is realized by constructions, rather than lexical items. Verbs, as well as nouns, involve schematic meanings, which means their designation should refer to the world and cultural knowledge. The sense of each word evokes an established

semantic frame. The meanings between constructions and verbs may be overlapping, complementary or opposite to each other.

In CCG, generalization, which is at the core of language, is embodied in constructions (Goldberg 2006). No matter what it is, adults' grammatical knowledge or children's grammatical knowledge, it has the feature of generalization. The generalization of language is usage based and does not come from the so-called *deep structure* proposed by Chomsky(1971). The creativity of constructions represents the creativity of language, the productivity of constructions represents the productivity of language, and the generalization of constructions represents the generalization of language. Therefore, the construction is the representational unit of language embodied in the human mind that can be used to generalize and explain all language phenomena. Humans are not born with language, but language is acquired through constructions. The process of acquiring constructions includes language input, cognitive ability, pragmatic factors and limitations of processing.

3.2.4 Croft's *Radical Construction Grammar*

Croft (2001) suggests a radical approach to discovering language regulations while challenging almost all established syntactic theories. RCG describes and symbolizes the constructions in the language speakers' mind. This branch of construction grammar is called radical mainly because it attempts to overturn almost all traditional models and considers construction the basic unit of linguistic analysis. The notion of construction takes a more basic position than the lexicon, and words are just a kind of epiphenomenon. The notion of construction is the only acceptable starting point for a deep description and an elaborate explanation of language. Constructional relationships are original, elementary, and primary.

RCG takes the construction as a basic element of syntactic representation. As Croft and Cruse (2004: 283) claim, "constructions, not categories and relations, are the basic, primitive units of syntactic representation". In addition, RCG does not accept atomic schematic units which are independently of constructions.

RCG view construction as a language-specific structure which occupies positions in the syntactic space, which allows for the formulation of relationship universals between the formal properties of constructions and their function.

To some extent, RCG isolates its new proposals from common linguistic notions. For example, it abolishes the general syntactic categories from traditional grammar, such as subject and object. The syntactic category and syntax relation can only be derived from constructions, which seems too radical. To some extent, RCG isolates its new proposals from common linguistic notions. For example, it abolishes the general syntactic categories from traditional grammar, such as noun, verb, subject, and object. Syntactic categories and relations can only be derived from constructions, which seems too radical since such categories and relations have been shown to have their own structural and functional properties in divergent linguistic paradigms. For example, standard Government and Binding Theory in generative syntax explicitly uses government relations to assign case (Chomsky 1993), Relational Grammar (Perlmutter 1980) defines primitive grammatical relations, and even Role and Reference Grammar, which is functionalist theory giving a central role to logical-semantic structure and communicative functions, defines syntactic categories and relations (Foley and van Valin 1984, Van Valin 2003).

3.2.5 Assumptions in common and differences

The four approaches above have some elements in common:

(a) All constructions are symbolic units, namely, form-meaning pairs, which can be learned and acquired after training.

The adoption of construction in language analysis gives a universal explanation to all lexical and syntactic phenomena, and the traditional theory that syntax stands independently from semantics and pragmatics is negated. Any particular construction is unique in terms of its complexity of meaning, and its meaning is not necessarily the result of combining the meaning of its different components. In this meaning formation process, coercion may appear.

(b) Construction grammar is different from grammatical rule.

Language expressions fall into particular constructions that should be considered independent form-meaning pairs. The so-called rules are generalizations of universally used constructions.

(c) Constructions are language specific

Linguistic constructions are unique and independent. These studies first acknowledge language uniqueness before any rightful theories could be established. Constructions are not productive. Idioms and other unusual language expressions should not be left out of linguistic studies.

(d) Constructions are inheritable.

A construction may influence or be influenced by another construction while forming a particular construct. We tend to use some constructions frequently in daily life, and other constructions are similar to relatives or children of the basic constructions. In later discussion, we can find that different constructions share some similar mechanisms.

However, the four approaches possess some of their own features. FCG mainly elaborates on the problems of syntactic relations and syntactic inheritance. CG centers on the relationship between the parts and the whole and the roles of the components and advocates the dependence of one structure on the other. CCG focuses on the categorization relations between constructions. RCG emphasizes the six radical notions of construction grammar and their commonalities.

Apart from FCG, the other three hold an affirmative view on usage-based models. In terms of motivation, FCG holds that constructions are predictable while the other three argue otherwise. FCG also give importance to the maximization of generalization, while the others put more emphasis on the individualities of each construction. In addition, RCG ignores the syntactic representation and studies the linguistic entities completely within the framework of semantics.

3.3 Towards an integration of lexicalism and constructionism: The Lexical Constructional Model

The previous sections have provided an overview of lexical and constructional approaches to languages. The overview is dotted with the present author's theoretical proposals. These proposals are developments of the LCM. According to Mairal (2017), LCM goes beyond previous constructionist approaches, such as the theories discussed above, in that the varied formal and functional complexity of this model assigns various functions inside the same architecture.

What follows is an introduction and overview of LCM. The LCM is a layered meaning-construction/comprehension model which specifies different levels of description of meaning-making activity and the principles that

constrain such activity before morpho-syntactic realization occurs (Ruiz de Mendoza 2013; Ruiz de Mendoza and Galera 2014).

One crucial notion in the LCM is the *lexical template* (LT), which develops the notion *logical structure* (LS) in the *Role and Reference Grammar* (RRG) (Van Valin and LaPolla 1997; Van Valin 2008). LSs arise from the *aktionsart* distinction put forward by Vendler (1967). An LT characterizes a lexical class and "encodes regularities and maximizes information in the lexicon with a minimum cost of representation" (Mairal and Faber 2002: 54). For example, an LT can be used for COS verbs (Mairal and Ruiz de Mendoza 2009):

> **break***:*
> EVENTSTR: do' (x, Ø) CAUSE [BECOME/ INGR *broken'* (y)]
> QUALIASTR: {QF: *broken'* (y)
> QA: do'(x, *break_act'*)}

The LCM distributes constructions across four levels in meaning representations. The first level centers on the argument-structure construction. The second level deals with the implicational constructions. Level 3 considers the illocutionary construction. Level 4 focuses on the discourse structure. Table 3.5 in the following provides types and examples for each level.

Table 3.5 Types and examples for four levels of the LCM

Descriptive level	Cognitive model type	Conventional meaning construction mechanisms	Examples	Cued inferencing meaning construction mechanisms	Examples
Level 1: argument structure	Primary/low-level non- situational models	Lexical templates	Kill (x, y) Walk (x)	Saturation or completion of underspecified representations after lexical- constructional fusion	*Coming!* (I'm coming) *I'm ready.* (I'm ready to go to the party) *BBC World Service* (This is the BBC World Service)
	Low-level non-situational models	Idiomatic templates	Kick the buck (x') X through (z)		
	High-level non-situational models	Argument structure constructional templates	X causes Y to move Z X causes Y to become Z X does Y to Z		

Descriptive level	Cognitive model type	Conventional meaning construction mechanisms	Examples	Cued inferencing meaning construction mechanisms	Examples
Level 2: Implicational structure	Low-level situational models	Implication constructions	Wh's been V-ing Y? Who's been sleeping in my bed? (Someone has been sleeping in my bed, which bothers me)	Metonymic access to low- level situational cognitive models)	A: *Does your tooth still bother you?* B: *Finally, my wife called the dentist.* (My wife called the dentist to make an appointment for me and I had my tooth fixed)
Level 3: Illocutionary structure	High-level situational models	Illocutionary constructions	I won't X! (refusal) (*I won't do that!*)	Metonymic access to high-level situational cognitive models	*I have a terrible headache.* (= Give me some ibuprofen)
Level 4: Discourse structure	High-level non-situational models	Discourse constructions	X Let Alone Y (*I won't eat that garbage, let alone pay for it!*)	Logical connections (e.g. cause-effect ,evidence-conclusion); temporal relations (e.g., precedence, simultaneity relations (e.g., similarity, contrast, conditioning, concession)	*The bomb went off and three people were killed.* (cause-effect/precedence)

In Level 1, the constructional template (CT) uses the same high-level representational mechanisms which characterize LTs, without internal variable descriptions. It is because they are idiosyncratic to each class of verbs. This feature of CTs is natural in that constructions in the first level are built by abstracting common elements to other low-level predicates. Transitivity in verbs is regarded as the capacity of a verb (or a verb class) to involve in a high-level configuration which is named as the transitive construction. Its basic CT is:

$$[do´ (x, y)]$$

Examples for some constructions in this level are listed below.

Transitive: *The cat killed the mouse.*

Ditransitive: *The child gave me the toy.*

Dative: *The child gave the toy to me.*

Benefactive: *Mom fixed waffles for us.*

Resultative: *Ron kicked the door open.*

Instrument-subject: *The crane lifted the beam.*

Caused-motion: *He tossed the coin into the air.*

The "way":   *He elbowed his way into the ballroom.*

Reciprocal: *Jane and Carla met.*

An action is specified as do'. X refers to an actor. Y stands for an object of action. Specifically, the CMC (e.g., *Peter kicked Mary out of the room*) conflates the affected object (*Mary*) and the actor (*Peter*) into one element, such as the speaker of sentence. Moreover, one single predicate (*kick*) is licensed to two predicate values: a caused motion and the manner of motion. The LCM proposes the CT below for the CMC. The asterisk (*) means an element is optional.

[do´ (x, y)] CAUSE [BECOME *NOT be-LOC´ (y, z)]

Furthermore, the inchoative construction can be used to describe a telic event involving a entity which experiences a change of state/position:

[Caus1Fact1] [BECOME/ INGR pred' (x)], 1= x

[Caus1Fact1] [PROC move' (x)] <& INGR be-LOC' (y,x)>)], 1= x

Caus1 and Fact1 means that the first argument can be construed as an built-in causer which is involved in the realization of the change of state depicted.

Level 2, which addresses *implicational constructions*, attaches nondenotational, subjective meaning to the level-1 predication. Such meaning usually conveys the speaker's attitude about the state of affairs designated by the predication. The constructions at this level originate in meaning implications that arise from reasoning about the predication in terms of its

context of situation on the basis of a premise-conclusion schema. For instance, the construction *What's X Doing Y?* (cf. Kay and Fillmore, 1999) conveys that there is something special about the situation or people described, for example, *What's the girl doing crying?*. It cues for a complaint. This construction indicates that the speaker has already known the answer to his/her own question.

At Level 3, the LCM deals with illocutionary constructions, which attach nondenotational, interactional meaning to level-2 representations (i.e., a subjectivized predication). These constructions originate in meaning implications that arise from reasoning about the subjectivized predication in terms of sociocultural conventions. For example, we think that people should make themselves available to help other people unless they have an inability to do so. This convention underlies the interactional meaning attached to *Can You X? requests* and related constructions (e.g., *Do You Think You Could X?*, *Do X, Can('t) You?*, as in *Do you think you could stay with us today?*, *Stay with us today, can('t) you?*).

Level 4 is the level of *discourse* constructions. It sets up logical, conceptual, or temporal relations between representations from low levels and makes use of paired high-level non-situational cognitive models, e.g., cause-consequence, evidence-conclusion, action-result. Take the evidence-conclusion type as an example here.

> *X, So* Y: He *lives in German, so he must like beer*.
> *Y, After All* X: He *must like beer; after all, he lives in German.*
> *Just Because Y Doesn't Mean X* (*Just because he lives in German doesn't mean they like beer*)

For any descriptive level of LCM, the same cognitive model types underlie the semantic base of the lexical/constructional characterizations at all levels

and the language users' inferential ability. The architecture of the LCM is illustrated in Figure 1.
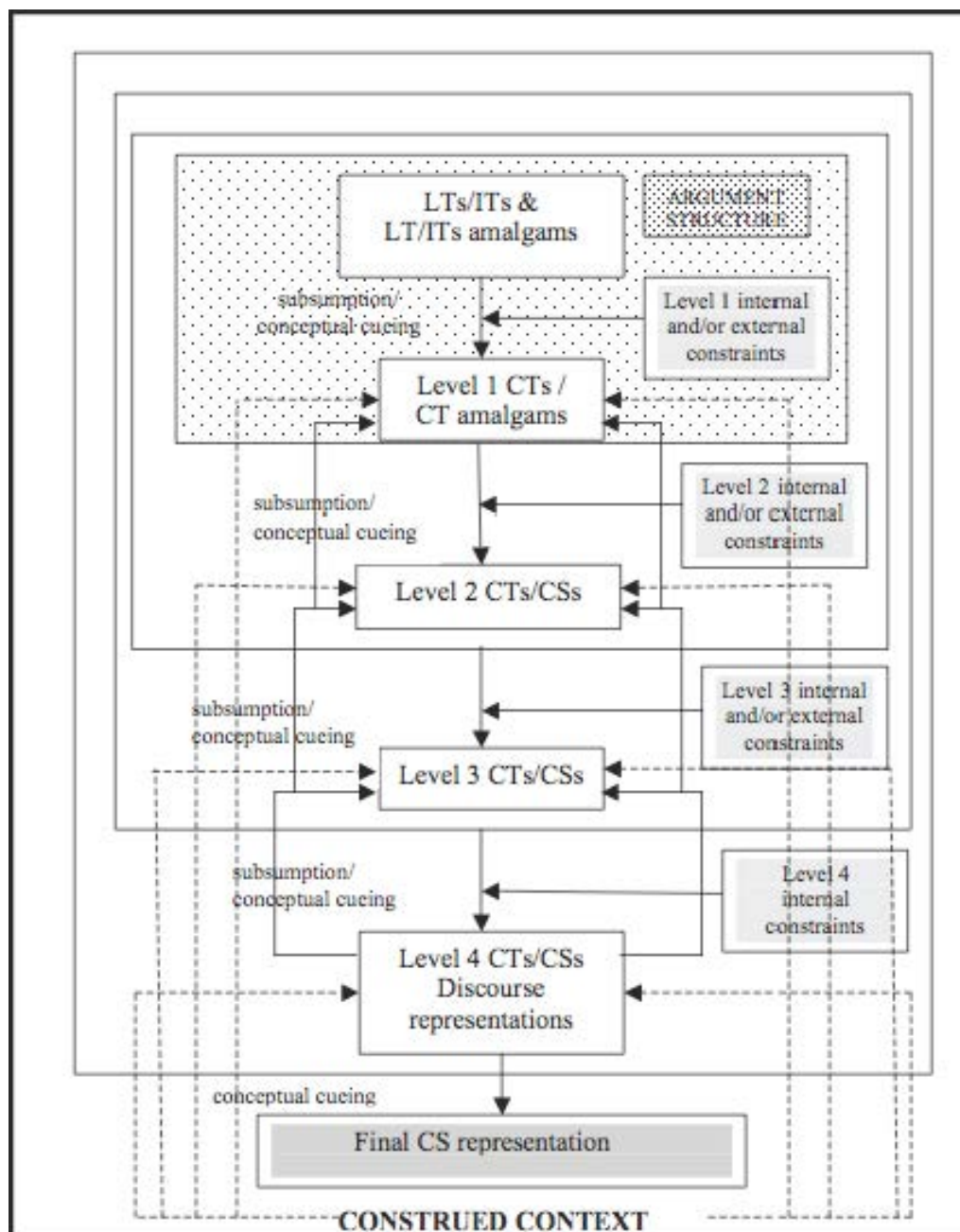
LT = lexical template; IT= idiomatic template ;
CT = constructional template; CS = Conceptual Structure

(Ruiz de Mendoza and Mairal 2008: 358)

Figure 3.1 The overall architecture of the LCM

In the LCM, there is lexical-constructional integration, which is a constrained process. There are two kinds of constraint regulating lexical-constructional fusion: *internal constraints* and *external constraints*.

Internal constraints are lexical-constructional unification constraints. For example, lexical blocking can act as an internal constraint. Specifically, one of components in the LT is able to block the unification with a certain construction when this component has a suppletive form. This constraint licenses the adaptation by the coercion of the internal semantic components of lexical structure. One typical example is *kill*. As a predicate, it does not participate in the causative/inchoative alternation since the inchoative form is suppletive, such as *die*, and it blocks the possible form of *kill*.

The label *external constraint* refers to the adaptation of lexical meaning to constructional meaning, which involves *aktionsart* shifts, such as those licensed by high-level metaphor or metonymy. External constraints regulate the meaning structure subsumption (or integration) process of a LT into a CT As argued by Pérez and Peña (2009: 70), "the external constraints that regulate the processes of constructional subsumption are not only cognitive in nature, but pragmatic aspects of what constitutes acceptable human behaviour are also at work here". Take *Peter talked Mary into it* as an example. Originally, *talk* is intransitive in *talk to someone*, but it is transitivized in this example. The expression is licensed by the high-level metaphor COMMUNICATIVE ACTION IS EFFECTUAL ACTION (Ruiz de Mendoza and Mairal 2007, 2008). The subsumption process is illustrated in Figure 3.2.

Lexical template external to the construction:
talk to' (x, y)

Abstract semantic representation of the
Caused Motion construction:
[Lexical template] CAUSE [BECOME **be-LOC'** (y,z)]

Constructionally coerced modification of the lexical template
talk' (x, y)

Unification of the modified template with the construction:
[**talk** (x, y)] CAUSE [BECOME **be-LOC** (y,z)]

Fully specified semantic representation:
[**talk** (Peter, Mary)] CAUSE [BECOME **be-LOC** (Mary, life)]

(Ruiz de Mendoza and Mairal 2008)

Figure 3.2 Subsumption in *Peter talked Mary into it*

Internal constraints refer to the semantic nature or status of some of the elements present in both the LT and the CT. Regarding external constraints, some grammatical processes are based on of high-level metaphorical and metonymic operations. This approach has two clear advantages:

(i)   It allows us to capture relevant inferences or meaning implications whose actual communicative impact may otherwise be lost from our description.

(ii)   It allows us to introduce a greater degree of regularity in our descriptive and explanatory apparatus, thus enhancing the predictive power of the model, by postulating principles that constrain metaphoric and metonymic activity.

The LCM has the advantage for our analytical purposes of being an integrative model of language that is capable of bringing together insights from cognitive semantics, functional linguistics, and constructionism. It also

combines the lexicalist and constructionist perspectives on language by spelling out the principles that control lexical-constructional integration. In lexicalist approaches, sentences are considered the result of the semantic (e.g., semantic roles, meaning postulates) and syntactic (e.g., argument structure) projections of lexical structure. In constructionist approaches, sentences result from the incorporation of lexical structure into constructions, with constructions regulating the process in terms of conceptual consistency (Baicchi 2015, 2018). Constructional meaning and form override lexical meaning and form. In fact, LS seems to be treated as constructional, where the difference with argument-structure constructions (e.g., transitive, ditransitive, and resultative, etc.) is more generic than the latter.

This dissertation works on the basis of the integrative assumptions of the LCM, according to which there are motivating factors for lexical-constructional integration other than conceptual consistency. This study mainly consider the Level 1, which focuses on argument structure constructions, but we will develop the theory by postulating such factors as typological constraints, iconicity. Metaphor and metonymy are central to integration processes. The LCM has emphasized metaphor and metonymy, which are considered external constraints, and it has broken down conceptual consistency into several clearly defined internal constraints that deal with the low-level (e.g., lexical content) and high-level (e.g., event structure) aspects of lexical decomposition. In this thesis, we will work with all of these aspects, and we will add the typological, cultural, and iconic factors mentioned above as further constraints.

Chapter 4

The Caused-motion Construction

4.1 Event structure

The CMC is a construction in which an agent causes motion of an entity in a certain manner so that the entity moves along a path. This construction could be generally described as X CAUSES Y TO MOVE Z (Goldberg 1995). It includes two sub-events. The first one is the causing event, which indicates that 'X causes Y to change', and the second is the motion event, which indicates that 'Y moves'. The two are merged together into the caused motion constructional configuration. For example, *Mary cracked the eggs into the bowl* has two discontinuous sub-events: the initiator's cracking sub-event (where the shell of an egg is cracked) and a motion sub-event (where the yoke of the eggs enters the bowl, which is its final position). The construal process in the complete construction establishes a causal relation between the two sub-events. Thus, hearers can understand that a change of state occurs because of the force exerted on the object of change.

The path of motion can be expressed by means of prepositional phrases that denote a path (e.g., *into*). For example, *The ball is kicked into the net* only specifies part of the path (the end point of motion), while *The player kicked the ball from the center of the field into the net* shows the whole trajectory.

The CMC has distinct features that are worth considering in terms of change of state, such as transitivization and inherent motion. For example,

(1) a. *Frank sneezed the tissue off the table.*   (Goldberg 1995: 152)

b. **Frank sneezed the tissue.*

Sneeze is an inherently intransitive verb that does not take a direct object, as evidenced by the impossibility of example (1b). However, when it is used together with other components, the verb *sneeze* is coerced into a transitive verb, as in example (1a). In the CMC, the components coerce each other to shape its linguistic form, and they work together to produce the final meaning interpretation.

In addition, motion is linguistically inherent in the CMC. It always includes a part (the verb or the PP) to show the motion. The movement from the original location or state to the final location or state requires the construction to include an element that specifies the path of motion.

Each of the elements of the CMC can be seen in relation to an element of the resultative construction (see Chapter 5) as an effectual action, that is, an action that has an identifiable impact on an object. Ruiz de Mendoza (2008) made the following connections explicit:

Table 4.1 The effectual action in the caused motion

Caused motion	Effectual action	Lexical items
Causer of motion	Effector	*Mary*
Causing motion	Effecting	*sneezed*
Object of caused motion	Effectee	*napkin*
Destination of motion	Final state	*off the table*
Manner of motion	Manner of effecting	*by sneezing*

The effector is the agent that initiates an action. Effecting is the action, which causes motion in this case. The effectee refers to the affected entity that

moves. The manner and the effect (causing motion) are closely combined or uniform because the two are conflated into the meaning of the whole sentence and the conflation follows the principle of economy in language (Vicentini 2003). This enables languages such as English to make use of verbs specifying the manner of action in the verb slot of the construction. In fact, this is possible through a licensing factor that takes the form of the high-level metonymy MANNER FOR ACTION, which is inherent in the CMC. MANNER is one part or sub-domain of the whole action, which acts as the key part and provides access to the complete domain (the whole action). MANNER FOR ACTION is a type of source-in-target metonymy (Ruiz de Mendoza 2011).

The metaphor CAUSES ARE FORCES plays an important role in the CMC. It is based on the EVENT STRUCTURE metaphor (Lakoff 1990). Different from a spontaneous action (e.g., *bloom*), caused motion is resulted from an external force. A spontaneous action is viewed as an internally-caused change of state because it comes about naturally (e.g., *The flower blossomed*). In contrast, the CMC discussed in this dissertation is a type of externally-caused change of state which is caused by an external force. For example, sneezing provides the force that causes the napkin to move. Causation is seen in terms of an external force that directly causes motion, which develops the metaphor CAUSES ARE FORCES (e.g., *Mary is moved by the movie*).

4.2 Change of state in the caused-motion construction

The change of state has two options of roles in the caused motion construction. In one case, the change of state acts as a necessary prerequisite to the motion, meaning the change of state happens earlier. In the other case, the change of state is a result of motion, and the change of state happens at the end. They are analysed separately in the following.

(a) The change of state provides a foundation for the motion

In this type, the change of state happens before the motion. If it does not happen, the motion cannot be realized. For example,

(2) a. *I smashed the avocado on the bread.*   (WebCorp)[5]

   b. *I cracked the eggs into the bowl.*   (WebCorp)[6]

In example (2a), the motion (cued by *on*) takes place after the change of state (invoked by *smashed*). The smashing action takes place, causing the avocado changes its state to be smashed. After the state changes, the motion (moving on the bread) can be accomplished. Similarly, in (2b), if the eggs are not broken, they cannot move as the causer's intention. Thus, we can say that the change of state, as a precondition of motion, takes place before the change of location.

(3) *I then broke the load up into two smaller machines.*   (WebCorp)[7]

Example (3) gives clues as to the change of state of the load. It suggests that the load may be originally connected to something but then the link between them is broken. As a result, the load falls along a path that eventually leads onto smaller machines. The motion is more prominent than the change of state in this case since the existence of a trajectory can be recovered from the sentence. The load must be removed from its original location and caused to traverse a certain path before it finally reaches its destination. 'Break' verbs (e.g., *break*, *smash*, *shatter*, and *crack*) are widely used in the change of state. According to Levin (1993), this type of verbs have the sense of bringing about a change in the "material integrity" of some entity. By contrast, 'cut' verbs also involve a change in material integrity, but break verbs are pure verbs of change

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[5] https://food52.com/recipes/53929-smoked-trout-and-avocado-salad-toasts. Accessed on June 2, 2018.

[6] https://archiveofourown.org/works/11978481/chapters/27293853. Accessed on June 2, 2018.

[7] https://www.yelp.com/biz/precita-clean-laundromat-san-francisco. Accessed on June 2, 2018.

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of state because they offer less information about how the change of state is being brought about, such as what instrument is involved. They pay more attention to the final state, which is the sub-event of causing motion, namely, a change of state.

In addition, the change of state can be served as the driving force to carry out the motion. For instance,

(4) *They laughed the poor guy out of the room.*   (Goldberg 1995: 152)

In example (4), laughing is the manner of motion. It caused a change of psychological state, such as the uncomfortable feeling of the poor guy in example (4). This change of state provides the force ,or motivation for the cause to move. Similar to example (3), the change of state happens before the motion. But in the example (3), it is not the direct driving force. Compared to example (3), the influence of state change here is larger to the motion. This example also illustrate the transitivization which is discussed in section 4.1. Originally, *laugh* is a intransitive verb and a non-motion predicate but here it is construed as a transitive verb, expressing an effectual action and leading to the motion indirectly. It is motivated by a high-level metaphor AN EXPERIENTIAL ACTION IS AN EFFECTUAL ACTION (Ruiz de Mendoza and Luzondo 2016). When *laugh* is construed to denote an effectual action, another high-level metaphor licenses the laughing action to participate in a caused-motion sentence: AN EFFECTUAL ACTION IS CAUSED-MOTION. In the double metaphor, the effectual action domain is acted as source and target. Thus, we can get the metaphorical chain: AN EXPERIENTIAL ACTION IS AN EFFECTUAL ACTION WHICH IS CAUSED MOTION (Peña 2015: 1266). The emotional effect on the object of movement, such as being laughed, is like the direct effect caused by a physical force (e.g., *They kicked/pushed the poor guy out of the room*).

(b) The change of state is the result of motion

In this type, the change of state does not happen until the end of motion. The state changes because of the caused motion. For instance,

(5) *I finally smashed the mirror on the ground.*   (WebCorp)[8]

Example (5) means that X causes Y to move violently so Y becomes broken in the end. Thus, the mirror broke because of the impact with the ground at the endpoint of motion. The broken state entailed in the sense of smash is the result of motion in contact with a referent. Thus, the smash event involves changes in both the location (the mirror moves from being above the ground to being on the ground) and the identification domains (the mirror ceases to be a mirror once smashed).

In addition, the metaphor CAUSES ARE FORCES and metaphor STATES ARE LOCATIONS entails the high-level metaphor A CAUSED CHANGE OF STATE IS A CAUSED CHANGE OF LOCATION (Ruiz de Mendoza and Rosca 2013). It means they the result of motion is exactly the change of state. For example

(6) a. *My challenges pushed me to success.*   (WebCorp)[9]

   b. *Wartime production pulled the economy out of depression*.

                                                            (WebCorp)[10]

In example (6a), the figurative destination of motion is to success, which is also the final state. In (6b), we see the economy as an object that is caused to move from one location to another. This caused change of location maps onto the caused change from being affected by an economic depression to not

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[8] https://www.quotev.com/story/1800915/The-Mirror/10. Accessed on June 2, 2018.
[9] https://www.fbcnews.com.fj/news/my-challenges-pushed-me-to-success-burenitu. Accessed on June 2, 2018.
[10] https://2001-2009.state.gov/r/pa/ho/time/cwr/index.htm. Accessed on June 2, 2018.

being affected.

There are some cases where changes of location happen, as in *The boy kicked the ball into the net*. The ball is affected not in terms of its intrinsic properties but rather in terms of the conditions associated with it as an object. Thus, this type of case is also included in this dissertation.

To sum up, there are two ways of exploiting the CMC to express a change of state. In one of them, the change of state offer the groundwork or driving force for the causee to move. In the other case, the motion results in the change of state which is realized at last.

4.3 The caused-motion construction in L2

In this section, the English CMC will be analyzed. The typical structure of the English CMC can be generalized as [SUBJ [V OBJ OBL]]. V is a non-stative verb that acts as the source of causative force, and OBL is a directional phrase that expresses the direction of the cause's movement.

The syntactic properties of the CMC can be represented by the formula $NP_1 + V + NP_2 + PP$. NP_1 stands for the causer (the subject). V is a non-stative verb. NP_2 is the theme (the direct object), and PP is a directional phrase. Some examples are shown as follows.

NP_1	V	NP_2	PP
They	*sprayed*	*the paint*	*onto the wall.*
Mary	*asked*	*Bill*	*into the house.*
Sam	*helped*	*the aged man*	*into the car.*

4.3.1 Lexical pattern

In English, the verb or verb phrase in the CMC usually encodes Motion

and Manner/Cause/Path. The PP expresses the path that the patient moves along from the starting point to the finishing point. More specifically, the lexicalization pattern can be divided into the following three types.

(a) Manner verbs [Motion + Manner/Cause] + PP

In the discussion of verb expression, we have noted that the verb can express not only the manner but also the cause of motion. We also know that prepositional phrases can express the path of the caused-motion event. Therefore, the first lexicalization pattern of English caused-motion events is Manner verbs [Motion+ Manner/Cause] + PP. Examples include the following:

(7) a. *Do I have to beat silence into you?*   (Google Books)[11]

b. *The guards beat him into silence.*   (Google Books)[12]

Both examples in (7) denote caused motion and a change of state. *Beat* is a [Manner + Cause] verb, acting as the key role in X causes Y to move by beating. However, the two examples differ in cognitive motivations. In (7a), *I* am the causer of motion and transfer the silence to *you* (the destination of motion) by the way of beating. Silence is considered not only an object which can be moved, but also the result of the caused motion. The object of motion, *the silence*, does not map onto the effectee but onto a new state which the effectee is going to acquire by virtue of the state being figuratively caused to move into the effectee (Ruiz de Mendoza and Mairial 2011). This is a high-level metaphorical complex with two source domains that map onto the same target. We can find it is motivated by two metaphors:

(i) ACQUIRING A PROPERTY IS POSSESSING AN OBJECT

(ii) ACQUIRING A PROPERTY IS CAUSED MOTION

The target domain of both metaphors is the same that is to AQUIRE A PROPERTY. By being figuratively forced into the effectee, silence becomes a property of the effectee. The mapping process involves a double-source metaphorical amalgam which is shown in the figure below.

Table 4.2 Double-source high-level metaphorical complex

Source (caused motion) →	Target	← Source (possession)
Causer of motion	Effector ('he')	
Causing motion	Effecting ('caused to acquire')	
Destination of motion	Effectee ('me')	New possessor of an object
Object of caused-motion (moving object)	New property ('silence')	
	Resultant state ('acquiring the new property of silence')	Gaining possession of an object
Manner of causing motion	Manner of effecting ('beating')	

(Ruiz de Mendoza and Mairial 2011: 79)

Regarding the example (7b), beat, as an effectual predicate, can has a direct impact on the object of beating. *The guards beat him into silence* is used figuratively. Different from (6a), the moving object is *me* in this example. The *silence* is considered a figurative destination of motion. Going into a state is like going into a container. The whole sentence is motivated by the metaphor AN EFFECTUAL ACTION IS CAUSED MOTION (cf. section 4.2)

(b) Path verbs [Motion + Path]

Caused-motion events can include not only manner verbs but also path verbs. Because the path verbs can express the motion and the path at the same time, the prepositional phrases can sometimes be omitted. An example is *Please fetch the bread (here) for me*.

(c) Path verbs [Motion + Path + Manner]

There is another type of verb that can express the manner and the path of the caused-motion event at the same time. In this kind of lexicalization pattern, the prepositional phrase can sometimes be omitted as well. However, if we add the prepositional phrase to the sentence, the expression of the caused-motion event will be more detailed. For instance, in *He wriggled into the room*, the verb conflates motion, manner and path.

In addition, the process of motion can have different types. For example,

(8) a. *The woman sprayed paint onto the wall.*   (Twomey 2016:124)

   b. *She sprayed paint at the wall*   (Laffut 2006: 139)

Example (8a) is a typical CMC that expresses the final destination when the movement of the object (the paint) stops. However, the final state in (8b) is only implied; i.e., the hearer needs to imagine it.

To sum up, although there are distinctions in location variant or conative variant, the pattern in the English CMC is relatively stable. It can be summarized as NP_1+ VP + NP_2 +PP.

4.3.2 Prepositions: co-predicators of the verb

In the English CMC, a typical component is the prepositional parts of the structure except the verbs. Gawron (1985, 1986) argues that caused-motion expressions consist of two predicates, a verb and a preposition, both of which retain their normal meanings. The verb and the preposition act as co-predicators, sharing one argument and combining semantically in pragmatically inferable ways. For example:

(9) *John broke the hammer against the vase.*   (Gawron 1986: 338)

Example (8) can be analyzed as break event (*John*, *the hammer*), and against event (*the hammer*, *the vase*). The preposition *against* is claimed to be responsible for the interpretation that the hammer comes into forceful contact with the vase.

From the semantic frame and the syntactic complement of the CMC, the PP is an essential part of the construction that accounts for the path tendency of the construction. Let us see another example:

(10) *Peter sneezed the napkin off the table.*　　　　(Goldberg 1995: 29)

In example (10), *off the table* is an obligatory prepositional complement. In terms of semantic roles, it denotes the result of the action. Thus, this PP is very important for the emergence of causal meaning. The action of the agent produces a force and transfers it to the patient, which causes it to move along a path. Consequently, the predicate becomes transitive.

4.3.3 Various interpretations

The basic semantic meaning of the English CMC is that the causer of motion causes the object of motion to move along a path (Goldberg 1995; Tyler 2012; Kemmerer 2019). The basic pattern is X CAUSES Y to MOVE Z. However, this pattern is associated with a category of related interpretations which are discussed below.

(a) X CAUSES Y to MOVE Z

This sense is considered the most central one of the CMC (Goldberg 1995). Evidently, all the examples above encode a distinct motion of each object directly caused by the causer argument, and the themes move along a path denoted by a directional PP. Examples include the following:

(11) *He smashed the ball into the goal.*   (WebCorp)[13]

(12) *Frank squeezed the ball through the crack.*   (Goldberg 1995: 153)

(b) X ENABLES Y to MOVE Z

In this type, verbs designate a kind of permission, and the causee undergoes a change of motion under the permission of the causer. The permission verbs typically include *let* and *allow*, as exemplified below:

(13) *His client is* allowed out *of her cell.*   (WebCorp)[14]

(14) *It's time to let kids into the kitchen.*   (WebCorp)[15]

(c) X HELPS Y to MOVE Z

This pattern requires the verb to have the meaning of assistance. It thus makes use of verbs such as *help* and *assist*. The patient moves over, across or along a path with the help of a causer. Examples include the following:

(15) *He helped her into the front seat.*   (COCA 2017)

(16) *The monk… assisted him through the door.*   (COCA 2014)

(d) X PREVENTS Y from MOVING Z

This pattern is highly peripheral to caused motion. It contains the essential elements of the CMC, i.e., a causer, a theme, and a path. However, here, the causer is not a positive causer but a preventer of motion that blocks the causee's attempt to move. The causee is at the same time a prospective self-instigated mover. For example:

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[13] https://www.oxfordlearnersdictionaries.com/definition/english/smash_1. Accessed on June 16, 2018.

[14] http://reportr.nz/article/29e4e638-4774-423b-9db9-f10c4df2c200. Accessed on June 16, 2018.

[15] https://www.mummymummymum.com/making-cooking-fun-for-kids-with-ikea. Accessed on June 16, 2018.

(17) *Police officials stopped us from getting out of the airport.* (WebCorp)[16]

In this example, the three elements (a causer, a theme, and a path) in a caused motion are clear, but it is negative caused motion. Based on the metaphor CAUSES ARE FORCES, this types displays the NEGATIVE CAUSES ARE DRAG FORCES.

Above, we have introduced the four interpretations of the CMC. Type (a) is considered the central one of the construction. The other extensions are considered as extensions of type (a) because their syntactic and semantic specifications have been inherited from the central sense. Type (b), (c) and (d) involve effectual actions which are indirect forces in the caused motion. As Peña (2009) claims, this subsumption is construed by high-level metaphor AN EFFECTUAL ACTION IS CAUSED MOTION.

4.3.4 Interaction between the construction and argument

Based on the assumption that the verb carries more semantic information and thereby makes a greater contribution to the construction (Shen 2000), previous studies on the English CMC have mainly concentrated on the relationship between the construction and its verbs. However, in fact, the choice of arguments encoded as syntactic components also affects the acceptability of caused-notion expressions; that is, the semantics of the construction must make reference to its arguments. For example:

(18) a. **The hammer broke the bottle into pieces*.

b. **She encouraged the mouse to move out of its hole.*

The two sentences in (18) are ill-formed because of their improper use of the arguments, that is, the incorrect use of *hammer* in example (18a) and of

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[16] https://currentnews.in/didis-mps-arrested-assam-stopped-leaving. Accessed on June 16, 2018.

mouse in example (18b). As noted before, the English CMC involves three arguments: a causer argument, a theme argument, and a path argument. What requirements should the arguments meet, and what other relations exist among the arguments? The following discussion in this section will focus on these topics.

(a) The types of causative force

According to Langacker (1991), the causative construction involves a force component as the determining factor in causation. Based on previous studies (Goldberg 1995; Langacker 1991; Cheng 2008), in this thesis, we divide the causative force into two types: prototypical causative force and non-prototypical causative force.

In prototype theory, a concept is understood via reference to those instances that are the most representative in a class (Taylor 2001; Croft and Cruse 2006; Wang 2007). Relating to our experience, prototypical causative force refers to physical force. When this kind of force appears in the caused-motion sentences, there is often a direct (iconic) contact between the action predicate and the theme, while the motion could be implicit. For instance, we can compare the following:

(19) a. *John loaded two trucks with every box.*   (Larson *et al.* 2019: 233)

    b. *John loaded two boxes onto every truck.*   (Larson *et al.* 2019: 238)

In (19a), the boxes are moved from a place off the truck to a place on the truck, but the motion here is implicit and inferred from the sentence. By contrast, in the alternate location construction used in (18b), this kind of motion is made explicit by the preposition *onto*. In this location construction, there is direct contact between the action (loading) and the theme of the action (the boxes).

In contrast to the prototypical causative force, the non-prototypical force is not a direct physical force. For example, the non-prototypical force could be a psychological force (e.g., *laugh someone out*), a communicative force (e.g., *order/beckon/urge/ask someone out*), a force involving the removal of certain barrier (e.g., *release someone from somewhere*), and a force involving helping others (e.g., *help/assist/guide/show/walk someone in*). When this kind of force appears in a caused-motion scenario, there is often no direct contact between the causer and the theme.

(b) Semantic properties of the causer

The causer is the initiator of the caused-motion event, which can be realized as a syntactic subject. According to Langacker (1991), the archetypal agent refers to people who volitionally initiates physical action, with a physical contact resulting in the transfer of force to external objects. This is also the case for the English CMC. Because only human beings have the ability to act volitionally, their actions can deliberately cause, enable, or prevent the motion of an object on purpose (e.g., *Lucy pushed / let / locked Mary into the room*).

In any event, except for special situations such as fairy tales, an instrument cannot have the role of causer, as this kind of argument does not have the ability to produce force by itself. That is why both of the sentences in (20) below are not correct.

(19) a.*The hammer broke the mirror onto the ground.*

b. *Her cane helped her into the trunk.*

(c) Semantic properties of themes

The theme in the CMC is an entity which is moved by an action. Previous studies on the categorization of causation have stated that in a direct

causation, both animate and inanimate entities could act as a theme (Cheng 2008). In the English CMC, the causation is direct, since the causative action and causative results occur in a single event (Goldberg 1995).

First, both animate and inanimate entities can act as the theme in that they can absorb the force that is transmitted through physical contact between the causer and the theme and finally undergo a change of state. Examples are *John tossed the ball into the basket* and *Frank kicked the dog into the bathroom.*

Second, inanimate entities cannot take the theme role with the enabling extended meaning of the English CMC, i.e., X ENABLES Y TO MOVE Z. This is because the causal force in this extension involves the removal of a physical barrier (as in the case of the verbs *release*, *free*, *allow*), which means that there is no direct physical connection between the causer and the theme; there is only direct physical connection between the causer and the barrier. Only if the position of the theme changes according to the will of the causer can the caused-motion event be entailed. At this point, only animate entities can act as the theme because of the dual roles of Y in X ENABLES Y TO MOVE Z. Note that Y first accepts the enabling force from X and then transfers the force to Z, which finally undergoes a change of state. Inanimate entities do not have the ability to transfer this kind of energy, meaning that they fail to implement the will of causer. Therefore, the motion cannot be brought about, and inanimate entities cannot occur in this type. For instance, it is wrong to say **Peter released a table into the room*, but it allows an animate theme, as in *Peter released a dog into the room.*

With the exception of particular myth stories, motion will not happen. The reason behind this is that the table cannot absorb and transmit this kind of force, let alone change its position according to the will of the causer.

Third, when the event is associated with the meaning of satisfaction, only human beings can act as a theme. The force that appears in this situation is usually a psychological one (e.g., *The actor was laughed out of the theater*) or a communicative one (e.g., *Peter invited his friend into the room*). Thus, only human beings can understand the meaning of causer and take action according to the will of the causer.

In the example *Peter invited his friend into the room*, the force applied by Peter is communicative. If his friend accepts Peter's invitation and enters the room, motion can be implied. However, under normal circumstances, without any special anthropomorphizing, both inanimate entities and animals cannot act as the theme. For example:

(21) a. *Peter invited a turtle into the hall.*

    b. *Peter invited a kettle into the hall.*

From the discussion above, we can see that in the pattern X causes Y to move Z, both animate and inanimate entities can act as the theme argument. In the extended pattern X enables Y to move Z, only animate entities can act as the theme. If the sentence is associated with emotional meanings, such as agreement or satisfaction, only human beings can act as the theme.

(d) Semantic properties of the path

Influenced by the polysemy of the CMC, the path also has the semantic properties of polysemy, which can be classified as realistic, uncertain, and subjunctive paths.

A realistic path occurs when the action designated by the predicate entails motion along a path. It appears in the types X CAUSES Y TO MOVE Z and X ENABLES Y TO MOVE Z. Consider *allow* in the following example:

　　(22) *Sam allowed Bob out.*　　　　　　　　　　　　　(Luo 2019: 65)

In example (21), we can calculate that the common context is that there is an inequality relationship between Sam and Bob. Sam is in a position of authority, such as Sam's boss, teacher, or parent. Bob is perhaps a worker, a student, or a child. Although Bob is anxious to leave the room, Sam's power acts as a barrier. Without Sam's permission, Bob does not dare to go out. However, if the barrier is removed, that is, if Bob obtains Sam's permission, motion will be possible.

　　Uncertain paths happen where motion may or may not be implemented. When the causative force is of a communicative type, the force is only a signal, meaning that the energy can be transmitted only through humans' understanding. If the theme chooses to accept the force and follow the will of the causer, motion can take place; otherwise, it cannot. For example:

　　(23) *Sam ordered Bob out of the office at 11am.*

In example (23), the causal force brought by ordering is a kind of communicative force. The causer, Sam, only sends out a signal and there is no physical contact between the causer (Sam) and the theme (Bob). Thus, the theme may or may not accept the causer's order. Only if the theme accepts the force and takes action can motion be entailed. Therefore*, out of the office* designates an uncertain path.

　　A subjunctive path takes place when motion cannot be entailed. If the path appears with the extended meaning of X PREVENTS Y FROM MOVING Z, the preventer's force (which is a type of causer) acts as a barrier aiming to prevent a theme from moving (e.g., *lock*, *keep*). Thus, it becomes a subjunctive path where the theme intends to move but fails. For example:

(24) *Yemen are banned from coming into the US.*   (WebCorp)[17]

In example (24), the path denoted by *into* is the intended path of vehicles. However, the motion does not come true, and the path is only a subjunctive one, which cannot materialize.

4.4 The caused-motion construction in L1

In the formation of the Chinese CMC, the lexicon has a central role, while syntax is auxiliary. This linguistic phenomenon means not that the CMC is absent in Chinese but that the materialization of the Chinese CMC is dependent on the assistance of specific linguistic markers (Ji and Hohenstein 2014). The various linguistic markers and patterns will be discussed below.

4.4.1 Lexical pattern

The use of two finite verbs in the same clause is a typical feature of Chinese (Yin 2010). The first verb encodes motion and the manner or caused of motion, while the second verb designates the path of motion, which can sometimes be optional. Moreover, the second verb is taken from a closed set of words that can express the atelic movement and boundary-crossing movement, such as *ascend*, *descend*, *cross*, and *enter*. Slobin (2004) calls this the *serial verb construction* (SVC), which is the primary motivation for postulating the existence of equipollently-framed languages. SVCs are composed of a series of two, three or more verbs that seem to be parts of a single clause. Many African, Asian and New Guinean languages, among which we find Chinese, use SVCs as main verbs. They are called *serial verb languages* (Aikhenvald and Dixon 2005)

In SVCs, the first verb reflects the agent argument NP_1, while the second reflects the object argument NP_2. NP_1 exerts a force on patient NP_2, causing

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[17] https://sports.yahoo.com/trump-travel-ban-8-things-203948906.html. Accessed on June 16, 2018.

NP$_2$ to move along. This construction with SVCs can be described as NP$_1$ + V1 [Motion + Manner/Cause] + V$_2$ [Motion + Path]. However, this SVC does not exist in English, as motion and manner or cause can be expressed in a single causative verb in English and path can be expressed by particles to avoid the complexity of sentence construction, making the language simple and easy to understand.

With the combination of the manner verbs and path verbs, the Chinese CMC can generate an unlimited number of SVCs used in CMC, for example, *push-ascend*, *drag-descend*, and *blow-enter*. The specific types are analyzed below.

(a) Manner verb [Motion + Manner/Cause] + directional verb

Based on our earlier discussion, there are manner verbs that can express the manner and cause of motion. To express the path, directional verbs can be adopted in Chinese. This type of lexical pattern in the Chinese CMC can be summarized as Manner verbs [Motion + Manner/Cause] + directional verb. Examples include the following:

(25) *Ta   ba   nan-hai   tui   chu   le   chi-fan-jian.*   (BCC)
    He   BA   boy   push   exit   PAST   dining-room
    'He pushed the boy out of the dining room.'

In example (25), *tui* ('push') expresses both motion and the cause of motion. Moreover, *chu* ('exit') is a directional verb that describes the path of this caused-motion event.

(b) Manner verb [Motion + Manner] + unspecific directional verb

In this type of pattern, both motion and manner are included in a manner verb. The path is expressed separately by a path verb.

(26) *Meng-lu   gan   zou   le   Qi-qi.*   (BCC)

Meng-lu   drive   walk   PAST   Qi-qi

'Monroe drove away Gigi.'

The verb *gan* ('drive') in example (26) expresses the manner of motion, while the unspecific directional verb *zou* ('walk') expresses an uncertain path of motion.

4.4.2 Linguistic markers

Unlike the typical causative verbs in English, such as *cause*, *make* and *let*, Chinese causative verbs become grammatical markers, giving rise to various forms that can represent a causative conception. The CMC in Chinese is based on these causative markers, such as *ba* and *shi*, where the verb cannot be used independently to express the causative meaning.

(a) *Ba* construction

Ba is a grammatical marker used to express caused-motion events. Generally, *ba* plays the role of targeting the recipient of an action, such as 'do something to' in English (Zou 1993). *Ba* signals that the causer carries out the action. The causee is the part after *ba*.

Ba plays an important role in the verbal group. Since Chinese allows the use of two verbs in the same clause, *ba* acts as a generic verb V_1, which is similar to *make* in English, while V_2 is usually a notional verb. In other words, V_1 is generic and V_2 is specific. Some kinds of notional verbs can be used in a *ba* sentence, such as *tui* ('push'), *ti* ('kick'), and *chui* ('blow'), all of which have causative meanings. Here are some examples:

(27) *Wo   yi   jiao   ba   San-men-er   ti   jin   le   quan qian de*

Wo   one foot   BA   San-men-er   kick   enter   PAST   stable front 's

fen   keng.   (BCC)

dung   pit

'I kicked San-men-er into the dung pit in front of the stable with one foot.'

In example (27), *ti* ('kick') is the manner of motion and it causes the causee (San-men-er) to move into the dung pit. *Jin* ('enter') shows the direction of motion. *Ba* is positioned before *San-men-er*, marking this word as the causee.

Some other verbs which are not inherently causative can also be used in the Chinese CMC, such as *gun* ('roll') and *ji* ('squeeze') in Chinese. For instance,

(28) a. *Ta   ba   ying-guo ren   ji   dao   le*

He   BA   British   person   squeeze   arrive   PAST

bian   shang.   (BCC)

edge   on

'He squeezed the British person to the edge.'

b. *Nan-hai   ba   lun-tai   gun   jin   le   fang-jian.*   (BCC)

Boy   BA   tire   roll   enter   PAST   room

'The boy rolled the tire into the room.'

Ji ('squeeze') is inherently transitive. When it is used in a caused-motion sentence, it acquires a causative sense that is not part of its standard transitive meaning (e.g., squeezing oranges). *Gun* ('roll'), on the other hand, is naturally intransitive, and it can be transitivized with a causal meaning to make it part of

the CMC. This construction endows these verbs with a special causative meaning that is not part of their standard meaning (which does not involve caused motion). This situation is similar to that in English. These two verbs, in both Chinese and English, can be reconstrued through metonymic licensing whereby a member of a category stands for the whole category (Kövecses and Radden 1998): in their standard use, squeezing an object denotes an effective action and rolling denotes a process.

Unlike the transitive causative verbs (e.g., *push, kick, blow*), as discussed before, example (6a) expresses both the cause of motion and the manner of action (*squeeze* in this case), while example (6b) conveys not only the cause of motion but also the manner of motion (*roll*). Therefore, hearers can understand the manner in which the tire moves.

Based on the discussion above, we can find that CMC with *ba* in Chinese can be represented as

$$NP_1 + ba + NP_2 + VP + NP_3$$

In this linear expression, VP refers to a verb phrase, and NP_3 refers to a location (e.g. *pit, edge*). The construction meanings can be interpreted as 'X CAUSES Y TO MOVE TO Z', which is the prototypical configuration.

In the Chinese *ba* construction, the object is a bare noun, but it still refers to the relation to the subject (Ziegeler 2000). Therefore, it should be considered a definite object. By contrast, the object in English becomes definite with a marker *the*. After studying more examples of *ba* constructions, we can find that the object in the *ba* construction is definite, while the object in double object construction is not necessarily definite.

There is a relation between NP_1 and NP_2 in the *ba* construction. NP_1 is the necessary condition for the existence of NP_2, while NP_2 is the logical result of NP_1. PP is the direction or destination of NP_2's motion. That is why the *ba*

construction is also part of other Chinese constructions, including the resultative and middle constructions, which are discussed in this thesis.

From the perspective of distance iconicity (cf. Croft 2008), *ba* changes the word order, thus affecting the distance between the agent and the main verb, which is longer than in English. The longer the distance, the weaker the relationship is. The double object construction in English tends to express directly caused motion events, while the *ba* construction expresses relatively indirectly caused motion events. Moreover, in the diachronic process of grammaticalization, *ba* (along with many other verbs in Chinese) as well as another construction, the SHI construction (which will be discussed in the next section), has entirely lost its verbal status, becoming akin to a preposition.

(b) *Shi* construction

The *shi* construction, or permissive construction, is another typical CMC in Chinese. Its meaning is close to the word *let* in English. The linear description of this construction can be expressed as NP_1 + *shi* + (NP_2) + VP. The VP indicates the specific motion. For instance,

(29) *Lang   xia   dao   jing   li,   ta-de   zhong-liang   shi   hu-li*
       Wolf   go-down   arrive well   inside, its   weight   SHI   fox

       sheng   dao   le   jing-kou.   (BCC)
       rise   arrive   PAST   wellhead

       'The wolf went down to the well, and its weight raised the fox to the wellhead.'

In example (29), there are two sub-events in every sentence. The *shi* ('let') event allows the *sheng* ('rise') event happen. 'To the wellhead' expresses the path.

Shi contains the causative meaning and consists of three participants: the

causer, the causee, and the action of the causee. In the moving verb, the mover and the path are the participants. The participants integrate with participants in the constructional argument roles. Both the causer and the cause are profiled.

The constructional meaning and the verb meaning interact with each other. S*hi* provides a clear precondition for the specific moving event since NP$_1$ + *shi* + NP$_2$ displays the background where NP$_1$ will conduct an action to NP$_2$. The causer produces a force and makes the causee move along a path.

(c) *De* construction

Another causative marker *de* can also express caused-motion events in Chinese. The pattern for this construction is NP$_1$ + *de* + NP$_2$ + VP. For example,

(30) *Ta-men　xiao　de　Zhang-san　cong　chuang shang　gun　le*

They　　laugh DE　Zhang-san　from　bed　　on　　roll　PAST

xia　　lai.　　　　　　　　　　　　　　　　　　(BCC)

down　come

'They laughed Zhang-san to roll down from the bed.'

Regarding the verbal function of *de*, as Lamarre (2000) suggests, the main verb and the sub-verb can be seen in the *de* construction, in which the main verb can be an acting verb. Additionally, the main verb can be an action verb, such as *sneeze*. The sub-verb is a moving verb. The constructional expression of *de* is that the causer produces a caused force intentionally or unintentionally, as a result of which the causee moves somewhere.

4.4.3 The non-marker caused-motion construction

The extensive use of causative markers does not mean that all Chinese CMC can be realized only with causative markers such as *ba*, *shi*, or *de*. Causative markers cannot be used together with a verb in this type of construction. For example:

(31) a. *Ta   li   quan   peng-you   li-kai   sen-lin   de*

      He   strongly   advise   friend   leave-away   forest   's

      zhu-chu.   (BCC)

      residence

      'He strongly advised his friends to leave the forest forest's residence.'

    b.*Ta   ba   peng-you   li   quan   li-kai   sen-lin de*

      He   BA   friend   strongly   advise   leave-away forest   's

      zhu-chu.

      residence

      To mean: 'I He strongly advised his friends to leave the forest forest's residence.'

Verbs in the sentences without a marker include two argument verbs, with the participant role of the causee as its only direct object. They do not clearly indicate the direction of motion, but it is clearly that the movement is a result caused by verbs.

The causee in the sentences without a marker can control the result of movement because it has the semantic feature [+animate], and the force of the causer is not as influenced. The direction of the causative force is usually

opposite to the willingness of the causee, owing to which satisfying the CMC is comparatively complicated. Therefore, the result is not entailed in the expression of these sentences and cannot be assumed to happen.

The most noticeable feature of sentences of this kind is that the causee is permitted to take effect in the final result of the construction. However, the causative structure must be represented by the infinitive form in English, since the causee is not allowed to decide the movement. For example:

(32) a. * *Quinn's budget office encourages people to a website.*

b. *Quinn's budget office encourages people to go to a website.*

In English, because of the decisive role of the structure, every element that enters the CMC must be constrained in the framework. Apart from the movement of the causee, almost all semantic features of the component elements are in control of the construction. Although the movement is the action derived from the causee, it must be entirely influenced by the force from the causer. However, in Chinese, it is permitted for the causee to decide the movement. For example:

(33) *Ni   dai-ling   dui-wu   jin   Ha-fu-lou   cheng   qu.*   (BCC)
      You   guide   team   enter   Ha-fu-lou   city   go
      'You guide the team to enter the Hafulou city.'

The example above is a CMC without any linguistic marker. In this type of sentences, the movement is not decided entirely by the causer, but relies on whether the causee agrees to engage in a certain movement. There are two main reasons for this linguistic phenomenon. First, the absence of the linguistic marker BA, which carries the light verb meaning of [handle], permits the decision to be the causee's. The second reason lies in the use of the directional phrase. It carries the semantic morpheme of moving, which helps to

accomplish the meaning of the movement of the causee. Meanwhile, it enhances the ability of the causee to control the movement.

4.4.4 Temporal markers in Chinese

Compared to the English pattern, the Chinese CMC adopts temporal markers that follow as auxiliaries, such as *le* (past) or *zhe* (in progress). For example:

(34) a. *Ta   shun-bian   ban   le   yi-ge deng-zi   dao   na-li   qu.* (BCC)

    He   by-the-way move PAST   a   stool   arrive there   go

    'By the way, he moved a stool there.'

   b. *Ta   shun-bian   ban   zhe   yi-ge deng-zi   dao   na-li   qu.*

    He   by-the-way move ING   a   stool   arrive   there   go

    'By the way, he is moving a stool there.'

In example (34a), an auxiliary word *le* was added to the main verb *ban* ('move') to describe the fulfillment of the action. In example (34b), *ban* ('move') is followed by *zhe* to show the progressive aspect. Both auxiliaries can be considered temporal markers.

The *zhe* construction involves the temporal simultaneity of multiple events. The agent/subject is imposing force on the patient/object, and both move along the same path simultaneously. The relationship between an agonist and an antagonist shows how the two entities interact with each other under the influence of force. The agonist is the entity that exerts force, while the antagonist opposes the force. In the *zhe* construction, the antagonist fails to overcome the force and moves along with the agonist.

4.5 Cross-linguistic comparisons

In previous sections, we discussed English and Chinese CMCs separately. In

this section, we perform a semantic analysis of them in terms of the three critical elements in a caused-motion event: causer, causee, and driving force.

4.5.1 The causer

The causer is the object that makes the caused object change location. Additionally, it is the reason for the caused-motion event and the source of the driving force. In addition to human beings, other things, such as animals and natural forces, can also be regarded as causers. Below, we present further details on the causer.

First, human beings act as the causer on most occasions in both English and Chinese. Here is a pair of examples:

(35) a. *I put the book into the drawer.*   (Google Books)[18]

     b. *Wo   ba   shu   fang   jin   le   xing-li-xiang* (BCC)

       I   BA   book   put   enter   PAST suitcase

       'I put the book into the suitcase.'

We can see that in a default interpretation of (35a) and (35b), both *I* and *wo*('I') are seen as willful causers. It is on the grounds of this characteristic that the human being is most widely placed in the role of causer.

Second, an animal can occasionally be regarded as a causer. However, because the ability of animals to realize a caused motion with intention is usually lower than that of human beings, there are fewer examples of animals as causers. We can still find some examples:

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[18] https://books.google.es/books?isbn=0745155278. Accessed on July 9, 2018.

(36) a. *The cat took the meerkat away.*   (WebCorp)[19]

    b. *Na-zhi gou   ba   xiao-ji   xia   pao   le.*   (BCC)

       That   dog BA   chick   frighten away   PAST

       'That dog frightened away the chick.'

The causers are the animals in (36a) and (36b), and we can give other English and Chinese examples that are similar to these. As we discussed before, non-living and abstract objects can sometimes be regarded as causers. However, because their ability is lower than that of human beings and animals, this is not a widely attested use. Examples include the following:

(37) a. *Curiosity drove him to enter the bay.*   (WebCorp)[20]

    b. *Hao-qi-xin   shi   ta   zhi   qi   ta-de xia-ba.*   (BCC)
       Curiosity   SHI   him   lift   up   her   chin
       'Curiosity made him lift her chin.'

In example (37a), confidence belongs to an abstract object and is the causer in this sentence. However, in (37b), *tai-feng* ('typhoon') is the natural force and is also the causer.

From our examples above, we can conclude that many objects can be regarded as a causer. However, a causer cannot be a tool (Goldberg 1995). This applies to both English and Chinese. For example:

(38) a.*The hammer broke the vase onto the floor.*

    b.* *Chui-zi   ba   hua-ping   da   dao   le   di-ban   shang.*
       Hammer BA   vase   break   arrive PAST floor   on

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[19]https://www.dailymail.co.uk/news/article-2465860/Wild-cat-strike-Hunter-snatches-meerkat-emerges-d
en--doesnt-prove-simples-meal.html. Accessed on February 5, 2019.
[20] https://www.deviantart.com/theredscreech/gallery/. Accessed on February 5, 2019.

To mean 'The hammer broke the vase onto the floor.'

The two sentences in (38) are not possible in English or Chinese, demonstrating that a tool cannot be the causer.

4.5.2 The causee

The causee is also a significant part of the CMC. The causer can sometimes be omitted, while the causee can never be omitted. In the following part, we will discuss what can be regarded as the causee.

The most significant difference between the causer and the causee is that a non-living object can easily become a causee because a causer can easily influence it. Some examples can illustrate this:

(39) a. *John threw the ball into the hole.*   (Google Books)[21]

b. *Wo   ba   qiu   reng   jin   le   zui   li.* (BCC)

I   BA   ball   throw   enter   PAST mouth   inside

'I threw the ball into my mouth.'

The *ball* in (39a), or *qiu*('ball') in (39b), is a non-living object of movement which acts as the causee in the CMC.

Human beings can also serve as causees. However, this is not typical because human beings have their own will, and the caused-motion event sometimes may not happen. However, we can still give some examples that show human beings as causees. Examples are as follows:

(40) a. *Kelvin led the girl away from the others*.   (Google Books)[22]

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[21] https://books.google.es/books?id=VU7TAAAAMAAJ. Accessed on February 5, 2019.

b. *Ta   cui-cu   ma-fu   kuai   zou*.   (BCC)

She   urge   groom   quick   leave

'She urged the groom to leave quickly.'

In (40), both *the girl* and *hai-zi* ('child') are examples in which human beings are regarded as the causees. Although this is not as typical as a non-living object, there still exist some examples.

The causee can also be a part of the human body. People can control their body parts, which can be influenced by the causer and experience the change. For example:

(41) a. *The boy poked his head out of the window.*   (Google Books)[23]

b. *Ta   yi   ba   tou   tan   chu   le   liang-peng.* (BCC)

He   already BA   head   poked   exit   PAST   arbor

'He has already poked his head out of the arbor.'

Finally, some abstract objects, such as emotion, consciousness and responsibility, can show up in caused-motion events. However, this occasion indicates not the real motion but the metaphorical motion.

(42) a. *Happiness induced by the music drove away the bad thoughts.*

(WebCorp)[24]

b. *Ta   zan-qie   ba   fan-nao   pao   dao   le   yi   bian.* (BCC)

He temporary BA   worry   throw arrive PAST one side

'He threw his worries aside for the time being.'

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[22] https://books.google.es/books?isbn=1405519347. Accessed on February 5, 2019.
[23] https://books.google.es/books?id=SF1PAAAAYAAJ. Accessed on February 5, 2019.
[24] http://hebrewnations.com/articles/bible/saulmad.html . Accessed on June 2, 2018.

4.5.3 The driving force

The driving force is the core part of a caused-motion event. If there is not a successful transformation of the driving force from the causer to the causee, the caused-motion event cannot happen. Below, we discuss the many kinds of driving forces.

The first kind of driving force is physical force, which is the most common of all driving forces. A physical force results from the interaction of two objects and can be felt directly. Examples include the following:

(43) a. We pushed the boat into the sea.   (WebCorp)[25]

b. *Ren-men   ba   xiao   zhou   tui   jin   le   hai   li.* (BCC)
People   BA   little   boat   push enter PAST sea   inside
'People pushed the little boat into the sea.'

The second kind of driving force is psychological force. Although this kind of driving force is not as common as physical force, we can still find some examples in both English and Chinese, such as the example (3) *They laughed the poor guy out of the room*，given in section 4.2. Its counterpart in Chinese is:

(44) *Guan-zhong   yong   hong-xiao   ba   na-ge   ke-lian-de   jia-huo*
Audience   use   laugh   BA   that   poor   guy

gan   chu   le   fang-jian.
chase   out   PAST   room

('The audience laughed the poor guy out of the room.')

The third kind of driving force is natural force, such as the wind and sunshine. Because the types of natural forces are limited, this kind of driving

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[25] http://www.bbc.co.uk/history/ww2peopleswar/stories/90/a5822390.shtml. Accessed on June 2, 2018.

force is not as commonly used as the last two types of driving forces. There are some examples in English and Chinese, such as the following:

(45) a. *A breeze blew the paper off your desk.*　　　　　　(WebCorp)[26]

　　 b. *Yang-guang　qu　　san　　　le　　han　qi.*　　　(BCC)

　　　　Sunshine　　 drive　disperse　PAST cold　air

　　　　'Sunshine disperses the cold air.'

4.5.4 Lexical constraints

In English, intransitive verbs are flexible and quite commonly used. That is one of the reasons why scholars pay attention to the "lexical construction". In most cases, verbs describe the manner of the object's movement. However, this can encode not only the manner but also the cause of motion. An example is *Peter laughed Mary out of the room*.

　The verb initially does not express causative meanings, but when combined with the CMC, it can become endowed with a causative meaning. The flexible use of words in English involves three types:

(A) The tool used by the causer can directly serve as a transitive verb (e.g., *Peter nailed the note to the door*).

(B) When the causative action directly affect the cause and bring about motion, the verb can be transitivized (e.g., *Mary sneezed the paper off the table*).

(C) The regular conductor of the causative behavior can be used as a transitive verb (e.g., *Peter butchered the cow*).

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[26]　https://answers.yahoo.com/question/index?qid=20100714230528AAXsZcz. Accessed on June 2, 2018.

In type (A), the corresponding part in Chinese is '*ba* note nail to door' with a *ba* marker. Here, there is a verbal group in the complement structure that contains two verbs: one encodes manner and the other encodes path. This sentence structure is not as tight as in English.

In type (B), the example in Chinese is equivalent to saying *Peter make sneeze, and make tissue off the table*. The sentence can be broken down into make sneeze and the resulting event. However, in English, the core semantic meaning of *sneeze* endows the verb with the potential to express a change of location.

In type (C), a noun is converted into a verb to describe the manner of the agent's behavior, but it is rare for Chinese nouns to become verbs like this. Instead, there must be a verbal group to describe this situation, such as *tu-zai* ('slaughter-kill').

4.6 Licensing factor: typological preference

Based on the discussion above, we find that Chinese often uses two verbs to express caused-motion events, while English is more likely to use one verb which contains more meaning components (e.g., manner, manner, path). Therefore, there are several constructional variants to express caused-motion events in Chinese, while there are abundant [Manner + Cause] verbs to express the same event in English.

The lexicalization patterns of causative verbs in English and in Chinese are almost the same: [Motion + Manner/Cause]. However, English pays more attention to the process of the events, emphasizing the change between the moving entity and the ground, while Chinese focuses on the influence on the moving entity and the direction or destination of the entity. The framing event in English shows one scenario; however, in Chinese, there are several

continuous scenarios.

If we classify languages according to the lexicalization of manner, English includes more specific manner information, and thus, its granularity becomes higher. It can be called a manner-in-verb language or a manner-salient language since it is the verb that encodes it. By contrast, Chinese expresses detailed manner within a single clause or complement.

In English, the motion verb always encodes manner with high granularity, while the path of motion is encoded in satellites in a non-lexicalized way. Chinese only distinguishes several general motion verbs with details encoded in other components or modifiers, which indicates low granularity.

As we have already discussed (section 3.1.3**)**, Talmy (2000) divides languages into two distinct categories, verb-framed languages and satellite-framed languages, depending on how the manner and path of the moving entity are encoded in motion events. Talmy classifies English and Chinese as satellite-framed languages. However, caused-motion events contain two events: a causative event and a motion event. In Chinese, the [Manner + Cause] verb is the main verb in a causative event, while the path verb is the main verb in a resultative event. The two events cannot be divided; otherwise, it is no longer a caused-motion event. The following is a pair of examples that can indicate the relationship between the causative event and the motion event:

He kicked the ball into the cave.
= [He kicked the ball] + [the ball entered the cave]

Ta   ba   qiu   ti   jin   le   shan-dong.
He   BA   ball   kick   enter   PAST   cave
= [He kicked the ball] + [the ball entered the cave]

We can find that *jin* in Chinese is a verb, 'enter', instead of a satellite such as 'into'. Then, in English, both manner and path are encoded into the verb *kick*, while in Chinese, V_1 encodes manner and V_2 encodes path.

In addition, the manner verb and the path verb always appear together as a pair, and neither of them can hold the causative meanings in the whole sentence without each other. Slobin (2004) proposes serial-verb constructions to describe this combination with each component holding the same status as a way to encode both the manner and path beyond Talmy's dichotomy. Accordingly, equipollently-framed languages are defined as a third category that includes Chinese (Chen and Guo 2009; Ji 2009; Ji *et al.* 2011). Levin and Tham (2010) try to provide a new perspective on the expression of motion events depending on whether a language is verb-framed, satellite-framed, or equipollent or even combines all three patterns in one language. It is reasonable to say that Chinese has a preference for equipollent framing regarding caused-motion events. In this thesis, as our data reveal (see section 4.4), it is better to address this typological issue in terms of 'preference', especially in caused-motion events.

Chapter 5

The Resultative Construction

5.1 Event structure

According to Goldberg and Jackendoff (2004), the constructional meaning of a resultative sentence consists of two sub-events which are related to each other. For example, in *Mary wiped the bottle dry*, there are two sub-events: (i) Mary wiped the bottle and (ii) the bottle became dry. The sub-event denoted by the primary predicate provides the means by which the constructional sub-event takes place (e.g., through wiping). The following example explains the event structure of the resultative construction.

Syntax: Peter watered the flowers flat.

Semantics: Peter cause [flowers become flat]

Means: Peter made flowers flat by watering them.

It can be summarized as X CAUSE Y TO BECOME Z. The argument structure of a resultative sentence is first of all determined by the constructional sub-event, instead of projecting from the main verb in the sentence (Goldberg and Jackendoff 2004). The argument roles of the constructional sub-event can integrate the participant roles associated with the verb. For instance, in a sentence such as *Mary wiped the table clean*, the agent and patient arguments of the verb are compatible with the argument roles provided by the resultative construction. Extra argument roles can sometimes be added in order to satisfy the semantic constraints of the

resultative construction. For example, in *Mary yelled herself hoarse*, the fake object *herself* is added to make the patient argument of the construction coreferential with the agent argument.

As Boas (2003) argues, resultative formation can be seen as a grammatical strategy that combines a causing event with a caused event within a single sentence, though the events might otherwise be conveyed by two separate ones. The actual conflation of the two events into a resultative construction is dependent upon several factors.

The semantic argument structure of resultatives is a focus of Goldberg (1995) because they can add extra argument roles that are usually not associated with the main verb in the sentence. As a result, the constraints are mostly stated at the constructional level, which is proven to be abstract and thus overly general (Boas 2003). The success of the integration between the argument roles defined in the semantic argument structure of the constructional subevent and participant roles of the verbs relies upon the Principle of Semantic Coherence:

> "Principle of Semantic Coherence: roles of the construction and roles of the verb may only unify if they are semantically compatible; roles of the verb and roles of the construction are semantically compatible if and only if roles of the verb can be construed as an instance of roles of the construction."

(Goldberg and Jackendoff 2004: 304)

This constraint is only a necessary condition for the successful fusion of the argument roles and participant roles because not all verbs with participant roles that can be construed as an instance of roles of the construction can co-occur with resultatives. Compare the following sentences given by Boas (2003):

(1) a. *Lisa opened the door. As a result, the key broke.*

　b. **Lisa opened the key to pieces.*

(2) a. *Brigid loaded the table with food. As a result of her loading the table with food, the table's legs became bent.*

　b. **Brigid loaded the table's legs bent.*

The ill-formed sentences in (1b) and (2b) show that the capacity of a verb in resultative sentences cannot be accounted for by the abstract constructional constraints imposed by the resultatives. However, these two sentences do not violate the principle of semantic coherence (cf. Stefanowitsch and Gries 2003). It is because subjects of the ill-formed ones are compatible with the agent role in the semantic argument structure of the constructional sub-event, whereas the non-subcategorized post-verbal NP also corresponds to the patient argument in the constructional sub-event.

Consequently, the licensing and distribution of the resultatives should not only adhere to the constructional constraints but also take into consideration the lexical specifications in terms of their ability to be used in resultatives. In other words, there is not only generalization, but also idiosyncratic conventionalization related to the mechanism for the licensing and distribution of resultatives.

5.2 Change of state in the resultative construction

Regarding the meaning of the resultative construction, Goldberg (1995) claims that it lies in the change of state undergone by the argument of the verbal predicate that functions as the semantic object of the action independently of its syntactic role. For instance, in *He painted the room green*, the focus of our attention is on the change of state (becoming green) of the second argument

of the verb, which has the syntactic and semantic function of the object. In *The river froze solid,* the change of state (becoming solid) is predicated on the only argument of the predicate, which has the syntactic function of the subject but the semantic function of the object (i.e., the freezing temperature caused the river to become solid.

The resultative construction can be uniformly presented as CAUSE-BECOME since the meaning conveyed can be generalized as follows: 'one entity experiences a change of state as a consequence of an action'. The entity that undergoes change, the action that brings about the change and the result of change are three essential elements for resultatives. The resultative construction conveys a causative change of state which can be paraphrased as: NP_1 causes NP_2 to be in a certain resultant state by NP_1 V-ing (Verspoor 1997).

In addition, in the resultative construction, the action conveyed by the verb has to directly bring about the change of state, and thus, there are no intermediate time intervals (Goldberg 1995). Specifically, the change of state should occur concurrently with the final point of action denoted by the predicate. This situation can be represented as follows:
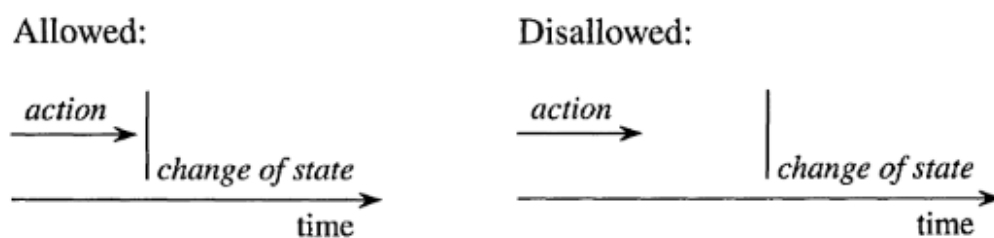
(Goldberg 1995: 194)

Figure 5.1 Time intervals change of state

As Goldberg (1995) argues, these constraints rule out cases with a time delay between the action (which is denoted by the verb) and the consequent

change of state. This can be interpreted as a consequence of a more general constraint that the causation is direct. In other words, there is no intervening period in a causal sequence.

In addition, in terms of the undergoer, the change of state has object-oriented and subject-oriented categories. The first one reflects the scene in which entities undergo changes of state resulting from the action undertaken by other entities. It can be paraphrased as X performs an action that leads Y to change its state. This type can be summarized as follows:

Syntax:　　　　　　　[Subj V Obj Comp]

Argument structure:　　< AGENT　ACTION　PATIENT　RESULT >

Constructional meaning:　X causes Y to become Z by V-ing

In this type, the entity that carries out the change is the agent. The entity that undergoes a change of state is in the position of the object, which is the patient. For instance, *Peter hammered the metal flat* is the object-oriented change of state, meaning that the undergoer is the object.

The subject-oriented type is associated with the scene where Y undergoes a change of state by doing something. The constructional frame is provided below:

Syntax:　　　　　　　[Subj V Comp]

Argument structure:　　<PATIENT ACTION RESULT>

Constructional meaning:　X becomes Y by V-ing

The entity undergoing change in this construction is placed in the subject position, for example, *The water boiled dry*. In general, the object-oriented change of state happens in the transitive resultatives, while the subject-oriented type occurs in the intransitive resultatives.

Most accounts take the subject as a patient, but we argue that the subject in a sentence such as *The pond froze solid* can also be construed as both a patient and an agent. The non-causative or anticausative use of *freeze*, *melt*, *break* and *open* makes the undergoers pretend to change their states without external help, but theoretically speaking, it is impossible for an inanimate entity to undergo a change of state without any external cause.

5.3 The resultative construction in L2

From the perspective of the semantic relation between verbs and the result phrases, Washio (1997) classifies English resultatives into three types: strong resultatives, weak resultatives and spurious resultatives. In strong resultatives, verbs and RPs are independent in meaning. It is impossible to determine the resultant state through the meaning of the verb. In weak resultatives, there are some relations between verbs and the resultant state of objects. Spurious resultatives can also be called resultatives with unergative verbs. However, Washio (1997) does not further classify this kind of resultatives.

Boas (2003) classifies English resultatives into five groups which are based on the semantic selection between the verb and the object in the resultative construction: (i) resultative phrases, such as *Mary broke the vase to pieces*; (ii) required resultative optionals, such as *Mary washed the soap out of her eyes*; (iii) resultatives with non-subcategorized objects following intransitive verbs, such as *Peter laughed his head off*; (iv) resultatives with non-subcategorized objects following transitive verbs, such as *Peter painted the brush to pieces*; and (v) resultatives with reflexive objects, such as *Peter drank himself sleepy*.

Levin and Rapport (1995) have investigated the distribution of resultative phrases and the syntax of resultatives and classified resultatives into four groups using a syntactic approach: resultatives based on transitive verbs,

unergative verbs, unspecified object verbs, and passive and unaccusative verbs. Examples are as follows:

(3) a. *Mary wiped the table clean.*   (transitive verb)

b. *Mary cried her eyes out.*   (unergative verb)

c. *Mary drunk the bar dry.*   (unspecified object verb)

d. *Mary was shaken awake by Sam.* (passive and unaccusative verb)

In terms of transitivity, Goldberg (1995) classifies English resultatives into two types: transitive resultatives and intransitive resultatives. The former type refers to resultatives with the generic-level meaning X CAUSES Y TO BECOME Z, while the latter refers to resultatives coding the meaning Y BECOMES Z.

All of the above are representative systematic classifications of English resultatives. However, some of these classifications are not detailed enough to cover all resultative groups, especially unconventional resultatives. In light of the classification of English resultatives mentioned above, the discussion of English resultatives in this dissertation distinguishes two main groups: transitive resultatives (with a subcategorized object, non-subcategorized object, or fake reflexive) and intransitive resultatives. The following sections will describe the two types of resultatives.

5.3.1 Transitive resultatives

(a) Subcategorized object resultatives

The pattern is $NP_1 + Vt + NP_2 + RP$. The verb is naturally transitive, and NP_2 is the real object of Vt. The sentence expresses the event in the natural temporal sequence. The whole event includes two sub-events that could be

independent: (i) X performs an action on Y, and (ii) Y changes its state. However, the two sub-events are linked together because of the strong causal relationship between them, as in *Peter painted the house green.*

The causing event is that Peter painted the house, and the caused event is that the house became green. The causing and caused events seem to be separate. However, based on the causal sequence and the syntactic representation, the sentence can be analyzed as follows:

Peter	*painted*	*the house*	*green.*
Agent	Manner	Patient	Resultant state
	Causing action		Caused result

The example can be paraphrased as 'Peter caused the house to be green by painting it'. *Paint* is naturally transitive, and *the house* is the subcategorized object of painting. The resultant state is shown in the resultative phrase (RP), which is *green* in this case. The entity that undergoes a change of state is the object. It is a case of object-oriented change of state, which is discussed in section 5.2.

(b) Non-subcategorized object resultatives

In this type, objects are not subcategorized by the verb involved. If we do not specify the object, we cannot infer it from the verb or the RP. Consider the following example:

Sam	*drank*	*the pub*	*dry.*
Agent	Manner	Patient	Resultant state
	Causing action		Caused result

Although *drink* is a naturally transitive verb, the normal object is the liquid, which may be beer, water, or another beverage. However, in this example, *drink the pub* is not a conventional case of drinking X. The pub is seen as a

container like a bottle that can be made dry. The phrase follows the transitive resultative pattern: NP_1 + V + NP_2 + RP. The schematic event is 'X does an action, which changes the state of Y'. However, NP_2 is a non-subcategorized object. A property of object resultatives reflected in the sentence above is that in this resultative type, the causer and the object cannot be directly inferred from the verb. The state of the object is highlighted or there is a need to add the object and the modifier to the complete sentence.

(c) Fake reflexive resultatives

There is another kind of resultative that contains a reflexive pronoun as the fake object (Simpson 1983). The verb is followed by a direct object, but it is actually a fake object. The grammatical form is NP_1 + V + NP_2 + AP, and the semantic meaning of the event is 'X performs an action, which leads to X itself changing its own state'. Because the agent is also the undergoer of the action, the agent of the causing event is highlighted. We can examine the following examples of reflexive resultatives:

(4) a. *Others laughed themselves silly.*   (BNC)

    b. *…a young woman prison officer who shot herself dead last week…*
                                                            (BNC)

    c. *Mel and Jay shrieked themselves hoarse.*   (COCA 2001)

The objects above are reflexive pronouns of the corresponding subjects. The conventional grammatical space includes the basic syntactic pattern NP_1 + V + NP_2 + RP with corresponding semantic roles: an agent, manner of action, a patient, and resultant state. The causing event and the caused event are linked by a causal relationship. For example,

Others   laughed   themselves   silly.

Agent   Manner   Fake patient   Resultant state

Causing action   Caused result

It is noteworthy that the agents of the causing and caused events are the same. However, this does not mean that the object of this kind of resultative can be omitted. The fusion of the grammatical pattern and schematic event requires the reflexive pronoun of the corresponding subject to take the position of the object. To some extent, this embodies the concept of categorization in Cognitive Grammar. Since the typical syntactic pattern of English resultatives is NP_1 + V + NP_2 + RP, reflexive pronouns in resultatives are licensed by categorization. On the other hand, the reflexive pronouns corresponding to the subject also embody the emphasis on the agent that undertakes the action and changes its own state. Therefore, through the blending of grammatical and schematic event space, the construction and semantics of the resultative can be fused at the conceptual level, which reflects the general cognitive competence of human beings.

Peña (2016, 2017) proves that fake reflexives are motivated by the high-level metaphor A BEHAVIORAL PROCESS IS A MATERIAL CONTACT PROCESS. A behavior is mapped to the person who behaves, and a behavioral process is mapped to a material contact process (e.g., beating). This licenses the transitivization of behavioral processes. With fake reflexive resultatives, the affected entities undergo a change of state, the instigator of which is the actor that is the conscious self (Miró-Sastre 2018; Boas 2003). Then, the same entity is split into the instigator of the action and the affected entity. This is explained by the DIVIDED SELF metaphor put forward by Lakoff (1996: 113):

"The subject is supposed to be in control of the Self. The Subject can reason, but cannot function directly in the world, as the Self can. The Subject is always

the locus of consciousness, subjective experience, perception, reason, and judgment. The Self consists of other aspects of a whole person-the body, emotions, a past history, social roles, and much more."

5.3.2 Intransitive resultatives

The pattern in this type is NP + Vi + AP. The argument structure describes a situation in which one entity undergoes a change of state by doing something. The entity undergoing change in this construction is placed in the subject position. Examples of this construction are presented below:

(5) a. *The river froze solid.*   (WebCorp)[27]

   b. *The kettle boiled dry.*   (Broccias 2013: 39)

The subject (e.g., river, water) is the patient that undergoes the change of state. The AP displays the final state and implies certain properties of the subject, such as the solidiifiable property denoted by *solid* and the volatile property denoted by *dry*. In addition, *the kettle boiled dry* actually means that the content inside the kettle (e.g., water or milk) boiled dry, motivated by the metonymy CONTAINER FOR CONTENT. The real agent in this type is left implicit, though it does exist. For example,

(6) a. *Cold temperatures froze the river solid.*   (Mateu 2017: 56)

   b. *Esil boiled the kettle dry.*   (Google Books)[28]

The subject appears to perform the action itself, since the real agent is not highlighted in this type.

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[27] https://genius.com/The-maccabees-ww1-portraits-lyrics. Accessed on June 1, 2018.
[28] https://books.google.es/books?isbn=1625796226. Accessed on June 1, 2018.

5.4 The resultative construction in L1

Chinese resultative constructions reflect a situation in which an entity referred to by a noun undergoes a change of state as a result of an action denoted by a verb, where the semantic relation between that noun and the verb varies. In general, Chinese resultative constructions can also be divided into transitive and intransitive groups (Thompson 1973). In the following sections, each type is presented within a construction frame and given a label to distinguish it.

5.4.1 Transitive resultatives

Transitive resultative constructions are associated with the argument structure reflecting a scenario in which an entity causes another entity to undergo a change of state by doing something (Tai 2003). The entity that undergoes a change of state must be in the object position, and its relation to the verb is far from being restricted to theme.

(a) Subcategorized object resultatives

The Chinese pattern is NP_1 + Vt + RP+ NP_2. The verb is transitive and NP_2 is the real object of Vt. For example,

> (7) *Ma-ma　　ca　　　gan-jing　le　　　zhuo-zi.*　　　　(BCC)
>
> Mom　　　wipe　clean　　PAST　　table
>
> 'Mom wiped the table clean.'

In example (7), Mom exerted a physical force on the table by wiping, with the table becoming clean. Therefore, the patient, i.e. the table, has gone through a change of state from dirtiness to cleanness due to the force exerted on it. The action designated by the verb produces a direct effect on the patient.

In this type, there are object-oriented and subject-oriented cases in Chinese. The change of state conveyed by the RP can refer to the object or subject. In the example above, the RP is patient-oriented, meaning that the

NP$_2$ undergoes the change of state. In other words, it is the table that becomes clean rather than Mom. However, in the example below, the change of state occurs in the subject.

(8) *Ci   shi   ta   yi   chi   ni   le   huai-hua.*   (BCC)

This   moment   he   already eat   bored   PAST pagoda tree flower

'By this time he has been tired of eating pagoda tree flower.'

The resultant state, *bored*, is subject-oriented, meaning he became bored because he ate too much. In other words, he is tired of pagoda tree flower because he ate too much. The sentence follows the NP$_1$ + Vt + RP+ NP$_2$ pattern. The RP is the direct result of Vt, which occurs with the animate subject. In another case, the resultant state could be object-oriented or subject-oriented, making the sentence ambiguous. For example,

(9) *Shan-mu   zhui   lei   le   Ma-li.*   (Huang 2006: 7)

Sam   chase   tired   PAST   Mary

(i) 'Sam chased Mary and Sam got tired.'

(ii) 'Sam chased Mary and Mary got tired.'

In the example above, the final state, *lei* ('tired'), could be predicated on the subject, Sam, or the object, Mary. The interpretation requires the context to understand the speaker's intention accurately. As Huang (2006) argues, Chinese does not always follow the Direct Object Restriction (DOR) principle, as put forward by Simpson (1983). The DOR principle means that in a resultative construction, the result is predicated on an object rather than the subject. This principle applies in English but not Chinese.

(b) Non-subcategorized object resultatives

Chinese accepts a non-subcategorized object in the transitive resultative construction. For instance,

(10) *Wo　　kan　　dun　　le　　　fu-zi.* 　　　　　　　　(BCC)

　　　I　　　chop　　blunt　PAST　ax

　　　'I chopped something with an ax and the ax became blunt.'

The NP$_2$ (*the ax*) is placed in the position of the object, but it is not the real object of chopping. We understand, however, that the entity that undergoes the change is *the ax* instead of *I*. Thus, it is an object-oriented change of state. Example (10) can be analyzed as follows:

	Wo	*kan*	*dun*	*le*	*fu-zi*
	I	chop	blunt	PAST	ax
Syntax	[Subj	V	Comp		Obj]
Semantic role	< AGT	ACT	RESULT		PAT >
Construction	I caused that ax to become blunt by chopping (with it)				

In addition, agents are not limited to animate and volitional beings. When the entities can emit energy, they are valid agents. For example,

(11) *Tai-yang　shai　hei　　le*　　ta-de qian-nen-de jian-bang.　(BCC)

　　　Sun　　　shine black　PAST　his　tender　　　　shoulder

　　　'His tender shoulders were suntanned.'

In example (17), the sun causes his shoulders to undergo a change of state by shining. The resultant state is that of being black.

(c) Fake reflexive resultatives

Fake reflexives exist in Chinese, but they are rare. For example,

(12) *Wo-de   mu-qin   ba   zi-ji   shao   si   le.*   (BCC)

My   mother   BA   self   burn   dead   PAST

'My mother burned herself dead.'

The reflexive pronoun *zi-ji* ('self') acts as the object in the transitive resultative construction. The causer of the action, my mother, is also the cause, a person who does something to herself. Yin (2011) argues that when the causee is conflated with the causer as a whole, the fake reflexive sentence helps to express a caused change of state through action. The speaker wants to stress the caused change instead of self-change.

However, the use of fake reflexive resultatives is very limited in Chinese. This construction requires the change of state to happen to the whole body rather than to part of it. For example, it is incorrect to say *Ta ba zi-ji han ya le* ('He shouted himself hoarse') in Chinese because the hoarse state applies only to the throat, not the whole person. Part-of-the-whole object resultatives will be explained in section 5.5.2. In addition, in many cases where the target of the action is optional, Chinese does not use the fake reflexive. For example, *San-mu xiao feng le* ('Sam laughed crazy') is acceptable in Chinese but not an allowed in English, because Chinese think *xiao* ('laugh') is an intransitive verb, and the object is not necessary. By contrast, in the example of *Ma-ma ba zi-ji shao si le* ('Mom burned herself dead'), there must be a target of the burning, so Chinese uses the fake pronoun *zi-ji* ('oneself'). In other words, the transitive verb *shao* ('burn') requires an object, while the natural intransitive verb *xiao* ('laugh') does not.

5.4.2 Intransitive resultatives

There are two constructions in this group: the first one represents a causal relation in which an entity undergoes a change of state by doing something,

and the second describes a scenario in which an entity undergoes a change of state by somebody else doing something.

The first intransitive resultatives are associated with the argument structure in which X becomes Y by doing something. This is also a BECOME construction:

Syntax: [Subj V Comp]

Argument structure: <PATIENT ACTION RESULT>

Constructional meaning: X becomes Y by V-ing

The realization of the patient happens in only one way: fusion with the patient that the verb assigns (Deng 2010), as shown in the following examples:

(13) a. *Ni   lei   bing   le.*   (BCC)

          You   tire-out   sick   PAST

          'You worked youself sick.'

     b. *Ta   qi   yun   le.*   (BCC)

          She   get-angry faint   PAST

          'She fainted as a result of getting angry.'

     c. *Wo   nai-nai   bing   dao   le.*   (BCC)

          My   grandma   is-ill   fall   PAST

          'My grandma fell ill.'

In the examples above, *lei* ('tire out'), *qi* ('get angry') and *bing* ('be ill') are intransitive achievement verbs, assigning only one semantic role, that of patient; thus, the construction-verb interaction is fusion. This is the only case in which the V position is occupied by an achievement verb in Chinese resultatives.

The second construction represents a causal relation in which X becomes

Y by somebody doing something, X being the entity acted upon or not. This is also a BECOME construction, with only the affected entity explicit:

Syntax: [Subj V Comp]

Argument structure: <PATIENT ACTION RESULT>

Constructional meaning: X becomes Y by someone V-ing X

In this construction, the patient fuses with the theme or is supplied by the construction. For instance,

(14) *Tu-dou   shao   hu   le.*   (BCC)

    Potato   cook   burnt   PAST

    'The potato became burnt by being cooked.'

In example (14), the *tu-dou* ('potato') is the patient but is positioned at the subject position. The verb followed (*cook*) is not in passive voice, which reflects the pretense construction where the theme pretends to take action (Ruiz de Mendoza and Miró 2019).

5.5 Cross-linguistic comparisons

5.5.1 Similar features

The analyses presented in the previous sections reveal that resultative constructions in English and Chinese share some similarities. In terms of semantics, the resultative constructions in both languages describe causal relations in which there is an entity undergoing a change of state as a result of an action. Moreover, two sub-events are encoded: the action event and the result event. In intransitive resultatives, the agent of the action event is implicit, but the action event can be inferred by the verb, such as *freeze* (*dong* in Chinese) and *burn* (*shao* in Chinese). Both languages exhibit the causal relation, which could be generalized as CAUSE-BECOME. The required

elements in the resultative constructions are the cause, which brings about a change of state, and the patient, which undergoes the change of state.

From the syntactic perspective, Chinese resultatives share many similarities with English resultatives. There are the same four syntactic functions in transitive resultatives, namely, Subj, V, Obj and Comp, and the same three in intransitive resultatives, namely, Subj, V, and Comp.

5.5.2 Similarities and differences in fake reflexive resultatives

Both English and Chinese accept the reflexive pronoun as the fake object in resultative constructions. However, English allows a wider selection, while the counterparts in Chinese can be fake reflexive, non-subcategorized, or intransitive resultatives. The three situations are explained in the following paragraphs.

First, when the change of state applies to the whole body of the patient and the target of the action must be explicit, both English and Chinese make use of fake reflexive resultatives. For instance,

(15) a. *Ndolo used an AK-47 rifle to shoot himself dead.*   (WebCorp)[29]

    b. *Ta   yong   fu-qin-de lie-qiang   da   si   le   zi-ji.* (BCC)

    She   use   father's   shotgun   shoot   dead   PAST herself

    'She used her father's shotgun to shoot herself dead.'

The state changes to dead, which applies to the whole patient. Moreover, *shoot* needs a clear target that acts as the object; otherwise, the hearer will not know who was shot to death. The fake reflexive object in the resultative construction is a requirement due to the fact that people consider the body as

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two separate entities. One entity acts as the agent, and the other as the patient. A similar situation is when somebody talks to himself, meaning that the speaker and the hearer are the same person. Because our bodies can be construed as the patient that is affected by the agent, which is the conscious Self here, the patient must be explicit to denote the two specific sides (Boas 2003).

Second, when the entity that undergoes the change of state is part of the whole body, English resultatives can use a fake reflexive object or an explicit non-subcategorized object. In this type, the schematic event is 'X undertakes an action, and the action causes part of X to change its state'. For instance,

(16) a. *He shouted his throat hoarse.*   (Google Books)[30]

　　b. *He had shouted himself hoarse*.   (BNC)

　　c. *Bai   Xing-er   yi-jing   han   ya   le   sang-zi.* (BCC)
　　　　Bai   Xing-er   already   shout   hoarse   PAST   throat
　　　　'Bai Xing-er has shouted herself hoarse.'

　　d. * *Bai   Xing-er   han   ya   le   zi-ji.*
　　　　Bai Xing-er   shout   hoarse   PAST   herself
　　　　To mean 'Bai Xing-er shouted herself hoarse.'

Both (16a) and (16b) are acceptable in English, while Chinese only allows (16c). We can paraphrase (16a) as 'he caused his throat to become hoarse by shouting'. The resultant state, *hoarse*, is part of the body, the throat, rather than the whole body. When English uses the fake reflexive object, it assumes that hearers understand THE WHOLE FOR THE PART without having it explicitly spelled out. By contrast, Chinese requires the object to be specified

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[30] https://books.google.es/books?isbn=9350837064. Accessed on June 18, 2018.

by naming an explicit object (throat).

In this case, the causing event is *He shouted,* and the caused event is *his throat became hoarse*. Although (a) also follows the syntactic pattern NP$_1$ + V + NP$_2$ + RP and conveys a similar cause-and-effect meaning, its inner semantics are different from fake reflexive resultatives. The property of this type is that the object is a part of the subject. In the example above, it is acceptable to say *He shouted*, while *He shouted his throat* is wrong. In other words, the point is that the direct objects are not selected by the main verbs, but there is a whole-part relation between the subject and the object. Since *his throat* is part of the whole, *he* is projected onto the subject position, which is the agent of this complex cause-and-effect event. The throat is projected onto the object position, which highlights its specific patient role. In addition, this projection also highlights the part of the body affected by the action.

Third, when there is no specific part of the body that is affected and the verb does not require a clear target, English still adopts the fake reflexive resultative construction, while Chinese uses an intransitive resultative construction. Take the following two sentences as examples.

(17) a. *Now he had walked himself tired.*   (Google books)[31]

    b. *Ta   zou   lei   le.*   (BCC)
       He   walk   tired   PAST
       'He walked himself tired.'

In (17a), the RP, *tired*, does not refer to any specific part of the body. It can be paraphrased as 'now he had become tired from walking too much'. With respect to (b), the naturally intransitive verb, walk, does not require an object in Chinese. This results in the intransitive resultative sentence shown here.

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[31] https://books.google.es/books?isbn=0857907360. Accessed on June 18, 2018.

5.5.3 Cultural differences in resultative expressions

In comparing the resultative examples in the two languages, some culturally based expressions are unique and do not have highly equivalent examples in the other language. These special expressions affect foreign language learners and raise difficulties for translators. Thus, we would like to discuss expressions which are relevant to culture in each language in this section.

Color words are widely used in the RP, as in the expression that Peter painted the wall green. In Chinese, we have found some cases where the color encodes metaphor. For example,

(18) *Wo chang   hong   le*.   (BCC)

    I   sing   red   PAST.

    'I made myself popular by singing.'

Hong ('red') represents more than its original meaning here. It is motivated by the metaphor RED FOR HOT FOR POPULAR. There is no similar metaphor in English. However, both English and Chinese people understand the LOVE IS HEAT metaphor (Kövecses 2017; Lv and Zhang 2012). This unique Chinese expression can be paraphrased as: "someone becomes popular; many people love him; the heat is added to him; thus, the high temperature makes his body red. The way of becoming popular in this example is singing. Thus, the example can be paraphrased as 'I made myself popular by singing'. Another example in Chinese is the following:

(19) *Ru-jin   tong-feng-zheng   hai   ku   le   ta.* (BCC)

    Nowadays   arthrolithiasis   hurt   bitter   PAST him

    'Nowadays arthrolithiasis made him very painful.'

The expression hurt someone bitter in Chinese is motivated by the cross-sensory metaphor PAIN IS BITTERNESS. The meaning is to hurt

someone and make that person feel considerable pain. Although English has no similar expression, we do find expressions such as a sweet voice and a bitter memory, which are also motivated by cross-sensory/synesthesia metaphors (Strik Lievers and Winter 2018; Classen 2019; Caballero 2019).

Regarding cultural expressions in English, this language also uses color metaphors. For example,

(20) a. *Mama'll beat me black and blue*.   (COCA 2012)

    b. *Cheng-ke   ba   qian-e   zhuang de qing   yi kuai.*
      Passenger BA forehead   bump DE green a block

     zi   yi kuai.   (BCC)
     purple   a   block

     'Passengers bumped their foreheads black and blue.'

It is interesting that the colors chosen by English and Chinese are different. English adopts black and blue to describe the bruises, while Chinese chooses green and purple. The color metaphors are used as idioms in the two languages. Both can be used to describe the resultant state in resultative sentences. In addition, there is another example in English:

(21) *The Russian Tsar would have eaten us alive by now*.

(Google Books)[32]

The example above means that the Russian Tsar would have seriously harmed us. Alive is not the resultant state that is caused by eating but a property of the object. Therefore, this sentence does not belong to the family of resultative constructions. However, the sentence's pattern is highly similar to

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[32] https://books.google.es/books?isbn=1480448583. Accessed on June 19, 2018.

that of resultative constructions. Moreover, when Chinese EFL learners do not know the figurative meaning, they easily misunderstand the example above.

5.6 Licensing factor: Iconicity

Iconicity designates the measure of similarity between the icon and the object to which it refers (Haiman 1983; Givón 1985). Grammatical categories can illustrate the iconicity of linguistic form as a representation of reality (Xu 2001).

5.6.1 Iconic sequence

Iconic sequence is one of the generalizations made in CL that language tends to encode linguistic information in the same order as things are arranged in the extra-linguistic world (Diessel 2008). The syntactic distributions and semantic properties of English and Chinese resultatives show that they both follow this principle. The word order in both languages conveys that the action takes place prior to the result, which completely parallels the temporal order of event development. In addition, with respect to the different tense and aspect marking systems, the past tense of English verbs in resultatives and the co-occurrence of *le* (a marker of past tense) as an aspect marker within Chinese resultatives offer further evidence that the two resultatives share commonalities in terms of aspectual properties: the action takes place in a time before now, and the result is already accomplished (Shen 1993).

Goldberg and Jackendoff (2004: 543) have documented a special group of resultatives with adjectives in their comparative forms in the complement position, here rewritten as (22):

(22) a. *For hours, Peter heated the mixture hotter and hotter.*

b. *For hours, Peter hammered the metal ever flatter.*

c. *For years, Peter wove the shawl longer and longer.*

These examples show that those resultatives are atelic, which disproves the previous consensus among linguists that all resultatives are telic with a complement as the endpoint. In addition to the atelic aspect, the examples above warrant a different classification from resultatives due to their distinct features. First, it is not the case that all typical resultatives can behave like the three sentences above: the PP indicates a durative change of state, such as *into pieces* or *to death*, and not every AP has a corresponding comparative degree form, such as *dead* or *awake*. Second, other than the action-result relation encoded by resultatives, the three sentences also describe a co-variance relation like the one encoded in the construction of *the more... the more*. This means that as soon as an action is carried out, a new state is achieved, following a time line and reaching the end of a scale, such as heat in (16a), flatness in (16b) and length in (16c). This type of sentence depicts a repeated action and its corresponding changes of state, whose intensity becomes stronger. A similar covariance relation is also observed in Chinese with the use of *yue...yue* ('the more...the more') or *yue lai yue* ('more and more'), as shown in the following, which will not be included among the resultatives focused on here:

(23) a. *Ta   yue   shuo   yue   sheng-qi.*   (BCC)

   He   more   talk   more   angry

   'The more he talked, the angrier he became.'

b. *Huo   shao   de   yue-lai-yue   wang.*   (BCC)

   Fire   burn   DE   more and more   scorching

   'The more the fire burnt, the more scorching it became.'

5.6.2 Iconic proximity

Although both English and Chinese resultatives share the natural temporal course of action-result and describe bounded events, they differ in a more subtle way as a result of iconic proximity. According to Goldberg and Jackendoff (2004), English resultatives are under an aspectual constraint where there is no time interval between the action and the subsequent state change. The sentences below clarify this point:

(24) *Peter ate himself sick.*

(25) *Peter cut himself free.*

Example (24) is necessarily interpreted as follows: eating over a period of time caused *Peter's* state to change to sickness. It necessarily implies that *Peter*'s continuous eating action caused him to be sick. As for (25), it conveys that *Peter* cut something, such as ropes, which prevented *Peter* from being free, and the final state is freedom. This aspectual constraint works on the above two sentences in the same way as it works on (26):

(26)   *Peter shot Mary dead.*

Example (26) implies that *Mary* died immediately because of *Peter's* shooting. This construction cannot be used to convey that *Peter shot Mary* and *Mary* become dead later in the hospital. Rappaport and Levin (2001) note that for intransitive resultatives, "the event denoted by the verb and the progress towards the achievement of the result state are temporally dependent', and 'the event denoted by the verb begins when the progress towards the result begins, and it necessarily extends until the result is achieved" (Rappaport and Levin 2001: 775). This is simply a different way of describing the aspectual constraint: only the change of state is described as a process, and it refers to an achieved state. However, Rappaport and Levin (2001) have a different

opinion about the temporal relations of reflexive resultatives:

(27) *I have sung myself hoarse.*

They claim that there is a time delay between the achieved state of hoarseness and the action of singing in (27). Therefore, they conclude that temporal dependence is not a requisite, although it could be argued that the completion of the action of singing does coincide with the resultant state from a temporal perspective. So, the aspectual constraint would be valid once the telicity of the lexical aspect of the verb is taken into account too.

For Chinese resultatives, two situations exist: the temporal delay is either available or not available. These two temporal situations can be exemplified by two groups of sentences:

(28) a. *Ta   he   tu   le.*

  He   drink   vomit   PAST

  'He vomited as a result of drinking too much.'

  b. *Ta   ge   duan   le   sheng-zi.*

  He   cut   broken   PAST   rope

  'He made the rope broken by cutting it.'

(29) a. *Wo   chi   huai   le   du-zi.*

  I   eat   bad   PAST   belly

  'I got loose bowels by eating.'

  b. *Wo   chang   hong   le   na-shou   ge.*

  I   sing   popular   PAST   that   song

  'I caused that song to become popular by singing it.'

Example (28a) describes a situation in which the action, *he* ('drink'), was

repeated intermittently until *ta* ('he') got into the state of *tu* ('vomiting'). The whole sentence can be paraphrased as 'he kept drinking until he vomited'. The overdoing of the action is emphasized, and the action does not stop until the result event is achieved. Statement (28b) depicts a scene in which the rope broke into two as soon as he finished the cutting, regardless of whether the action, *ge* ('cut'), was repeated (in a durative sense) or not (in a punctual sense). No time interval exists between the action and the result in the sentences in (28).

It is not necessarily the case that (29a) means 'he kept eating' until 'he got loose bowels' (no time interval reading); more likely, it might be that 'he ate too much' or 'he ate something bad' or 'something that does not agree with his stomach', which led to the loose bowels at a later time (time interval reading). Similarly, for (29b), the meaning 'my unremitting efforts at singing finally made that song popular one day' (no time interval reading) is possible, but it is also reasonable that 'my excellent singing made that song popular some time after my performance' (time interval reading) is the intended meaning.

In regard to the existence of a temporal delay between the action and result, Chinese resultatives can describe action events and result events either with time intervals in between or without time intervals. For example,

(30) *Li-li   jiao   shi   le   di-mian.*

     Lily   water   wet   PAST   ground

    (i) 'Lily sprinkled water on the ground and as a result the ground became wet.'

    (ii) 'Lily watered something (e.g., flowers) and as a result the ground became wet.'

When the patient *di-mian* ('ground') integrates with the theme of *jiao* (verb 'water'), the change 'the floor became wet' occurs immediately after the action

'Lily sprinkled water on the ground', as is reflected in reading (i); when *di-mian* ('ground') is supplied by the construction solely, which separates it from the theme of *jiao* ('water', verb), such as flowers or plants, there is a strong possibility that temporal delay exists between the action and result, as is shown in reading b. It seems natural that 'Lily watered a flower pot, and she overdid it by using too much water; therefore, the extra water flowed over the edge of the pot and reached the ground eventually, after some time'. However, it is also easy for us to imagine that Lily watered flowers with an especially large watering pot, and when the action 'watering' was done, 'the ground became wet' instantly. As we can see here, the availability of temporal delay does not necessarily rule out the other possibility. When temporal delay is understood to exist with Chinese resultatives, the interpretation relies heavily on the listener's knowledge of the world and the specific context in which the utterance is made.

Iconic proximity is another cognitive linguistic generalization that language tends to arrange linguistic items based on their closeness in the physical world (Greenberg 1995; Redzimska 2008). The theme is the entity that is directly acted upon by the action denoted by the verb. Therefore, the action is closest to the theme, which is reflected in resultatives with two arguments. The action is equally close to the agent because the agent is the entity that undertakes the action. The closeness of the action and agent in the physical world is directly reflected in resultatives in both languages in that whenever the agent is required in the argument structure, it is adjacent to V with nothing in between. This iconic proximity works exactly the same for both English and Chinese resultatives; therefore, it is not included in the contrastive work that emphasizes differences. Some actions in the physical world do not act upon any entity; correspondingly, the verb that denotes such actions is an intransitive verb that does not assign the semantic role being acted upon.

The syntax of transitive English resultatives is always [Subj V Obj Comp], with the verb and the object adjacent to each other: if the verb is an obligatorily transitive verb, the entity undergoing the change must identify with the entity being acted upon. That is why in my treatment of English resultatives, the theme does not separate from the patient, because there is no such a necessity.

In contrast, the syntax of transitive Chinese resultatives is [Subj V Comp Obj], with the verb and the object separated by the complement. The theme and the patient become distinct entities. Correspondingly, the entity undergoing the change does not necessarily identify with the theme, as long as the patient is an entity within the scope of influence of the V, with a mapping between syntactic proximity and semantic proximity. In this way, the different aspectual properties of English and Chinese resultatives can be explained.

The syntactical distance of verbs and objects maps to the semantic relation between agents and patients. The adjacency of verbs and objects in English resultatives agrees with the semantics that the influence of an agent on a patient is direct; accordingly, no temporal delay is allowed. In contrast, the special interval between verbs and objects in Chinese resultatives corresponds to the semantics that the influence of an action on a patient may be indirect; therefore, the time interval is allowed.

Chapter 6

The Causative Construction

6.1 The causal chain and classification

In a causative event, the person who volitionally carries out an action is both the agent of the action and the causer. The force initiated by the causer is transmitted to other entities (Olivera and Alba 2011). An entity who is acted upon is called a patient or causee. The patient is impacted by the causing force, and thus undergoes an internal change of state. Two causative sentences can be taken as examples: *Peter broke the window* and *A stone broke the window*. The respective essences of these two sentences are captured in Figures 6.1(a) and 6.1(b), where the circles represent objects or entities, the arrow symbolizes the interaction between them, and the squiggly line indicates where the energy is absorbed.
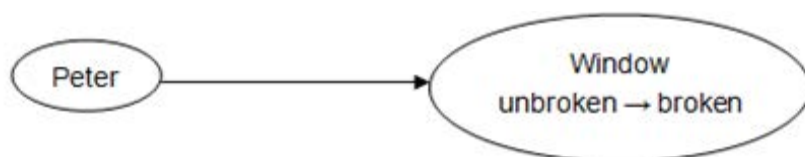
Figure 6.1(a). *Peter broke the window*
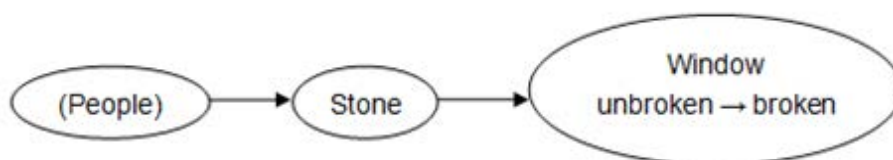
Figure 6.1(b). *A stone broke the window*

The simple sentence *Peter broke the window*, as shown in Figure 6.1(a),

indicates a two-element causal chain. *Peter* (the agent), as the initiator of action, is the most prominent component and is therefore given the position of syntactic figure, that is, subject. *Window*, which is the semantic patient, is positioned as a syntactic object and in the tail of chain. In this two-element structure, the agent, the head of chain, and the syntactic figure coincide; as do the patient, the tail of the action chain, and the syntactic ground.

In contrast, as shown in Figure 6.1(b), *A stone broke the window* consists of a three-element causal chain. There is a longer interaction which involves different processes of physical contact. In this chain, the first element is the agent, while the last one, *window*, is the patient. *Stone*, the instrument, becomes a linker between agent and patient, serving as the intermediate stage in the energy flow (see section 3.2.2). The flow is a fundamental cognitive model to account for the interactions between objects or entities in the world (Verhagen and Kemmer 1997). Fair (1979) argues that there is a flowing (or transference) of energy between the objects or events which are made to be causally connected. In a two-element causal chain (e.g. *Peter broke the window*), the patient directly absorbs the energy by externally-initiated physical contact and undergoes an internal change of state as a result. As to the three-element causal chain (e.g. *A stone broke the window*), it is an instrument-subject causative sentence. The subject is manipulated by an implicit agent. The subject acts as an intermediary in the transference from the causing force.

As argued by Piñón (2001) and Mathieu-Reeves (2006), there are three types of causative construction: lexical causative, morphological causative, and periphrastic (or analytical) causative. These three categories develop a causative continuum and each category can also have a single continuum (Givón 1980; Comrie 1981). In the following sections, I will introduce the types separately and then discuss the relationships between them.

(a) Lexical causatives

The term *lexical causatives* was put forward by Shibatani (1973, 1976) in reference to those forms that need to be learned individually, because of irregularity in form, and are listed in the lexicon. According to Wolff (2003), it refers to the single-clause expression which encodes cause and result within one verb, for example, *freeze*, *break*, and *kill* (coding result in the form of a change of state) or *sink*, *move*, and *turn* (coding result as a change of location).

Two criteria are adopted to determine whether a verb can be used as a lexical causative verb. The first one is that lexical causative verb entails the occurrence of a change of location or state (Pinker 1989; Levin and Rappaport Hovav 1994; Shibatani 1976), as can be illustrated by the following two sentences.

(1) a. *John killed the bird, but nothing happened to it*.   (causative)

b. *John cursed the bird, but nothing happened to it*.   (non-causative)

In (1a), the sentence is not allowed because it is a contradiction. *Kill* in English directly entails a resultant state (dead). By contrast, (1b) is not a contradiction because the verb *curse* does not encode a must-be result, although it might be inferred.

Second, most lexical causatives, mainly non-suppletive causatives, have intransitive variants, as shown in the following examples:

(2) a. *John rang the bell.*

b. *The bell rang.*

(3) a. *Tony kicked the ball.*

    b.*_The ball kicked._

The verb _ring_ in (2) allows for transitive or intransitive usages, which develops the causative/inchoative alternation. The transitive usage forms the lexical causative construction discussed here. In contrast, (3a) is causative but does not belong to the type of lexical causative, because it only has a transitive use, rather than transitive / intransitive pair, as shown by the impossibility of (3b). The focus of attention of the verb _kick_ is not on change but on physical impact.

(b) Morphological causatives

According to Dixon (2000), the morphological causative construction has a non-causative predicate via a morphological mechanism (e.g., affixation or diachronic tonal change). Examples include _widen_, _lengthen_, _deepen_, _brighten_ in English.

This morphological means is productive. Dixon (2000) summarizes these morphological techniques, which include internal alternation (vowel and consonant alternation), consonant repetition, change into a long vowel, segmental overlap, prefixation, suffixation, and so on (see Table 6.1).

Table 6.1 Morphological methods for marking causatives

Process	Basic verb	Causative form	Language (source)
(a) internal change	*tìkti* 'be suitable'	*táikyti* 'make suitable'	Lithuanian (Senn 1966: 283)
(b) consonant repetition	*xarab* 'go bad'	*xarrab* 'make go bad, ruin'	Gulf Arabic (Holes 1990: 185)
(c) vowel lengthening	*mar* 'die'	*ma:r* 'kill'	Kashmiri (Wali and Koul 1997: 211)
(d) tone change	*nɔ̂* (high falling) 'be awake'	*nɔ̄* (low level) 'awaken, rouse'	Lahu (Matisoff 1973: 33)
(e) reduplication	*bengok* 'shout'	*be-bengok* 'make shout'	Javanese (Suhandano 1994: 64–5)
(f) prefix	*gəbba* 'enter'	*a-gəbba* 'insert'	Amharic (Amberber, ch. 9 below)
(g) suffix	*-kam-* 'die'	*-kam-isa-* 'kill'	K'iche' (Campbell, ch. 7 below)
(h) circumfix	*-č'am-* 'eat'	*-a-č'm-ev-* 'feed (make eat)'	Georgian (Aronson 1991: 260)

(Dixon 2000: 34)

(c) Periphrastic causatives

In this type, the sentence is a two-clause one which encode the two notions, cause and result, in separate clauses (Kemmer and Verhagen 1994). The main verb denotes the cause, and the embedded verb is responsible for the specific result. The term *periphrastic* means that there are two or more words in a sentence to express a single meaning, instead of using a single inflected expression. In a periphrastic causative sentence, there is a generic verb which conveys the causal relationship between the subject and object, followed by an embedded verb which specifies a resultant state or change of location. For example,

(4) a. *I caused John to leave.*

    b. *I made him work.*

The main verbs *cause* in (4a) and *make* in (4b) express the notion of cause, and the embedded verbs *to leave* in (4a) and *work* in (4b) express the particular result.

Two characteristics of this kind of sentence pattern should be made clear. First, the emphasis is put solely on the causative nature of the interaction, while the manner of causation is not the focus here. For instance,

(5) *John caused me to be late.*

In example (5), it is not clear what specific behavior performed by John, but it is certain that John is the initiator in the causing action.

Second, this kind of sentence expresses indirect causation. The direct cause is neglected, and this is the reason why we say that it involves the indirect transmission of physical force. It is further evidence of the proximity principle (Givón 1991), that is, the longer the linguistic distance, the greater the conceptual distance. The longer the conceptual distance is, the weaker relation between the two elements is.

(6) a. *I forced John into resigning.*

b. *I forced John to resign.*

As we can see, *to V* and *into V-ing* are both possible expressions within this pattern, but there is a difference between them. (6a) implies a lengthy process before the result is achieved, while (6b) describes a result achieved rather quickly, with the emphasis put on the result.

Languages typically have one or more of the three types of causatives which are discussed above. These forms have in common the syntactic effect of increasing the valency of a sentence by one due to the addition of an agent

of causation (Allen 1996).

Lexical causatives typically appear prior to the other types of causatives, though evidence from the concurrent appearance of the periphrastic causative and instances of overgeneralization of the lexical causative in English suggests that lexical causatives are not used productively until the onset of overtly derived forms of the causative, as noted by Bowerman (1974, 1982).

In addition, experimental evidence suggests that, cross-linguistically, children may learn morphological causatives earlier than periphrastic causatives, since the morphological causative is closer to the verb, thus providing a more local cue (Ammon and Slobin 1979).

Based on the experiments made by Wolff and Song (2003), people would use lexical causative construction to describe a direct causal chain more often than an indirect causal chain in the English language. Conversely, people would use periphrastic causatives more often for indirect chains than for direct chains.

According to Bowerman (1974), lexical causatives appear earlier and are overgeneralized in the language acquisition process of English-speaking children. The other types of causative sentences can be acquired by analogy with existing lexical causatives. Morphological causative construction develops slightly later in the acquisition process. For all intents and purposes, the morphological causative is a single predicate, however complex it may be, and it is sensitive to the morphological constituency of the base to which it is applied. As for the periphrastic causative, it involves sentential embedding and it is not subject to the morphological constraint.

6.2 Change of state in the causative construction

Change of state can be found in many causative sentences. For example, in *The sun melted the ice*, the causee (*the ice*) undergoes a change of state. The verb *melt* denotes the cause and also the result of the process. In other words, the change of state happens as a result of the melting event; consequently, the final result is the melting of the ice. The COS event can then be decomposed as follows:

[X ACTS ON Y CAUSING Y TO CHANGE STATE]

This representation captures a complex or dyadic event, made up of two subevents: a causer acts on the causee and the causee changes. We can notice that both aspects always appear in these types of sentences:

(i) Specific properties of objects (e.g., *to break* means an object is breakable, *to melt* implies the existence of an object that can change from solid to liquid, and *to burn* means that the object is inflammable).

(ii) The end-state of objects (e.g., a vase breaks into tiny bits, butter melts from solid to liquid, and burning changes the chemical state of objects).

There are many verbs involving change of state. Some of them have both transitive (causative) uses and intransitive (non-causative) uses, for example *break* and *open*.

In order to semantically characterize these verbs, Levin and Rappaport (1995) distinguish two categories of COS verbs: (i) verbs which can show an externally-caused change of state, and (ii) verbs which can (only) indicate an internally-caused change of state. This distinction was originally introduced by Smith (1970) who uses the notion of *control* to characterize the differences. Verbs like *break* and *open* describe eventualities that are controlled by some

external cause, whereas verbs like *laugh* and *play* describe an eventuality that "cannot be externally controlled but can be controlled only by the person engaging in it" (Smith 1970: 107). Levin *et al.* (1995) modified Smith's (1970) notion of control by attributing this difference to external vs. internal causation. They explained the factors which are responsible for some internally-caused verbs and some inherent properties of their arguments (Levin, Rappaport and Keyser 1995). For example, in agentive verbs (e.g. *speak, play,* and *laugh*), "this property is the will or volition of the agent who performs the activity" (Levin, Rappaport and Keyser 1995: 91).

In terms of inanimate, non-agentive verbs (e.g., *blush, tremble, shudder*), this property is the emotional reaction. With regards to verbs of emission, which are also inanimate, non-agentive verbs, the eventualities described by these verbs happen "as a result of internal physical characteristics of their argument" (Levin *et al.* 1995: 92).

Externally caused verbs can be used in the causative/inchoative alternation, while internally caused verbs cannot (e.g., *shudder*, *blush*, and *hesitate*). For instance,

(7) a. *Maria shuddered.*

b. * *Peter shuddered Maria.*

In example (7), *hesitate* cannot be used as a transitive verb. The reason is that *shudder* applies to entities with self-controlled bodies, such as people. By contrast, some other verbs, such as *shake*, does not have this restriction. The control of internally caused action cannot be withdrawn to an external controller. However, *shake*, which is nearly synonymous with *shudder*, can be both intransitive and transitive, as illustrated below:

(8) a. *Maria shook.*

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b. *John shook Maria.*

According to Krifka (2001), the other examples of verbs which denote an internally-caused change of state are *burn*, *decay*, *rot*, *rust*, *wither* and so on. Levin, Rappaport and Keyser (1995) assumed that verbs of emission belong to the internally-caused change of state class. Here are some examples of verbs of emission given by Levin (1993: 31):

Verbs of sound emission: *bang, beep, blare, buzz, clack,*
                          clang, clash, clatter, click, hoot,
                          jangle, jingle, ring, rustle, squeak,
                          squeal, tinkle, twang

Verbs of light emission   *beam, blink, flash, shine*

Verbs of substance emission: *bleed, squirt*

However, some verbs can be either externally-caused or internally-caused, depending on the syntactic structures in which they occur. They are illustrated below:

(9)   a. *The leaves burned*.

      b. *The gardener burned the leaves.*

(10) a. *The fire burned*.

      b. **The campers burned the fire.*

Example (9a) is an externally caused change of state, because the leaves are consumed by the fire. The *leaves* represent the object and *burn* is therefore called an unaccusative or ergative verb. Thus, (9a) has a counterpart causative-transitive construction (9b). By contrast, *burn* in (10a) shows an internal cause, since it denotes the idea of emitting heat and light. This pair of

examples also support the argument put forward by Haspelmath (1993) that the causative/inchoative alternation, such as the pair in (9), is more likely to occur if the change of state is the result of external causation rather than a spontaneous event.

Besides change of physical state, causative constructions can also express change of psychological state (e.g., *The knife frightened Mary*). In a change of mental state, there is a causative relationship between the subject (causer) and the object (causee), according to which the former causes the latter to undergo a change of psychological state. The verb in such cases is usually a causative-transitive verb. Besides *frighten* in the example above, we can list *annoy*, *amaze*, *astonish*, *astound*, *confuse*, *bore*, *delight*, *disappoint*, *depress*, *disgust*, *distress*, *encourage*, *embarrass*, *excite*, *flatter*, *harass*, *irritate*, *interest*, *relieve*, *scare*, *shock*, *startle*, *surprise*, *satisfy*, *thrill*, *upset*, *worry*, etc.

Based on the discussion above, the following template explains causative alternating verbs that denote an externally-caused change of state:

[[X ACT] CAUSE [BECOME [Y <STATE>]]]

The lexical conceptual structure of the unaccusatives is the same as that of the transitives. Since this template is a two-subevent structure (X CAUSES Y and Y BECOMES Z), it applies to both the transitive and intransitive alternates. On the mapping from the semantic to the syntactic level, the causer argument is eliminated in unaccusatives of the alternating type. With this template, the verbs make some modification of what they have done previously. For instance, causative alternating verbs (e.g., *perch, stand*, *lean)* are excluded from the causative construction, indicating that they are not necessarily externally caused when they are intransitive verbs (Vogel 2003).

6.3 The causative construction in L2

6.3.1 Lexical causatives

English allows for a notable freedom in verb valence, resulting in verbs which can be used both transitively and intransitively (e.g., *break*, *burn*, or *awake*). It is the transitive ones that convey causation; the intransitive counterpart is the inchoative construction, which is discussed in Chapter 6. For example:

(11) a. *The sun melted the ice*.   (transitive)

b. *The ice melted*.   (intransitive)

Not every causative sentence can have an inchoative counterpart. For example,

(12) a. *Mary cut the bread.*

b. **The bread cut.*

Example (11a) is a causative sentence, and so it falls within the scope of this chapter, although *cut* in (12) is not an ergative verb, which means that it is not allowed in both transitive and intransitive uses, but only in the latter. The verb *cut* can be used in the middle construction, which, like the inchoative construction, involves the intransitivization of the verb and syntactic object-to-subject promotion, as in the sentence *This bread cuts easily* ('it is easy to cut this bread'). The reason why this use is possible is that the middle construction focuses on presenting an evaluation of the action rather than simply presenting the action itself. The inchoative construction, on the other hand, is focused on presenting the action as if it happened without any causal factor. Since the action is prominent (e.g., *The door opened*), this allows for a causative counterpart in which the action is likewise prominent (e.g., *The wind*

opened the door).

The causal meaning is implicit in lexical causatives. In other words, causativeness is zero-marked. For example, *The sun melted the ice* can be paraphrased as 'the sun caused the ice to melt'.

There is only one predicate that indicates the causative situation. This predicate tends to contain within itself two semantic factors that respectively constitute external cause and change of state, in order to express a complete cause-effect relationship. The change of state is a natural result of the predicate and can be inferred semantically. The syntactic structure of English non-marked causatives is $NP_1 + V + NP_2$. For instance:

Mary opened the door.

NP_1 V NP_2

As a causative verb, *open* contains two elements: the action of imposing a driving force on NP_2 and the final result of the action ('to become open').

NP_2 plays the role of object, which undergoes the causative action imposed by NP_1. It can have either specific or general reference. Specific reference means the speaker has the opinion that the thing NP_2 refers to is affirmative to the hearer. General reference is used to refer to common and indefinite things or persons. For instance:

(13) a. *The hopelessness of his problem angered him.* (WebCorp)[33]

b. *Cheaper imports boosted consumption.* [34]

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[33] http://novel.tingroom.com/duanpian/2678/73718.html. Accessed on December 22, 2018.

[34] https://books.google.es/books?id=454yAQAAIAAJ. Accessed on December 22, 2018.

Him in (13a) is a case of specific reference, since the speaker and the listener know the person. In contrast, *consumption* in (13b) involves general reference; that is, there is not only one single identifiable referent, but any referent from the class of items that satisfy the conditions can be named by means of this term.

Class shift is the second important way of expressing causative meanings in English. No morphological change occurs in it. In English, nouns and adjectives can be shifted to transitive verbs to express causative meanings by means of the verb-object construction. Take *empty* as an example. Originally, *empty* is an adjective, but it can become a verb and gain a causative meaning after identical shifting (e.g., *I emptied the ashtray*). The cognitive motivation for the class shift will be discussed in section 7.6.2. Here I list some examples of class shift in lexical causatives:

adjective → causative verb:	*narrow the street*
	clean the table
	perfect the idea
	empty the bottle
noun → causative verb:	*shelve the books*
	air the room
	skin the lamb
	dust the desk

6.3.2 Morphological causatives

Bauer (1983) indicates that affixation is the most common way in English to create new verbs, including adding affixes at the beginning of word (i.e., prefixation), or the middle of word (i.e., infixation), or the end of word (i.e., suffixation). This type of morphological change is a regular means of expressing causation in English.

In English, there are two ways of adding causative affixes: prefixes (e.g., *be-*, *en-*) and suffixes (e.g., *-en*, *-fy*, *-ize*). When they are combined with different words such as nouns, adjectives or verbs, some newly derived verbs with causative meanings will be formed. Some causative affixations in English are classified below:

en-:	*endanger*, *enjoy*, *enrage*
a-:	*amuse*, *accustom*
-ize (-ise):	*memorize*, *neutralize*, *modernize*
-en:	*widen*, *deepen*, *brighten*, *sharpen*
-ify:	*beautify*, *purify*, *intensify*, *simplify*
-ate:	*activate*, *orchestrate*

These affixations show that the derivative causative verbs are explicit in indicating causation. All of them share the same meaning, which is 'cause to become'. Take *brighten* as an example. In the sentence *The sunshine brightened the house*, *brighten* means to 'make the house bright'; obviously, *bright* here has acquired a causative meaning through the affix.

6.3.3 Periphrastic causatives

In the periphrastic causative construction, the two-clause sentence encodes the cause and result in separate clauses. Verbs like *cause*, *make*, and *have* are termed *causative auxiliaries* in English.

Unlike the English lexical causatives, in which the causee is conceptualized as a patient, periphrastic causatives have two different causees: a patient causee and an agentive causee. For instance,

(14) a. *I had John fix the car*.   (agentive causee)

   b. *I had the car fixed*.   (patient causee)

Example (14a) means that the speaker arranged for the car to be fixed by John, that is, he or she caused John to fix it. The object, *John*, is the agent of the fixing action. In contrast, in (14b), the speaker arranged for the car to be fixed by someone whose identity is not made explicit here. The object, *car*, is the patient of the fixing action.

In terms of the patterns which are typically used, we have found eight English periphrastic causative constructions which are illustrated below.

Table 6.2 English periphrastic causative constructions

Patterns	Examples
[X CAUSE Y V to-inf]	*A loud noise caused her mother to come in.*
[X GET Y V to-inf]	*He got the governments to pass the laws.*
[X GET Y Vpp]	*They got their problems solved.*
[X HAVE Y V-inf]	*He had ideas come.*
[X HAVE Y V-pp]	*He had his hair cut.*
[X MAKE Y V-inf]	*It made me feel safe.*
[X MAKE Y Adj]	*She made the child happy.*
[X MAKE Y V-pp]	*She made herself understood.*

The table above displays eight structures in English which are periphrastic causatives, among which the MAKE type has the highest number of varieties. As to semantic differences, the HAVE-causative infers that the causer and the causee are both willing to take the action. The GET-causative implies that it is relatively difficult to realize the causal event but can be done with a bit of persuasion, while *make* is relatively forcible.

Regarding *have* and *get*, there is a difference in register: *get* suggests greater involvement of the causer. This is likely linked to the fact that *get* is used to suggest effort in achieving a goal, while *have* is more neutral. Note that I HAD HIM DO X follows the same syntactic pattern as the resultative

construction and what Gonzálvez (2009) calls subjective-transitive constructions, such as a secondary predication (e.g., *I wanted her in my office*, *I consider him my friend*). To have someone do something is the same as to make that person act in such a way that there will a given result.

6.4 The causative construction in L1

6.4.1 Lexical causatives

In Chinese, lexical causatives mainly come from ergative verbs, transitivized intransitive verbs, and adjectives (Zhao and Shao 2009). According to Tang (2002), there do exist ergative verbs in Chinese that can serve both as inchoative-intransitive verbs and as causative-transitive verbs, without any morphological change. Take the following sentences as examples.

(15) a. *Ma-ma   kai   le   men.*

   Mom   open   PAST   door

   'Mom opened the door.'

   b. *Men   kai   le.*

   Door   open   PAST.

   'The door opened.'

The Chinese verb *kai* ('open') exhibits two alternates, which are the same as those of the English ergative verb *open*. These alternating pairs of causatives are realized through a lexical causative operation. In other words, the inchoative-intransitive and causative-transitive verbs are both spelled out using the same phonological form. The same form of the verb can occur in the two variants, and no overt change in morphology takes place in the derivation, as in English (see section 6.6.2).

Similar to English, class shift also works in Chinese causative verbs. As

mentioned above, class shifting involves using the same word, without any phonological change, in two different word classes (e.g., an adjective as both adjective and noun). This method is adopted in the formation of Chinese causative verbs: during the process of word-formation, some intransitive verbs or adjectives without original causative meanings can be transformed into causative verbs, without any change in form. Here are some examples:

adjective → causative verb: *fan* ('annoying', 'annoy')

hong-dong ('sensational','cause sensation')

jian-quan ('sane', 'cause to be sane')

jian-ding ('stable', 'stabilize')

duan-zheng ('correct')

6.4.2 Morphological causatives

The morphological causative mainly existed in Old Chinese, which is not within the scope of this dissertation. A relatively typical example of the causative in modern Chinese is provided by the use of the suffix *hua* (close to English *-ize* or *-ify*). *Hua* has a causative meaning that is often added to adjectives or nouns to generate causative verbs. For example:

jian-dan   +   *hua*   → *jian-dan-hua*

simple   HUA   simplify

xian-dai   +   *hua*   → *xian-dai-hua*

modern   HUA   modernize

6.4.3 Periphrastic causatives

Chinese adopts a verbal group in the periphrastic causative construction (Yang 2016). It includes a generic verb (VP_1) and an optional specific verb (VP_2). VP_2

indicates the final result and it can be replaced by adjectives in some cases. Its linear syntactic representation is traditionally described as: $NP_1 + VP_1 + NP_2 + VP_2$/Adj. The causal action is contained in VP_1 which expresses an abstract meaning, involving no specific action or behavior, and it cannot be used as an independent predicate. The specific result is realized by VP_2 or adjectives. NP_2 bears a double identity: the object of VP_1 and also the subject of VP_2. The typical choices for VP_1 are *shi*, *rang*, or *jiao*, which are like *make*, *let*, or *order* in English respectively. For example,

(16) a. *Lao-shi　shi/rang/jiao　　xue-sheng-men　li-kai.*
　　　　Teacher　shi/rang/jiao　　students　　　　leave
　　　　'The teacher made/let/ordered students (to) leave.'

　　b. *Zhe-ge　jue-ding　shi/rang/jiao　ren　　hen　gao-xing.*
　　　　This　decision　shi/rang/jiao　people　very　happy
　　　　'This decision made/let/ordered people very happy.'

In (16), *teacher* and *this decision* are causers. *Shi / rang / jiao* serves as the VP_1, which denotes a generic causal action. The NP_2, *students* or *people*, is the object of VP_1 and also the subject of the clause. *Shi / rang / jiao* cannot be used independently, as in English **This decision made/let/ordered*.

There are some differences among *shi*, *rang*, and *jiao*. In terms of causee types, *shi* can be followed by either an animate causee or inanimate causee, while *rang* is always followed by animate ones. *Jiao* must be followed by an animate cause, because *jiao* implies the causee to follow causer's words and take related action. For instance,

(17) a. *Gao　wen　　　　　shi / rang　　shi-wu　fu-lan　le.*
　　　　High　temperature　SHI / RANG　food　　decay　PAST
　　　　'High temperature made/let food decay.'

b. * *Gao   wen   jiao   shi-wu   fu-lan   le.*

　　High   temperature   JIAO   food   decay   PAST

　　To mean 'High temperature order food decay.'

Second, from the perspective of speaker's attitude, when the causee is animate, the causative verb *jiao* ('order') shows that the speaker holds a kind of negative attitude toward the cause or the result. The speaker does not expect the caused result and is passive to take the action to some extent. In contrast, *shi* ('make') or *rang*('let') usually expresses that the speaker has an uncertain or positive standpoint regarding the realization of the caused result.

(18) a. *Zhe-ge   ji-hui   shi / rang   wo-men ying   le   bi-sai.*

　　　This   opportunity   SHI / RANG   us   win PAST competition

　　　'This opportunity made/let us win the competition.'

b. * *Zhe-ge   ji-hui   jiao   wo-men   ying   le   bi-sai.*

　　　This   opportunity   JIAO   us   win   PAST   competition

　　　To mean 'This opportunity ordered us to win the competition.'

Example (18b) is unacceptable, because it is not in accordance with the speaker's actual attitude. The speaker holds a positive attitude to the caused result (*win the competition*). By contrast, *shi* or *rang* in (18a) is reasonable since the speaker expects the result.

Third, regarding the relation between the causative verbs and causative result, *shi* requires the caused result to be achieved, while *rang* and *jiao* cannot require that.

(19) a. *Wo   shi   hai-zi   shuo   chu   le   zhen-xiang.*

　　　I   SHI   child   speak   out   PAST   truth

　　　('I made the child tell the truth.')

b. *Wo   rang   hai-zi shuo chu   le   zhen-xiang.*

   I   RANG   child speak out PAST   truth

   ('I let the child tell the truth.')

c. *Wo   jiao   hai-zi shuo   chu   le   zhen-xiang.*

   I   JIAO   child   speak out   PAST   truth

   ('I ordered the child to tell the truth.')

All three sentences in (19) express the same final result: that the child told the causer the truth. However, the result in (19a) is strongly controlled by the causer and the causee cannot refuse, whereas the results in (19b) and (19c) can be decided by the causee, meaning there are alternative possibilities, positive or negative situations, for (19b) and (19c). The following two groups of examples shows the two possibilities.

(20) a.* *Wo   shi   hai-zi shuo   chu zhen-xiang, **dan ta bu shuo***.

       I   SHI   child   speak   out   truth,   but he not speak

       'I made the child tell the truth, **but he did not tell it**.'

   b. *Wo   rang   hai-zi   shuo   chu zhen-xiang, **dan ta bu shuo***.

      I   RANG   child   speak   out   truth,   but he not speak

      'I let the child tell the truth, **but he did not tell it**.'

   c. *Wo   jiao   hai-zi   shuo   chu zhen-xiang, **dan ta bu shuo***.

      I   JIAO   child   speak   out   truth,   but he not speak

      'I ordered the child to tell the truth, **but he did not tell it**.'

(21) a.* *Wo   shi   hai-zi shuo   chu   zhen-xiang,   ta   shuo le*.

       I   SHI   child   speak out   truth,   he   speak PAST

       'I made the child tell the truth, **and he told it**.'

   b. *Wo   rang hai-zi   shuo   chu   zhen-xiang,   ta   shuo le*.

I RANG child speak out truth, he speak PAST

'I let the child tell the truth, **and he told it**.'

c. *Wo jiao hai-zi shuo chu zhen-xiang, **ta shuo le**.*

I JIAO child speak out truth, he speak PAST

'I ordered the child to tell the truth, **and he told it**.'

Example (20a) and example (21a) are unacceptable. This is due to the fact that among the three causative verbs, *shi* has the strongest causing force and requires the caused result to happen. In contrast, the causative verbs *rang* and *jiao* in the (b) and (c) examples do not have this requirement, so we can see that the result with them can be positive or negative.

Finally, these examples show that in the peripheral causative construction made by using *shi*, the causee cannot control the caused result because the causer guarantees the result is same to his intention, whereas in the cases with *rang* and *jiao*, the causee can choose to realize the caused result or not, meaning that there is an open ending.

6.5 Cross-linguistic comparisons

6.5.1 Same event, different types

Both English and Chinese adopt three methods of forming causative constructions: lexical, morphological, and analytical or periphrastic. However, English and Chinese can select different methods from among these three to express causatives in the same causal event. For example, the counterparts of some English lexical causatives are periphrastic causatives in Chinese. Some examples are listed in Table 6.3.

Table 6.3 Different causative types in English and Chinese

English lexical causatives	**Chinese periphrastic causatives**
A redwood bucket faded my carpet.	*Yi-ge hong-mu tong shi wo-de di-tan tui se le.* A redwood bucket SHI my carpet fade color PAST 'A redwood bucket made my carpet fade.'
They floated a sunken boat.	*Ta-men shi chen chuan fu qi.* They SHI sunken boat float up 'They made a sunken boat float.'
The idea cooled my enthusiasm.	*Zhe-ge xiang-fa shi wo-de re-qing leng-que.* This idea SHI my enthusiasm cool 'This idea made my enthusiasm cool.'
Your mom embarrassed you in front of friends.	*Ni-de ma-ma rang ni zai peng-you mian-qian nan-kan.* Your mom RANG you in friends front embarrass 'Your mom let you embarrass in front of friends.'

In Table 6.3, the same line expresses the same causative meanings in the two languages. In the English part, all of the causative constructions are realized through lexical causative operations. By contrast, all the corresponding Chinese causative constructions are realized by the addition of another morpheme (e.g., *shi* or *rang*), forming a periphrastic causative construction. In addition, in Chinese, the same causative verbs (e.g., *fade*, *float*, *embarrass*) are retained; however, unlike in English, they are not matrix

verbs, and so they become VP$_2$, with *shi / rang / jiao* as VP$_1$.

On the basis of these data, we can argue that there is a difference between the lexicalization of the English lexical causative construction and that of the Chinese periphrastic causative construction. The English causative variants take the lexical causative form, whereas the Chinese causative variants could be in the periphrastic form. These periphrastic causatives are productive in Chinese. In addition, most English lexical causatives can have inchoative counterparts, for example, *My carpet faded*. However, as Chinese uses periphrastic causatives in most cases, there are fewer inchoative counterparts for Chinese causatives.

Chinese has traditionally been described as an analytic language, in which grammatical relations are shown by word order and independent particles rather than by affixes or word-internal changes (Norman 1988). Chinese has also been classified as an isolating language, since there is frequently a one-to-one correspondence of meaning components to morphemes (Anderson 1985: 9). Juffs (1996) argues that there is a systematic absence of conflation patterns in Chinese analogous to those found in English. As to the reason why Chinese lacks verbs which can be used in the causative/inchoative alternation, Juffs (1996) claims that:

"In Chinese, there is a systematic absence of some conflation patterns which are found in English, e.g. Chinese has no monomorphemic causative equivalents of *disappoint*, *bounce*, *float*, *melt*, etc. This means that the ´abstract' meaning components which have been proposed as part of the semantic structure of English verbs should surface as overt morphemes in Chinese."

(Juffs 1996: 82)

To sum up, while English causative constructions are realized through

lexical causative patterns, most Chinese causative constructions are realized through periphrastic causative patterns. This has consequences for the transformation of causatives into inchoatives in Chinese if compared to English, where this is a more frequent possibility.

6.5.2 Differences in the peripheral causative construction

Regarding the peripheral causative construction, Chinese adopts the generic verb *shi / rang / jiao*, which is very similar to the English causative verbs *make / let / order*.

However, in terms of the form of the predicate structure, they are not the same. In Chinese, the causative verb VP_1 is pivotal, while VP_2 is considered the secondary components of the predicate, such as *Yi-ge hong-mu tong shi wo-de di-tan tui se le (*'a redwood bucket made my carpet fade'). In contrast, there is only one predicate in English (e.g., *A redwood bucket fade my carpet*) English shows a high degree of conciseness. However, there are cases where both Chinese and English prefer the peripheral causative construction, especially in the indirect causative context. For example,

(22) a. *Zao-gao-de gong-zuo huan-jing   shi   ta   huan   le   gong-zuo.*

      Bad   work   environment SHI him change PAST work

      'The bad work environment caused him to change his job.'

  b. *Ta-de   hua   shi   wo   shen   si.*

      His   word SHI me deep think

      'His question caused me to think deeply.'

In (22a) and (22b), *shi* in Chinese corresponds with *cause* in English in terms of meaning and syntactic structure. Both of them display a peripheral causative action. Although *cause* is a generic verb, it cannot express the causative meaning independently and must be followed by a secondary predicate; the

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causative meaning is displayed by the complete construction. English and Chinese are thus similar in the conceptualization of the peripheral causative construction. However, in (23), Chinese adopts a peripheral causative construction while English does not.

(23) *Zhe-feng xin   shi   wo   mi-huo.*
       This   letter   SHI   me   puzzle
       'This letter puzzled me.'

In this example, Chinese first shows that *the letter* causes the speaker to do something and then says that the specific change *puzzles* the speaker. By contrast, some English notional causative verbs, including *puzzle* and *annoy*, can be used independently in simple clauses to express causative meaning. This difference is a consequence of the fact that English integrates more meaning into one verb, while Chinese prefers to envisage the whole action in separate processes using several finite verbs (*shi*, *mi-huo*) in one sentence.

Third, although the Chinese causative verbs *shi / rang / jiao* correspond with the English causative verbs *make /get / cause* in terms of form, in semantic terms the English causative verbs can express more. Verbs in English such as the common verbs *have/get/cause* and the change-of-psychological-state verbs (e.g., *startle*, *annoy*, *disappoint*, *surprise*), can be used as either general notional verbs or causative verbs, which makes the expressive possibilities of the English causative construction richer.

(24) a. *Ni   ying-gai jiao   ni-de   peng-you   bang   ni.*
        You   should   JIAO   your   friend   help   you
        'You should order your friend to help you.'

b. *Ta-men-de yi-jian shi wo-men qu-xiao le   ba-gong.*

Their   idea SHI us   cancel   PAST strike

'Their idea made us call off the strike.'

Finally, the causer and causee in the Chinese peripheral causative construction expressed by *shi / rang / jiao* must be explicit in the construction, whereas in the English peripheral causative construction, the causee is not always implicit, but instead it hides in the semantic structure of several causative verbs, such as *have / get* in the structure *have/get something done*.

6.6 Licensing factors

The causative scene is comprised of two relevant events with a causal relation to one another. The first refers to the causal event, usually presenting an activity, and the other designates the resultant event, illustrating the result of the corresponding action (Shibatani and Pardeshi 2002). Both can be considered sub-events to the whole causative event. The causal and resultant events are two specific semantic scenes in which participants and their relationship are included. Thus, the action and state are projected in this order at the conceptual level. The relevant motivation for the causative construction will be explained at the macro and micro level.

On the one hand, at the macro level, the causative construction involves two events, namely the causal event and the resultant event. Hence, two simple clauses should be produced when mapping occurs from the event structure to the syntactic structure. But the fact is that the causative construction is a simple clause. The causal event and the resultant event are blended in the causative construction (Wolff 2003; Fauconnier and Turner 1998). It reflects parts of two events in one whole causative construction, motivated by the PART FOR WHOLE metonymy in the construction.

On the other hand, the entities concerned in the causative scenes in reality are only partly selected through the choice of linguistic expression. That is, owing to the connection existing between language and reality, the speaker usually picks up entities with high saliency to represent the causative event at the micro level, which also reveals the PART FOR WHOLE metonymic thinking by presenting prominent objects to invoke the whole scene. In other words, the partial entities function as a trigger affording mental access to the whole causative scene-in-reality.

Affixation and class shifting are commonly used in English and Chinese in the formation of the causative construction, and causative affixation mainly involves adding prefixes or suffixes to adjectives so as to convert them into the corresponding verbs for the causative construction.

6.6.1 Metonymy and affixation

Adjective–verb conversion by affixation in English and Chinese causation is a little different. In English, it is formed by suffixes, while in Chinese causation is generated by adding adverbs denoting degree, such as *very*, to describe the change of state. The affixes used to convert adjectives into causative verbs are illustrated in the following examples:

(25) *They deepened the channel.*   (WebCorp)[35]

(26) *We gratified our friend's curiosity.*   (WebCorp)[36]

Example (25) and example (26) provide instances of the suffixes *-en* and *-ify,* in the words *deepen* and *gratify* respectively. Other commonly used prefixes and suffixes used to convert adjectives into verbs are *en-*, *-ize*, and *-ate*, as in

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[35] https://sigtalk.com/p365/318822-new-p365-striker-pin-design-5.html. Accessed on May 17, 2018.
[36] https://www.collinsdictionary.com/dictionary/english/gratify. Accessed on May 17, 2018.

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the English words *enlarge*, *realize*, and *liberate*.

The reason why adjectives that shift to verbs by affixation to enter into causative constructions become transitive verbs or intransitive verbs is actually related to the event structure. That is to say, syntactic structures are based on the constant experience-based conceptualization of the complex causative event (entailing a particular way of framing it in words) on which the conceptual metonymy is built. A complex causative event includes the cause event and the effect event. When it comes to its representation in language, the causative construction mainly contains the effect event, which reflects the metonymy PART FOR WHOLE in a general sense. The resultant state or effect of the event as the source is able to activate the target meaning or the whole event scene, thus being comprehended by the addressee without any confusion. In this way, conceptual metonymy also favors the economy of language.

(27) a. *Chen San　hen　man-yi　gu-shi de　xiao-guo.*　　(BCC)

　　　Chen San　very　satisfy　story　's　effect

　　　'Chen San is very satisfied with the story's effect.'

　　b. *Xiu Ma　shu-xi　le　cheng-shi　cheng-huo.*　(BCC)

　　　Xiu Ma　familiar　PAST　city　　　life

　　　'Xiu Ma is familiar with the city life.'

In the examples above, we find that adjectives change into causative predicates. Both are motivated by the grammatical metonymy RESULT FOR ACTION THAT BRINGS ABOUT RESULT. In (26a), the operation of metonymy projects to the syntax in order to bring about a change of grammatical attributes: re-categorization from an adjective to a verb. The syntactic structure is sensitive to the target meaning, leading to the reorganization of the sentence. Similarly, in (27b), *familiar* is originally an adjective, but it can be shifted to a

verb to describe the state, which is motivated by the grammatical metonymy RESULT FOR ACTION THAT BRINGS ABOUT RESULT.

6.6.2 Metonymy in the class shift

Adjective-verb conversion concerns the re-categorization of a word's class from adjective to verb (Kearns 2007). There are affix-derived deadjectival (e.g., enlighten, broaden) and zero-derived deadjectival verbs, such *cool* and *warm* (Kjellmer 2001; Lipka 1982; Bauer 1983). These deadjectival verbs are widely used in the causative construction. For example,

(28) a. *The great man warmed himself in the sun of his own grandeur.*

b. *He fitted a weed stem to the cob.*

c. *He would have bankrupted everybody in the village.*

The word *warm* is an adjective originally, while the verb *warm* is employed to introduce the predicate in example (28a). The parent adjective *warm* embodies the ultimate state of the causative action and attracts the most attention; and within the causative action, in turn, the resultant state is highlighted. Therefore, the parent adjective *warm* is picked out as a source offering mental access to the target, which is the whole causative event, thus reflecting the high-level metonymy RESULT FOR ACTION THAT BRINGS ABOUT RESULT. The operation of conceptual metonymy changes the grammatical properties and meaning of *warm* from adjective to a deadjectival verb. This endows the parent adjective with a new identity under which it enters into the causative construction, which demands a verb as the predicate. The parent adjective *warm* is the source, which, licensed by the metonymy RESULT FOR ACTION THAT BRINGS ABOUT RESULT, shifts to deadjectival verb *warm* as the target. The syntactic elements are more sensitive to the target meaning, thus reorganizing the grammatical structure to one where the deadjectival verb

warm is followed by the object.

Let us now take another example of metonymic licensing of class-shifting involving causation in Chinese:

(29) *Zheng   Yuanxun   wen-ding   le   ju-mian.*   (BCC)

Zheng   Yuanxun   stable   PAST   situation

'Zheng Yuanxun made the situation stable.'

The example above depicts a causative event in which the causer acted such as that, as a result, the family became calm. The operation of the grammatical metonymy RESULT FOR ACTION THAT BRINGS ABOUT RESULT licenses the recategorization of *wen-ding* from an adjective to a verb. As in English, the mention of the resultant state naturally calls for the causative action. The semantic paradox of using the same word to denote an attribute and a causal action is resolved by the working of this grammatical metonymy.

Chapter 7

The Inchoative Construction

7.1 Inchoative verbs

An inchoative verb is a verb that can operate in a transitive or intransitive way, without any morphological change (e.g., *Peter broke the glass / The glass broke*). According to Hoekstra (1988), there are two classes of inchoative verbs. The first type contains verbs whose transitive counterpart is more natural, as exemplified by *Peter broke the glass*. The second type involves naturally intransitive verbs like *melt* (e.g., *The ice melted*), although they can also be used in a transitive way (e.g. I have melted the ice). The pairs include verbs that can be used alternatively in the causative construction (see Chapter 6) or the inchoative construction, such as *break* in the following examples:

NP_1 + Vt + NP_2 *Peter broke the glass.*   (causative construction)

NP_2 + Vi   *The glass broke.*   (inchoative construction)

Based on the examples above, some rules associated with causative/inchoative pairs are evident. First, there is a shift in the valence of the verb, i.e., both sentences contain the same verb (e.g., *break*) in the same form. Second, subjects of intransitive sentences are same to objects of their transitive counterparts (e.g., *the glass*). A parallelism exists between the subject of intransitive sentences (NP_2) and the object of transitive sentences (NP_2), while preserving the thematic role. Thirdly, both the causative and inchoative constructions express a change of state, but they differ in that the causative construction explicitly shows a participant agent that carries out an

action, whereas the inchoative construction excludes a causing agent and the action appears to occur spontaneously.

Levin and Rappaport (1995) propose the following lexical-semantic representation template for inchoative verbs:

[[X DO-SOMETHING] CAUSE [Y BECOME STATE]]

The primitive BECOME represents the semantic property, the change of state, which is closely bound up with the ability of verbs to alternate in transitivity. Verbs in the inchoative construction are understood to indicate some sort of change brought about on a theme argument.

7.2 Change of state in the inchoative construction

An inchoative construction portrays events in which a passive participant undergoes a change due to an unknown external force. In terms of its cognitive construal, the inchoative construction thus profiles the result of an event. Therefore, any inchoative construction implies a resultative interpretation, as illustrated in the following examples:

(1) a. *The door opened.*

b. *The flood abated a little.*

The example (1a) can be paraphrased as 'the door changed its state to open by the opening action', which is its semantic meaning. Similarly, the semantic meaning of (1b) is 'the flood became less strong'. The subject + verb pattern cannot merely be understood as the subject carrying out the action but also as the subject changing as a result of the action. Therefore, we can generalize the semantic characterization of the inchoative construction as: patient (subject) changes into a different state as a result of certain action, such as *opening*,

abating, *bleaching*, etc.

Based on specificities of the change of state, the inchoative construction can be classified into four types, as illustrated below:

(a) Change in certain manner

In this category, verbs (e.g., *combine, convert, industrialize, resettle, toughen*) denote certain changes by themselves. It also involves a specific changing method. Some examples and relevant semantic meanings are collected as below.

convert:	change from one form, use, etc. into another
combine:	change by joining together
industrialize:	change by developing industry
resettle:	change by moving to a different place
toughen:	change by becoming stronger and more independent in character

We find from the examples listed above that change is the basic notion of a predicate that lacks volitional control and that manner is highlighted in the whole event. It denotes a change of state or location, no matter what the manner might be. For example, any of inchoative verbs listed above, such as *open* in *The gate opened*, not only indicates an actual action (e.g., opening) but also a resultant state (e.g., become open), and the subject is the affected entity. The semantics of verbs in this type coincide with its inchoative constructional meaning that is 'X undergoes a change of state as the result of V-ing'.

(b) Change with durative process

This type refers to a non-sudden or non-punctual action. In this category we find verbs like *accelerate, accrue, advance, bowl, decrease, deepen, diminish, fasten, increase, harden, inflate, narrow, lengthen, slow (down)*, etc.

The difference between type (a) and type (b) is that the latter is restricted to the change which becomes relatively non-prominent, while the process becomes prominent. For example, in the sentence *His heart rate gradually slowed down*, the subject (*his heart rate*) undergoes the process (*slowing down*) with a period of time (*gradually*). Other similar examples, with similar explanations, are:

accelerate: change involving duration of accelerating process
accrue: change involving a period of (natural) growth
lengthen: change consisting in becoming longer over a period of
               time

In this type, the NP undergoes a change involving a non-sudden or durative process. The process is explicit, while the change of state is implicit. The verb *accelerate* in the expression *World energy demand accelerated at a rate of about 5 percent per year* is a typical example of this type. The process is clear in the sentence, that is, that of world energy demand gradually becoming bigger. This process involves a change of state from the starting point (relatively smaller) to the ending point (bigger).

(c) Change involving the production of a perceptual phenomenon

Compared to the previous two types, Type 3 involves the creation of a perceptual phenomenon (e.g., sound, light, heat) that results from using an instrument to perform an action, as is the case of *blast, blink, clack, clang, clash, click, clink, crack, shimmer, glimmer, glare, blaze, glare, blaze*. For instance,

(2) *The bell clanged.*

In the example above, implicit is the idea that causing the bell to ring results in the production of a metallic type of sound. The bell is not affected (i.e., it does not change its state), but is used as an instrument to perform a

change in the state of affairs, resulting in a clanging sound. As with other inchoative configurations, the bell, which is the syntactic subject of the example above, becomes the syntactic object in its causative counterpart: *The timekeeper clanged the bell*. We can also find other examples as illustrated below

(3) *The old train creaked and clanked.*   (WebCorp)[37]

(The change happened accompanying a sound of creaking and clanking)

(4) *The pots clashed in the kitchen.*   (WebCorp)[38]

(The change happened accompanying a sound of clashing in the sink.)

In this type, change is an inherent action, while an extra specific creation is an indispensable part of the change. For instance, in example (3), the action denoted by *creaked* and *clanked* indicates that the train changed from being still to moving, with an extra outcome, which is the sound. In addition, this change occurred with a sound created by creaking and clashing, which is highlighted in this event.

(d) Change by a sudden action

This type, which includes verbs like *break*, *beat*, *blast*, *explode*, *flash*, *jolt*, *lash*, *shock*, *stall*, etc., is characterized by the suddenness of the action denoted by the verb. Some of these verbs can be used in the inchoative construction (e.g., *flash*, *shift*, *stall*, *start*). These verbs denote a change of state. For instance, the verb *break* in *The vase broke* indicates both the

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[37] https://ddd.uab.cat/pub/elies/elies_a2000v9/apend1.htm. Accessed on May 27, 2018.
[38] http://thefreebooksonline.com/NewAdult/Unteachable0/index_19.html. Accessed on May 17, 2018.

suddenness of the action and its end result. In the process, people regard the pre-changing state, the unbroken vase, and the post-changing state, that is, the broken vase, all together, but the post-changing state is more prominent. People who have experienced the situation of a vase breaking are aware that the vase is (generally) made of glass, which can (generally) break easily, and that the breaking action will lead to a new state. This common knowledge is activated when a vase is mentioned in a sentence, allowing hearers to make the correct inferences without difficulties.

7.3 The inchoative construction in L2

7.3.1 Lexical pattern

In the inchoative construction, the preverbal noun phrase acts as the semantic patient that undergoes a change of state; from a syntactic perspective, this noun phrase is the subject. This makes the inchoative construction a marked configuration, since the particular semantic role of the subject is the agent of the action. For example: *The girls closed round me*, where the subject of the sentence (the *girls*) is also the agent of the sentence.

The typical syntactic representation of the English inchoative construction can be characterized as patient-subject + V (e.g., *The car stopped*). The semantic representation of the English inchoative construction is 'Y changes into a new state as the result of V-ing.' The item that plays the role of patient is in the position of subject, directly followed by the inchoative verb, instead of the position of the object as in other constructions. The preverbal noun phrase can be animate or inanimate. For example:

(5) a. *Exam week approached.*   (WebCorp)[39]

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[39] http://oturn.com/secretballet/secretballet-1.html. Accessed on May 17, 2018.

b. *Her thin eyebrows arched.*   (Google Books)[40]

c. *One of these muscles weakens.*   (Google Books)[41]

In the examples above, we can see that no matter what the subject is, object or organism, it is the subject part of the inchoative sentence which undergoes the change of state. The subjects are always the patients.

Haspelmath (1993) argues that the intransitive use of inchoative verbs does not indicate that an initiator is at work. The English inchoative construction does not involve any explicit agent. For example, although the sentence *The vase broke* does not mention what force or who caused the breakage, we know the vase is not likely to break spontaneously. In fact, it requires an external force to break it, even though a presupposed agent is absent in the language form.

7.3.2 Inchoative verbs

There are two main characteristics of English inchoative verbs. The first is that inchoative verbs in English are without exception predicates involving change of physical/mental state. Based on semantic analysis, change is the basic property of these verbs and the key semantic property determining whether a given verb may participate in an inchoative construction. They describe a change of state, without indicating the specific manner. For example, the essential semantic property associated with *break*-type verbs that can enter inchoative constructions can be summarized as a change in material integrity.

This feature is further illustrated, in a unique manner, by the verb *bake*. Normally, this verb is categorized as a change of state verb, and thus participates in the inchoative construction.

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[40] https://books.google.es/books?id=phCGDwAAQBAJ. Accessed on May 20, 2018.
[41] https://books.google.es/books?isbn=0761478558. Accessed on May 20, 2018.

(6) a. *Mary baked the potatoes.*

b. *The potatoes baked*.

(7) a. *Mary baked the cake*.

b.* *The cake baked*.

Interestingly, *potato* in this case cannot be replaced with *cake*. The reason is because baking a cake implies the last segment of a new creation, which is motivated by the metonymy LAST PART OF PROCESS FOR WHOLE PROCESS, in addition to the basic change of state meaning, which can be roughly paraphrased as 'create as a result of change of state'. In short, when the verb *bake* is used only as a verb of change of state, it can participate in an inchoative/causative alternation, but when it is used as a verb of creation, it cannot.

According to Tang (2002), in the former situation (verb of change of state), the internal argument exists before the change of state, with a lexical semantic representation as follows:

[X CONTROL [Y BECOME [Y BE AT Z]]]

However, when it involves a verb of creation, the internal argument does not exist until the state has been changed, and its lexical semantic representation can be summarized as:

[X CONTROL [BECOME [Y BE AT Z]]]

The second characteristic of English inchoative verbs is that of lacking volitional control. Zobl (1989) argues that this characteristic can be used to distinguish verbs used in English inchoative constructions. Some ordinary intransitive verbs in English that often show strong volitional control cannot be

regarded as inchoative verbs: *eat, go, run,* etc.

(8) a. *The kids eat dinner early*.

b. *The kids eat early*.

In the examples above, the subject *kids* acts as an agent in both the transitive construction (8a) and the intransitive construction (8b). The verb *eat* in (8b) has the feature of volitional control, which can be rendered as: the kids undertake the action of *eating* actively. Therefore, the verb *eat* in (8b) cannot be labeled as an inchoative verb, although it shows the same syntactic pattern as the inchoative construction in the example *The glass broke*.

7.3.3 Types of change of state

According to the typology of changes of state, the English inchoative construction has three different variants. In the first one, the patient in the construction experiences the strongest change of state, meaning that the nature of the subject has altered after the change. For example:

(9) *The ice melted.*

In example (9), *the ice* has changed its state from solid to liquid; as its nature has altered, it is no longer what it used to be. It is natural for this to grab people's attention, as they tend to be concerned about results.

In the second variant, the patient-subject undergoes the change of state moderately: the nature of the subject has not altered, but the change is still ongoing. For instance:

(10) a. *The ball sank down.*

b. *The ball bounced.*

Comparing the effects on listeners, a moving object tends to attract more attention than a stationary object.

In the third variant, the inchoative construction has a patient that experiences the weakest change of state: the nature of the subject has not altered, but it experiences a change of position. Here are some examples:

(11) a. *The picture hung on the wall.*

b. *The stick stood in the corner*.

The subject of this kind of inchoative construction has remained in a static state; however, its position has changed. In (11a), the position of the picture has shifted from its original position to the wall. In (11b), the stick remains in the corner where it was not previously placed. Because of the existence of the place satellite, this construction is also classified as a non-prototypical inchoative construction: subject + verb + location adverbial.

7.4 The inchoative construction in L1

7.4.1 Lexical pattern

The inchoative construction is agreed to exist in Chinese (Huang and Chang 1996; Zhang and Wen 1989; Mochizuki 2007). Here are some examples.

(12) a. *Qian-bao diu   le.*

Wallet   lose   PAST

('The wallet was lost.')

b. *Wo-de jiao   wai   le.*

My   foot   twist   PAST

('My foot was twisted.')

    c. *Che   zuo-tian   fan   le.*

      Car   yesterday   turn   PAST

      ('The car turned upside down yesterday.')

We can see that the basic formation of the Chinese inchoative construction follows the structure $NP_2 + V$. The other transitive pattern, $NP_1 + V + NP_2$ is also acceptable in Chinese. The counterparts of group (9) are listed in the following.

   (13) a. *Lisi   diu   le   qian-bao.*

        Lisi   lose   PAST   wallet

        ('Lisi lost his wallet.')

     b. *Wo   zuo-tian   fan   le   che.*

       I   yesterday   turn   PAST car

       ('I turned the car upside down yesterday')

     c. *Wo   wai   le   jiao.*

       I   twisted   PAST   foot

       ('I twisted my foot.')

As the examples above show, the patient takes the subject position and the verb can be either transitive or intransitive in Chinese. In addition, however, Chinese has its own characteristics. The details will be discussed in the following sections.

7.4.2 Unmarked passive

Chinese passive structures can be of two types. One is the marked passive with the linguistic marker *bei* (similar to English passive 'be V-ed'), for example, *Xiang-zi bei ban jin wu li le* ('The box was moved into the room'). The other form of Chinese passive is the unmarked passive, which refers to those with

passive meaning but without any passive linguistic marker; they are also called notional passives (e.g., *Xiang-zi ban jin wu li le* 'The box moved inside the room'). This division in a broad sense is accepted in this study. In a narrow sense, Chu (1973) argues that unmarked passives are not real passives because there is a formal feature (lack of passive marker) that must be taken into consideration when we construct a passive.

Both types give rise to passive meanings; the difference between them is that, when the *bei* marker is applied, it implies a negative or unfortunate feeling, that is, that the patient does not want to undergo the action but has to do so. In addition, the agent can be added to the marked passive, for example, *The box was moved by Mary*, whereas in the unmarked passive, the patient has already pretended to act in the role of agent, and so it will not accept the real agent's being, added to the sentence (**Box moved inside the room by Mary*).

The Chinese inchoative construction thus conveys a passive meaning, but it does not contain any passive markers, and it creates an intransitive sentence without any agent slot. Thus, it can be treated as a type of unmarked passive.

7.4.3 Inchoative verbs

In Chinese, the change of state plays a crucial role in licensing the inchoative verb. In the example *Men kai le* ('The door opened'), *men* ('door') can be seen to undergo a change from a closed state to an open state as a result of the opening action. Unlike English, where the inchoative form of the verb can on most occasions freely causitivize without any overt change (morphological or otherwise), Chinese COS predicates, unlike *kai* ('open'), fail to take an external argument independently. Instead, Chinese brings two verbs together, or in many cases adds linguistic markers or modifiers, to convey the intended inchoative meaning. Based on different changes of states in Chinese, inchoative Chinese verbs can be divided into four groups:

Table 7.1 Categories of Chinese inchoative verbs

Types	Examples
Change of locational state	*Gun-dong* (roll-move) 'roll'
	Zhuan-bian (turn-change) 'turn'
	Guan (close) 'close'
	Kai (open) 'open'
	Dong-yao (move-shake) 'shake'
Change of psychological state	*Gan-dong* ('fell-move') 'touch'
	Mi-huo ('puzzle- confuse') 'confuse'
	Zhen-jing ('quake-shock') 'shock'
	Huan-jie (slow- relieve) 'relieve'
Change of natural physical state	*Rong-hua* (fuse-melt),'melt'
	Ning-gu (curdle-solidify)'freeze'
	Zeng-zhang (increase-grow) 'grow'

7.4.4 A second participant in the process

In most cases, there is only one participant in the inchoative construction, which is the patient-subject (e.g., *door* in *The door opened*). However, some special cases in the Chinese inchoative construction have an agentive subject NP that occupies the grammatical object position. This means there are two participants in the process. For example,

(14) a. *Qian   huan   gei   Li-si   le.*

     Money   return   give   Li-si   PAST

     'Money was given back to Li-si.'

  b. *Shi-yan   zuo le   wo   yi   shang-wu.*

    Experiment   do   PAST   me   a   morning

    'It took me a morning to do the experiment.'

In the examples above, the patient-subjects are *money* and *experiment* respectively, but a second participant is also added: we see both *money* and *Lisi* in (14a), and *experiment* and *I* in (14b). These sentences can then respectively be regarded as the intransitive counterparts of the following transitive sentences.

(15) a. *Wo   huan   qian   gei   Lisi   le.*

        I   return   money   give   Lisi   PAST

        ('I gave the money back to Lisi.')

    b. *Wo   zuo   le   yi   shang-wu   shi-yan.*

        I   do   PAST   a   morning   experiment

        ('I spent a morning doing the experiment.')

These sentences involve a change from object-patient to subject-patient, identical in principle to the change from *We altered the color* to *The color altered*. The added participant is used to complete the event or provide more useful information. In general, these sentences still follow the model of the inchoative construction.

7.5 Cross-linguistic comparisons

7.5.1 Structure

Both the English and the Chinese inchoative constructions take the form NP_2 + V, in which NP_2 is the patient of an action and the agent is left implicit. Their corresponding transitive form is NP_1 + V + NP_2, in which NP_1 and NP_2 are the agent and patient respectively.

Reflexive pronouns can act as modifiers in both languages, a situation that can be expressed as NP_2 + V + by oneself and NP_2 + *zi-ji* ('oneself') + V respectively. We would like to illustrate this with the following examples.

(16) *The truth exposed itself.*

(17) *Zhen-xiang   zi-ji   bao   lu   le.*

    Truth   itself   expose   appear   PAST

    'The truth exposed itself.'

In the examples above, the verb *expose* in English and the verbal group *bao lu* (lit. 'expose appear') in Chinese have similar syntactic properties. First, they can both appear in the alternation of $NP_1 + V + NP_2$ and $NP_2 + V$. Second, both *expose* and *bao lu* ('expose appear') in the $NP_2 + V$ construction can represent a certain kind of state. Third, both of them can occur in causative sentences. Given these characteristics, we can confidently draw the conclusion that *expose* and *bao lu*('expose appear') are inchoative verbs. As a consequence, we can say both English and Chinese allow that inchoative verbs can be used with by reflexive pronouns, as shown in the examples above.

7.5.2 Verbs in the causal chain

The inchoative construction contains three core meanings, which are action, cause-become, and result-state (Rodríguez 2008). In the $NP_1 + V + NP_2$ pattern, the sentence pays more attention to the cause-become part. By contrast, the $NP_2 +V$ pattern puts more emphasis on the result-state. For example,

(18) a. *Warm breezes dried the streets*.

    b. *The streets dried*.

(19) a. *Tie-dao   bu   jia-kuai   le   gai-ge de bu-fa*.
       Railway   ministry   add-fast   PAST   reform's   pace
      'The ministry of railways accelerated the pace of reform.'

b. *Gai-ge de   bu-fa   jia-kuai   le*.

Reform's   pace   add-fast   PAST

'The pace of reform accelerated.'

Example (18a) and example (19a) show that the inchoative verbs *dry* and *jia kuai* ('accelerate') indicate a cause-become process, while the subjects in (18a) *warm breezes* and in (19a) *tie-dao bu* ('railway ministry') are external factors which lead to events. On the other hand, (18b) and (19b) show that the inchoative sentences highlight the resultant state. Unlike (18a) and (19a), they do not mention the agent, but instead focus on the change of the theme itself and the internal cause of phenomenon. Given the observations above, we would like to represent the semantics of the inchoative verbs, as illustrated below:

a. [[X DO-something] CAUSE [Y BEOCME STATE]]

b. [Y BECOMES STATE]

We can find that (a) corresponds to the NP_1+V+NP_2 pattern, which contains both a cause-become and a result-state element, among which the former is much more important in the sentence; meanwhile, (b) corresponds to the NP_2 +V pattern, which only includes the result-state element, without the participation of the agent.

Croft (1991) has proposed a hypothesis, namely, the causal chain model, to describe the cognitive structure of causative verbs. He holds the view that there is a causal chain between participants, which is used for the transmission of power. It can be divided into three links: cause, BECOME, and state. The causal chain of the inchoative construction under Croft's theory is displayed in Figure 7.1 below.
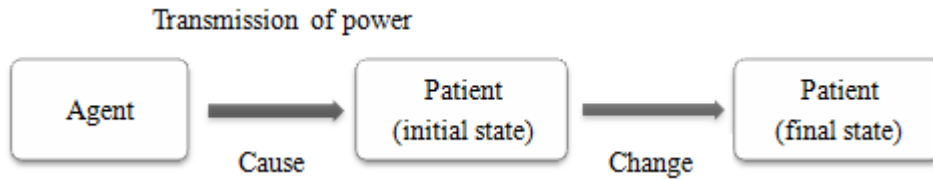
Figure 7.1 Causal chain model

Considering the lexical semantic representation and the causal chain model given above, we would like to represent the process of English and Chinese causative/inchoative alternation using Figure 7.2.
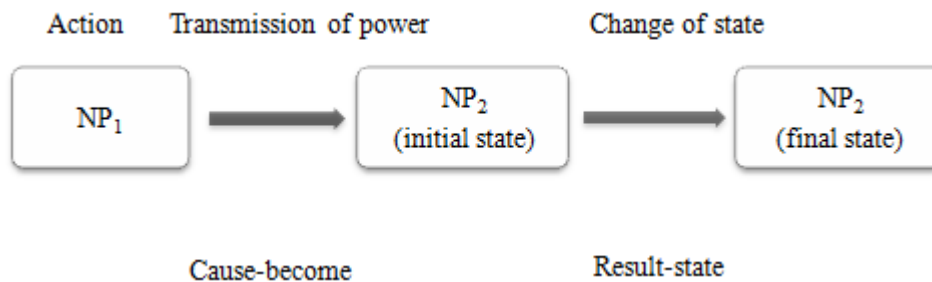
Figure 7.2 Causal chain in causative/inchoative alternation

In the figure above, the left part includes the cause-become element, which is implicit in inchoative and intransitive causative constructions. The right part represents the resultant state element. The configuration NP_1 + V + NP_2 contains both parts, while NP_2+V only involves the right part. Last, NP_2 has undergone some changes in both the NP_1 + V + NP_2 and NP_2 + V situations, which vary from NP_2 to NP_2. What differentiates them from each other is whether there is an agent, or more precisely, whether the external force that causes the change is spontaneous.

Based on the discussion above, we can find that the English and Chinese inchoative constructions have the same causal chain model, but the role played by inchoative verbs is different in each language. The English

inchoative verb is mono-morphemic and self-contained, meaning one verb can convey the action, cause-become, and result-state. By contrast, the Chinese inchoative verb cannot convey the three parts in combination. The action and the cause-become meaning are contained in the first verb and the result-state meaning is contained in the second verb. Here is a group of examples:

(20) a. *American worker productivity increased 72.2%.*

Action: increase

Cause-become: cause to become higher

Result-state: increase

b. *Mei-guo   gong-ren de   sheng-chan-lv   ti-gao   le   72.2%.*
American   worker   's   productivity   lift-increase   PAST 72.2%
'American worker productivity increased 72.2%.'

Action: lift

Cause-become: lift, make higher

Result-state: increase

7.5.3 Tense and aspect

With regards to the past tense and the present perfect simple, English inchoative verbs code the past tense in the inflectional affix, which is self-contained, and the meaning of accomplishment is embodied in two parts: the auxiliary word *have/had* and the inflectional affix of the verb. Chinese inchoative verbs are quite different from English ones in this respect. In Chinese, the meaning of the past is contained in an independent auxiliary word *le*, while the meaning of accomplishment is represented in the adverb of time

yi-jing ('already').

(21) a. *The glass broke*.

b. *The river has dried*.

(22) a. *Gai-ge de   bu-fa   jia-kuai   le*.
Reform's   pace   add-fast   PAST
'The pace of reform accelerated.'

b. *Gai-ge de   bu-fa   yi-jing   ji-kuai   le*.
Reform's   pace   already   add-fast   PAST
'The pace of reform has accelerated.'

As is shown above, in (21a), the past tense is contained in the inflectional verb *broke*, while in (21b), the meaning of accomplishment is contained in *have* or *had* and the inflectional affix *-ed* of the verb. However, in (22a), the past tense is embodied in the auxiliary word *le*, while in (22b), the accomplishment is embodied in *yi-jing* ('already').

In terms of the continuous aspect, there exists yet another kind of situation in Chinese. The continuous aspect is achieved by using the auxiliary word *zhe*. By contrast, there is no such phenomenon in the English inchoative construction. The following sentences show this.

(23) a. *Men   kai   zhe*.   (state)
Door   open   ZHE
'The door is open.'

b. *Men   zheng   kai   zhe*.   (progressive)
Door   is   open   ZHE
'The door is opening.'

(24) a. *The door is open*.   (state)

  b. The door is opening.   (progressive)

As shown above, the auxiliary word *zhe* helps to indicate the meaning of progressiveness. In (23a), *zhe* means the door is in a static state. However, *zhe* can also become a crucial element in the progressive sentence, as in (23b). For English inchoative verbs, the situation is quite different. Example (24a) displays a static state, and *open* is an adjective; the meaning is not progressive. As for (24b), it is progressive and *open* is a verb. If the speaker only wants to describe a kind of continuous state in English, we should use a sentence like (23a), but it is not possible. Instead, English has to use a predicative sentence (*The door is open*) rather than an inchoative.

7.6 Licensing factors

7.6.1 Metonymy

The inchoative construction incorporates both a change of state and a conception of the force responsible for the change of state. Take the *break* event as an example.

(25) a. *Peter had some anger issues. He broke the window.*

  b. *The window broke.*

(26) a. *Zu-fu   da sui   le   bo-li.*
    Grandpa hit break PAST   glass
    'Grandpa broke the glass.'

  b. *Bo-li   sui   le.*
    Glass   break   PAST
    'The glass broke.'

In example (25a) hearers understand the nature of the relationship between the *break* event and the anger issues on the basis of world knowledge and its context. Example (25a) describes a complete event: the agent may have had a temper because of some anger issue, so he may have picked up an instrument, swung it at a piece of glass, made solid contact, and caused the glass to break into pieces. The result is that the glass is broken. This provides a whole picture of an event from the cause through the process of change and then to the result. Interestingly, even the essential component of the result of an event is itself capable of describing the event, if it is interpreted through one of the classical modes of thinking: metonymy, which can cause a shift in semantic features, and most importantly, a shift in the expression used (Sweep 2010). Thus, the intransitive counterparts of (25a) and (26a), the inchoative sentences (25b) and (26b), are metonymically constructed to show the *break* event, such that of the emphasized result. That is to say, in a metonymic expression of the *break* event, namely the inchoative construction, the object (being the patient in a causative construction) is chosen as the subject, thus becoming the only profiled participant. The agent is left non-salient and implicit.

The elements in the *break* event are: causer, causee/patient, participant (e.g. an   instrument etc.), and result. When the result category is highlighted, the result is necessarily associated with the patient rather than with the agent or instrument. However, if the result is viewed as a part of the whole event, then the metonymic expression of the *break* event may show a part-whole relation. This means that when we interpret a result of an event, we may associate it with some pre-result happenings.

The part-whole metonymy is not restricted to the *break* event domain. The *move* event is also capable of being perceived metonymically relative to the part-whole relation. In a *move* event, there exists a causer, motion, a path, a

moving object, a source, a destination, and a trajectory. For example,

(26) a. *Hailey rolled the window down to catch the breeze.*(Google Books)[42]

    b. *The car slowed as it came beside Roberta, and the window rolled down.*   (Google Books)[43]

(27) *Fan   duan   lai   le.*
     Meal   carry come   PAST
     'The meal was served.'

Example (26a) describes a particular *want* event (indicated by *in order to*) in which a *move* event is embedded: Hailey may have been in a car; she may have felt she needed some fresh air; she may have opened the window by rolling it down, thus bringing the window glass to a lower position; and then she may have enjoyed the breeze, with the result that her desires were finally satisfied. In example (26b), by contrast, the event of the window rolling down, rather than in upward position, is highlighted by the use of the inchoative construction. This constructional use is made possible by a high-level metonymic process whereby the motion plus direction part of the event stands for the more complex causal event underlying it. Ruiz de Mendoza and Galera (2014), developing previous work in Ruiz de Mendoza and Pérez (2001) have labeled this metonymy PROCESS FOR ACTION, where the motion event is seen as if it had not been instigated by a causer. Because of this "as if" ingredient in their conceptualization, Ruiz de Mendoza and Miró (2019) refer to constructions like this as *pretense constructions*: the speaker "pretends" that there is no agent in the action.

In example (27), the verbal group *duan lai* ('carry come') is used in a transitive way, but the two components *duan* ('carry') and *lai* ('come') are

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originally intransitive verbs, which leads them to combine together and form a transitive verbal group. In this transitivized case, this process involves a motion event, where the motion component is not only provided implicitly by the intransitivized predicate but also explicitly by the naturally intransitive *lai* ('come'). Again, as in English, we have the metonymy PROCESS FOR ACTION at work, since the meal is carried by someone, but the event is treated as if there was no agent. The resulting construction thus qualifies as a pretense construction.

7.6.2 Telicity

Telicity, or a natural endpoint of an event in time, typically characterizes the aspectual classes of achievement and accomplishments, and is regarded as a central characteristic of ergativity (Matsuzaki 2001).

In an ergative language (e.g., Basque), subjects of intransitive verbs behave like objects of transitive verbs. By contrast, in an accusative language (e.g., English and Spanish), subjects of intransitive verbs work like subjects of transitive verbs grammatically, but differently from the object (Du Bois 1987). Regarding Chinese, many scholars (LaPolla 1993; Lin 2009) believe that it cannot totally belong to an ergative or accusative language since it is a mix of both.

As an accusative language, English can imitate ergative syntax through special constructions. This is the case with the inchoative and middle constructions in English. Because of this property of some constructions in accusative languages, when a verb can be intransitivized and its (semantic and syntactic) object promoted to syntactic subject status, that verb is referred to by some scholars as an ergative verb (Taylor 1976; Keyser and Roeper 1984; Fontenelle and Vanandroye 1989). The English verb *open* is ergative on account of its ability to be used with the syntax of inchoative constructions: *The*

door opened.

The term *unaccusative* is sometimes used in the place of ergative. A canonical accusative pattern is one where the agent is the subject and the patient is the object; if the patient becomes the subject (e.g., *The door opened*), we have an unaccusative pattern.

Tenny (1994) uses the term *delimitedness* rather than *telicity* to describe the same aspectual situation. The bounded/unbounded distinction (Jackendoff 1990; Verkuyl 1972) has also been expressed as a telic/atelic distinction. Further, there is a correlation between ergativity and telicity, since inchoative verbs tend to be telic. One implication of this is that inchoatives do not combine with adverbials of duration, such as *for an hour*.

(26) a. *The accident happened.*

      b. * *The accident happened for an hour.*

Telicity should be associated with the presence or absence of arguments. In this connection, inchoative and non-inchoative verbs behave differently. For instance, both *break* and *eat* allow one or two arguments. However, *break* is always telic, while *eat* can be telic only when it is followed by two arguments:

break   (*John broke the vase*; *The vase broke*)   [NP, (NP), telic]

eat   (*John ate*; *John ate an apple*)   [NP, (NP, telic)]

This representation shows that the intransitive verb *break* is inchoative, while *eat* is intransitive and not inchoative. The aspectual classification requires that one looks not just at the verb but at the VP at least. For example, the verb *walk* denotes an activity, whereas *walk to school* is an accomplishment. The internal argument of a verb, a prepositional phrase and a

resultative small clause can turn an activity into an accomplishment (Verkuyl 1972; Hoekstra 1988; Tenny 1994). However, as far as inchoative verbs are concerned, no matter whether we add something or not, they are always telic.

Tai (1984) observes that accomplishments do not seem to exist in Mandarin Chinese. To support this claim, (16) and (17) below are given as evidence. English accomplishment verbs, such as *learn* and *kill*, inherently includes a resultant state. Thus, example (16) contain semantic contradictions and become unacceptable by denying the existence of a resultant state. However, in Chinese, the corresponding verbs as *xue* ('learn') and *sha* ('kill') do not have a logical restriction like English, with reference to (17).

(27) **Li-li learned swimming yesterday, but she still could not swim.*

    * Li-li killed Da-wei, but Da-wei wasn't dead.

(28) a. *Li-li   zuo-tian   xue   le   you-yong, ke-shi   mei   xue   hui.*
      Li-li   yesterday learn PAST swimming, but   not   learn can
      'Li-li   learned   swimming   yesterday,   but   she   did   not   learn   it successfully.'

    b. *Li-li   sha   le   Da-wei   san   ci,   ke-shi Da-wei mei si.*
      Li-li   kill   PAST Da-wei   three times, but   Da-wei not die
      'Li-li killed Da-wei for three times, but Da-wei did not die at last.'

Tai (1984) thinks this situation proves that verbs like *xue* ('learn') and *sha* ('kill') are not inherent accomplishment verbs like English. Thus, Tai (1984) proposes that Chinese verbs just have three types that are state verb, activity verb, and result verb (part of achievement verb).

Likewise, Sybesma (1997), Tang (1998), and Lin (2004) agree that Chinese does not have verbs expressing accomplishments. Sybesma (1997)

and Lin (2004) even contend that activity and state are the only two lexical aspect categories in Chinese. As Shen (2004) suggests, all Chinese verbs may take on any type of eventive nature and, because Chinese verbs do not inherently have a telic nature, a specific eventive use needs to be determined by the whole sentence.

Chapter 8

The Middle Construction

8.1 Implicitness and genericity

The middle construction is used to express scenes where a causer is thought to exist, but it is grammatically de-emphasized because the external causer is either non-specific or relatively unimportant from the speaker's perspective (Kemmer 1993). In middle sentences, we cannot find explicit agents, and patients pretend to take action by themselves, as illustrated by the sentence *The wall paints easily*. There are no visible agents, which means that behind this pretended language form, we can still understand that there must be an implicit agent who is the real initiator, such as somebody who paints the wall.

Iwata (1999) emphasizes the importance of an implicit agent and proposes that this characteristic should be considered the defining property of the middle construction. The relative unimportance of the agent is attributed to the specificity and relative importance of the salient non-agent participant.

Middle sentences are generic, which means that they do not describe the occurrence of particular events. They are different from episodic sentences, which describe particular events. Generic sentences convey generalizations based on or abstracted away from particular entities and states of affairs. Such generalizations should be non-accidental (Lekakou 2005). Since generic sentences are not supposed to report the occurrence of a particular event as

episodic sentences do, generic sentences should first conclude and then predict. For example,

(1)*This magazine reads easily.*   (WebCorp) [44]

(2) *The dorm sleeps 6 people.*   (WebCorp)[45]

The generalization in (1) is used to report on how people generally interact with a given magazine. It can be paraphrased as 'this magazine can be read easily by anyone who tries', which shows the genericity of events. In (2), it conveys the idea that the room can accept six people whoever the people may be, without specific information.

The genericity further allows hearers to assume that this is the kind of interaction they can expect in the future. In this connection, Fagan (1988: 200) argues that "middles are not used to report events, but to attribute a specific property to some object". The genericity of middle constructions means that the agent can be interpreted as people in general. Thus, the example above indicates that people in general can read the magazine easily.

8.2 Change of state in the middle construction

Traditionally, a change of state refers to the change in physical shape or appearance. However, based on the experiential metaphor A CHANGE OF STATE IS A CHANGE OF LOCATION (Lakoff 1993), the notion of change of state could be extended to include changes of location. This metaphor is grounded in the observation that changing to a new location can affect the

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[44] http://self.gutenberg.org/articles/Intransitive_verb. Accessed on July 2, 2018.

[45] https://www.airbnb.co.uk/rooms/11920508. Accessed on July 2, 2018.

conditions for the people or objects involved (e.g., from hot in the sun to cool in the shade).

Some middle expressions express a direct and explicit change of state (*the window breaks easily*), while some middle sentences express the change of state in an indirect or implicit way. Specifically, the middle construction can denote changes of the state or condition associated with an implicit object, as in the case of the sentence *This washing powder washes whiter*. The washing powder itself does not undergo a change of state, but the object associated with the washing powder, such as clothes, does change its state (to become whiter). This understanding of the notion of change of state also covers psychological and/or emotional changes, as in *Peter terrifies easily*.

All of the middle expressions mentioned above are included within the scope of this study. Changes of state in middle constructions are found in five categories, which are explained in the following.

(a) Partial change of the subject

Partial change means that some basic change, such as a change of color or shape, has occurred to the subject, but the subject still exists as a whole. For example:

(3) a. *The ice cream melts easily.*   (WebCorp)[46]

    b. *Fresh flowers wilt quickly.*   (WebCorp)[47]

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[46] https://www.yelp.com/biz/gofer-ice-cream-stamford. Accessed on July 3, 2018.
[47] https://books.google.es/books?isbn=131719103X. Accessed on July 3, 2018.

c. *Indian pipe is completely white and blackens easily when bruised.*

(Google Books)[48]

In the examples above, the subject undergoes some partial change, but the subject still remains as an entity and we can recognize its existence. In (3a) and (3b), the subjects undergo a change in shape, and (3c) involves a change in color.

(b) Complete change of the subject

Typical examples for this type are *break* verbs. The essential property associated with these verbs is a change in material integrity. Consider the following sentences:

(4) a. *Bombs explode easily.*   (Tenny 1987: 100)

b. *Raisa's curtain tears down easily in my grip.*   (Google Books)[49]

c. **A sandy castle destroys easily.*

Example (4a) and (4b) denote different ways of producing a complete change in the subject (which is but the semantic object). In (4a), the change is more sudden and violent than in (4b). However, (4c) is impossible in English and reveals a different situation. *Destroy* is not a change-of-state verb. It indicates cessation of existence (Ruiz de Mendoza and Mairal 2008: 388). That is why we cannot use *destroy* in the inchoative or middle constructions. Despite sharing certain similarities in content, *break* verbs are different from *destroy* verbs in terms of their event structure, since *destroy* denotes not a change of state but a cessation of existence.

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[48] https://books.google.es/books?isbn=1583947760. Accessed on July 3, 2018.

[49] https://books.google.es/books?isbn=1596438932. Accessed on July 3, 2018.

In contrast to example (3), the subjects in example (4) undergo a complete change. In other words, the entity changes completely from one entity to another, as the essential properties associated with these subjects have changed completely. The bombs, the sandy castle, and the building are no longer what they were before.

(c) Change of location in physical space

In contrast to the examples in example (3) and example (4), the subjects in the examples in (5) undergo a change of location in terms of physical or mental space. For example:

    (5) a. *The paint rolls easily.*   (WebCorp)[50]

       b. *The car drives fast.*   (Google Books)[51]

       c. *The bike pulls easily.*   (WebCorp)[52]

Examples (5a) - (5c) represent a change of location in physical space. Let us take (5b) to illustrate the change of location in the physical space. Based on common sense, we can interpret the word *move* as 'bringing something from one place to another place or changing the location'. If we drive the car, the car will move and change location.

(d) Implicit change caused by instrument subjects

There is another situation in which an instrument serves as a subject in the middle construction (Medina 2006, 2013). For example:

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[50] https://www.dictionary.com/browse/rolled. Accessed on July 29, 2018.

[51] https://books.google.es/books?isbn=3110278286. Accessed on July 29, 2018.

[52] https://www.motorcyclenews.com/bike-reviews/honda/cbf600/2008. Accessed on July 29, 2018.

(6) a. *A sharp knife cuts easily.*   (Google Books)[53]

    b. *This brand of hand soap washes well.* (WebCorp)[54]

In the examples above, the instrument itself does not undergo any change of state. However, it leads to the change of state of a given implicit patient, such as meat, which is cut by the knife in (6a), or clean hands washed with the soap in (6b). According to Sakamoto (2001), in the instrument-subject middle construction, a certain property of instruments denoted by the subject determines how the action could be carried out.

(e) Resultative middles

Some scholars (Rappaport Hovav and Levin 1998; Harley 2005; Shohei 2014) claim that verbs such as *wipe* and *hammer*, which do not directly denote a change of state by themselves, cannot be used independently in a middle construction since there is no change of state. For example,

    (8) a. **This table wipes easily.*   (Kageyama 1996: 243)

    b.**This metal hammers easily.*   (Harley 2001:3)

They further claim that if a resultative complement is added in these sentences, they can become middle constructions, since, when this happens, the resultative part conveys a change of state. This type of middle construction can be called a resultative middle construction, whose pattern is NP+V+ Complement+(evaluative) AP. For example:

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[53] https://books.google.es/books?id=0QfnOnqTyZgC. Accessed on July 29, 2018.
[54] https://www.amazon.it/Watkins-Natural-Home-Care-Lavender/dp/B00DX5IN2Q. Accessed on July 29, 2018.

(9) a. *This table wipes clean easily.*

b. *This metal pounds flat easily.*

(Hoekstra and Sybesma 2004: 341)

In example (9a), *wipe* offers no clear information about change during this action. However, if a suitable adjective, such as *clean*, is added to this process to denote a change in the state of the table from dirty to clean, this will be accepted as a middle construction. In (9b), it is necessary to add *flat* to specify the change of state under the action of hammering, making it a resultative middle construction.

Moreover, the resultative complement can also be an optional part that provides more information. For example,

(10) a. *Those cookies break easily.*

b. *Those cookies break into pieces easily.*

(Carrier and Randall 1992:191)

Example (10a) is acceptable without any resultative complement because it is a basic middle construction (the verb *break*, unlike *wipe* and *hammer*, contains an inherent resultative component). However, extra information can be added to it, expressing the specific resulting state, as shown in (10b).

Although these claims have the strength of relating the middle construction to telicity in verbs, they are not unproblematic. First, they would not be able to account for why we can say *Peter terrifies easily* or *This book sells well*, which are not inherently telic (we can terrify Peter over and over again, and the book can sell well over an unspecified period of time). Since these examples are not telic, we would have to add a resultative element to

them to make them telic, which is not possible: *Peter terrifies into tears easily* and **This book sells out we*ll. Second, there are attested examples of non-telic uses of the middle construction with verbs such as *hammer* and *wipe*.

(11) *I chose copper. … It hammers easily.*   (WebCorp)[55]

(12) *I've found that the board wipes easily both with the supplied pens and also other whiteboard markers.*   (WebCorp)[56]

Thus, the examples provided by the authors mentioned above probably only express tendencies rather can be overridden when the context calls for a focus on the evaluation of the process rather than the result. This tendency is consonant with an analysis in terms of the high-level metonymies PROCESS FOR ACTION FOR RESULT, where the process or result subdomains may be highlighted or not for communicative purposes, as proposed by Ruiz de Mendoza and Peña (2008).

(f) Changes of the conditions associated with an object

There are some cases where the middle sentences express a change that is not a change of state of the object, but a change of the conditions associated with the object (e.g., the change of possession). For instance,

(13) a. *The book sells well.*

b. *The house rents quickly every winter.*

c. *The bike lends easily.*

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[55] http://silvervinejewelry.blogspot.com. Accessed on October 5, 2018. Accessed on October 5, 2018.

[56] https://www.amazon.co.uk/slp/weekly-planner-whiteboard/3hfcoedqf5dg6df. Accessed on October 5, 2018.

Sell in (13a) involves a transaction of possession between seller and buyer, and the book also changes location from the seller to the buyer because of the change in the ownership of the commodity. In (13b), the usage rights of the house are transferred from the landlord to the renter. Sentence (13c) implies that someone (e.g. the speaker) has lent the bike to someone else, showing a change of user. Thus, the sentences in (13) display a change of conditions associated with an object, though the subjects are not affected physically.

There are some other cases where the location becomes the subject of a middle construction. For example,

(14) *Sox Harrison Stadium seats 6,000 people in its two grandstands.*

(WebCorp)[57]

In contrast with the instrument-subject configuration, which has been discussed before, the location here serves as a venue for the occurrence of a potential event (e.g., sleeping, sitting) and forms the location-subject middle construction. There is no change of state involved but only a generic change of conditions grounded in the capability of the location to be used to carry out a certain action.

8.3 The middle construction in L2

8.3.1 Patient-subject responsibility

The subject of the middle construction is responsible for or somehow causes the state of affairs denoted by the middle predicate to hold true. As noted by

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[57] https://gofightingscots.com/sports/2012/7/17/GEN_0717120503.aspx?id=50. Accessed on October 7, 2018.

Van Oosten (1986), this responsibility component is crucial to the middle construction. In terms of what kinds of participant can be chosen as the middle subjects, the following requirement should be met:

(The properties of) X cause the V-ing (of X) to be Adj.

That is, some inherent or designing properties of the subject in the middle construction cause the event to occur in the manner denoted by the modifier. The properties of X can be viewed as the causer, and the V-ing of X is the causee. The caused event would not take place without the causer. For example:

(15) a. *This novel translates easily.*

b. *Bureaucrats bribe easily.*

In (15a), an inherent property of the novel (X) causes the translating of the novel (V-ing) to be easy (Adj.); this could mean, for example, that the language and structure are easy for translators. As to (15b), there is an inherent property of bureaucrats such that this property makes it easy to bribe them; for example, they could be greedy and corrupt and prone to making use of their power for their own best interest.

This responsibility of the subject captures the essence of the middle construction. The central property of the middle construction is the irrelevance of the agent, which therefore gives way for the patient – which otherwise would be less salient – to stand out prominently and be regarded as somehow responsible for the coming about of the state of affairs denoted by the expression.

According to Davidse and Heyvaert (2003), the middle construction has a 'let' meaning, equivalent to *X let the V-ing (of X)*. This observation is consistent with the claim that middles are causative in nature. Thus, the sentence *This novel sells easily* suggests that there is something in the nature of the novel that either allows or leads people to buy it.

8.3.2 Roles played by the modifier

The modifier is an indispensable part of the middle construction. In English, it normally occurs at the end of a sentence. It makes the formation of middles different from other constructions, such as the inchoative (e.g., *The window broke*) or the causative construction (e.g., *Peter broke the window*).

The modifier plays two types of roles. One is to evaluate the event (e.g., *The window breaks easily*). In the other type, the modifier is used to clarify the capacity of the subject; for example, in the sentence *This dorm sleeps four people*, the NP *four people* shows the capacity of the dorm. Both roles are related to the central property ascribed to the subject, i.e., the ability to make something happen. For example, we can paraphrase *The window breaks easily* as 'The window can be broken easily' and *This dorm sleeps five people* as or 'Four people can sleep in this dorm'. The adjunct can modify the process (e.g., *This book translates easily*) or the result of an event (*The house paints beautifully*).

According to Dixon (2005), the modifier is restricted to three categories: speed (e.g., *quickly*, *slowly*, *fast*), difficulty (e.g., *easily*, *with difficulty*), and value (e.g., *well*, *beautifully*, *badly*). Rapoport (1999) puts forward another type of modifier in the middle construction used to express how things are habitually done, as in *This newspaper reads daily*. Although sentences such as this share some syntactic features with other middles, they do not express the

inherent properties of the subject, and no responsibility of the subject for the outcome of the act is implied. In other words, they do not express canonical middle semantics. For this reason, they can be restated as passives without any significant change in meaning. The most conspicuous difference between *This newspaper reads daily* and *This newspaper is read daily* is the greater generic character of the former. This generic character arises from the fact that it completely precludes any possibility of making the agent explicit (**This newspaper reads daily by a lot people*), while the passive construction, by allowing for the expression of the agent, can restrict its denotational range, as in *This newspaper is read daily by decision-makers in large corporations*. Since this type of middle does not capture all the inherent properties of this construction, it will be excluded from the contrastive analysis of the middle construction in this thesis.

8.4 The middle construction in L1

In general, middle sentences are characterized as generic sentences (Condoravdi 1989; Fagan 1992). Therefore, it is argued that the middle construction is non-eventive. To improve pedagogical implementation for Chinese EFL learners, we should examine middle constructions in their first language. Chinese middle expressions demonstrate such features. Take a typical middle sentence as an example:

(16) *Zhe-liang che   kai   qi-lai   hen   rong-yi.*
     This   car   drive   QI-LAI   very   easy
     'The car drives easily.'

It is natural to interpret (10) as 'This car has some intrinsic properties that make the driving action or event not difficult/easy for any driver'. However, this interpretation cannot be predicted from its compositional structure, consisting

of the Chinese lexical item for *drive* plus the marker *qi-lai* ('starts to drive'), which carries an ingressive aspect, and *rong-yi* ('easy'), which expresses the extent of the effort made to carry out the action of driving. It is obvious that the inherent semantics of the lexical items such as *kai* ('drive') and *rong-yi* ('easy') in this middle sentence do not have the characteristics that will help to construe the non-eventive meaning of this sentence. In other words, the meaning of the Chinese middle pattern cannot be strictly predictable from the meaning of the main verb phrase. Reference to the enabling component is supplied by the construction. In addition, syntactically, the middle pattern takes the form *subject + predicate*, but semantically, it is patient-subject + predicate.

Qi-lai consists of two morphemes, the literal translation of which is *qi* ('up') and *lai* ('come'). By combining *qi* and *lai* together, *qi-lai* can indicate a rising state of something. It can represent a continuing trend towards a state or a change of state. In the following examples, *qi-lai* displays various syntactic and semantic properties. *Qi-lai* can be a verb, a directional adverb or an ingressive morpheme. The use of the verb is crucial in the Chinese middle construction, as will be evident in section 9.6.

(a) *Qi-lai* as a verb

(17) Ni, *qi-lai!*

You, rise

'You, stand up!'

(18) *Qi-lai!   Bu   yuan   zuo   nu-li   de   ren-men!*   (BCC)

Arise!   No   like   become   slave 's   people!

'Arise! All those who don't want to be slaves!'

In (17), *qi-lai* acts as an intransitive compound verb in the imperative sentence. (18) shows *qilai* in a metaphorical use: rise to revolt.

(b) *Qi-lai* as a directional adverb

(19) a. *Lan-zi   hen qing, wo ke-yi   hen rong-yi-de   na   qi-lai.*   (BCC)

    Basket very light, I can   very   easily   pick   up

    'The basket is very light and I can pick it up easily.'

    b. *Tai-si zai guan-cai li zuo qi-lai.*   (BCC)

    Tai-si inside coffin sit up

    'Tess sat up in the coffin.'

(c) *Qi-lai* as an ingressive morpheme

(20) a. *Ta   ku   qi-lai   le.*   (BCC)

    She cry   QI-LAI   PAST

    'She started crying.'

    b. *Tai-yang   jian-jian   re   qi-lai.*   (BCC)

    Sun   gradually   hot   QILAI

    'The sun became hot gradually.'

From the examples above, we see clearly that the verb or the adjective receives an ingressive reading when qualified by *qi-lai*. When the verb is transitive, the direct object can only appear between *qi* and *lai*, be it directional or inchoative.

8.5 Cross-linguistic comparisons

According to their syntactic form, such as NP+ V + *qi-lai* + modifier (Chinese) and NP + V + modifier (English), both Chinese and English middle constructions have three components, namely, a nominal phrase, a middle verb, and a modifier. This section will examine the similarities and differences between the English and Chinese middle constructions through a constituent-by-constituent comparison.

8.5.1 Noun phrase

The subjects of the English and Chinese middle constructions are nouns or noun phrases. The nominal phrase is placed at the beginning of the sentence so that it can receive most of the attention. It is the focus of the conversation and the theme and the highlight of the sentence.

Some middle sentences in English have equivalents in Chinese; for example, *The book reads easily* has *Zhe-ben shu du qi-lai rong-yi* ('The book reads easily') as its counterpart in Chinese. However, there are some Chinese middle sentences that do not have an exact middle-construction equivalent in English. For example, *shi-tang chi qilai hen fang-bian* ('It is convenient to eat in the canteen') is a location-subject type of Chinese middle sentence whose literal English rendering *The canteen eats conveniently* is impossible. The following examples of middle constructions illustrate other non-equivalences:

(21) a. *Da   bei   he   qi-lai   hao   shuang.*

      Big   cup   drink   QI-LAI   very   pleasant

      'It is very pleasant to drink with the big cup.'

   b. * *The big cup drinks pleasantly.*

c. *Duan-xin   lian-xi   qi-lai   hen   fang-bian.*

Message   contact   QI-LAI   very   convenient

'It is very convenient to contact by message.'

d. **Short message contacts conveniently.*

Although both Englisch and Chinese allow instruments to be the subjects of middle sentences, (21b) and (21d) are not acceptable in English. In (21b), *The big cup drinks pleasantly* is not possible because in English, the cup is seen not as an instrument but a container from where people drink (*He drank from my cup*). Because the cup is seen as an instrument for drinking in Chinese, it follows that it can appear in the instrument-subject construction. This is possible in English only if the big cup is used as an instrument for digging by replacing a true digging instrument, such as a shovel or a spade.

A similar reasoning applies to (21d). The sentence *Short message contacts conveniently* is possible in Chinese because Chinese speakers envisage text messages as an instrument of communicative interaction. However, English speakers see text messages as containers of ideas, as evidenced by expressions such as *She put everything into a message* and *The text message contained a couple of swear words.*

There are other cases where a noun can be the subject in the Chinese middle construction but not in the English one. Based on the types of subjects, we divide the Chinese middle construction into five groups: patient subject, instrument subject, location subject, means subject, and time-space subject. The following table shows examples for each type.

Table 8.1 Types of middle construction in L2 and L1

No.	Types	Examples
1	Patient subject	E: *The car drives easily.* C: *Zhe-liang che kai qi-lai hen rong-yi.* 　This　　　car drive QI-LAI very easy 'This car drives easily.'
2	Instrument subject	E: *The knife cuts sharply.* C: *Zhe ba dao qie qi-lai hen feng-li.* 　This　　knife cut QI-LAI very sharp 'This knife cuts sharply.'
3	Location subject	E: *The house lives comfortably.* C: Ni-ning-de tian-long　fei-chang　nan　　zou. 　Muddy　field path　very　　difficult walk 'The muddy path through fields walks difficultly.'
4	Manner subject	E: Null C: *Huan-deng-pian yan-shi qi-lai hen zhi-guan.* 　PowerPoint　present QI-LAI very intuitive 'It is intuitive to present by means of PowerPoint.'
5	Time-space subject	E: Null C: *Xue tian kai qi-lai wei-xian.* 　Snowy day drive QI-LAI dangerous 'It is dangerous to drive on a snowy day.'

Type 1, patient-subject, is a typical middle-construction in both English and Chinese. It should be noted that we can sometimes have a covert patient, as is the case of the following metonymy-based examples:

(22) *The Russian style sold well then, and remains popular today in both Russia and abroad.*　(WebCorp)[58]

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[58]https://static1.squarespace.com/static/58dbc83f893fc01cfcc43356/t/59e0db2732601ee4330 35472/1507908395410/aal2010-russian_imperial_porcelain.pdf. Accessed on September 14, 2018.

(23) *Great quality always sells well.*   (WebCorp)[59]

In example (22), *Russian style* stands for the objects (e.g., jars, cups, silverware) fashioned following a Russian style. In (23), it is not great quality itself, i.e., the attribute, but the objects with that attribute that sell well. Therefore, (22) and (23) are to be listed as cases of the patient-subject type.

On some occasions, we may have a covert location, as in (24):

(24) *An organized online store sells better due to the content being rendered in a neat way.*   (WebCorp)[60]

In (24), the online store is a virtual space for sales. This sentence is but a case of the location-subject middle construction.

Types 2-5 are called *adjunct middles* by He (2007). An adjunct is defined by Radford (1997: 491) as "an optional constituent typically used to specify e.g. the time, location or manner in which an event takes place". We previously noted that the instrument-subject type (type 2) is more flexible in Chinese than in English. This also holds for the manner and time-space types (types 4 and 5) but not for the location type (type 3), which works in the same way in both languages.

In type 4, the PowerPoint presentation is treated in Chinese as a means of presenting information. It is not different, in this respect, from English. However, English does not use this type of middle construction. We can find *PowerPoint* as the subject of some middle configurations but only when this frame element takes on a patient or an instrumental role: *This PowerPoint reads easily.* Here,

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[59]http://gpnmag.com/article/capturing-spring-information. Accessed on September 14, 2018.
[60]https://www.thedotstore.com/what-the-woocommerce-themes-lack-nowadays-12-features. Accessed on September 14, 2018.

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PowerPoint is the patient or the instrument, as evidenced by the following paraphrases: 'It is easy to read this PowerPoint' (patient) and 'It is easy to read with the help of this PowerPoint' (instrument). It must be noted that several roles may converge into a single frame element. This has long been known in thematic role or semantic function analysis. For example, in the sentence *The sergeant marched the recruits*, the frame element *recruits* is both the patient of causal part of the frame and the actor of marching (Halliday and Matthiessen 2004). In Cognitive Linguistics, it has been further observed that one same frame element may be seen from two different perspectives that conflate on the basis of experience. This applies to instrumental *with*, which originates in previous uses of *with* to indicate company. It is not difficult to shift from the company sense of *with* to the instrumental sense in examples such as *Peter completed the task with John*. John can be seen both as the person who accompanied Peter while completing the task and as (at least partially) instrumental in doing so. In essence, this analytical situation is not different from the one described above for Chinese where the PowerPoint can be both an instrument and a means of performing the action. When assigned the subject status, through the middle pattern, the PowerPoint is also assigned an enabling role, which is typical of middle constructions: the meaning implication is that the PowerPoint allows us to have a good presentation.

Finally, type 5 is another Chinese use without a direct counterpart in English, where a sentence such as *A snowy day drives dangerous* is not possible. The expression *snowy day* here affords access to the (weather) conditions in which performing the action of driving is considered dangerous. Through conflation, the snowy day can be seen not only as the context in which something can happen but also as a probable cause of accidents. Endowing the context with this additional role is what licenses the use of the middle construction. In contrast to the PowerPoint example above, where the

PowerPoint is endowed with an enabling role by the middle construction, in the snowy-day example, this temporal frame element is allotted its causal role through conflation before being built into the middle construction.

As noted from the discussion above, the subject in the Chinese middle construction is more flexible than in English. This is partly because Chinese can assign instrumental status to a greater variety of action-frame constituents and partly because Chinese, unlike English, can treat constituents other than instruments and locations (canonically expressed as clause adjuncts) as enabling or causal factors. English can do so only with patients, instruments, and locations.

8.5.2 Verb phrase

Both English and Chinese middle constructions are active in form. However, one of the most notable differences is that in the Chinese middle construction, the verbal constituent can be a verbal phrase in the form of a middle verb with a subordinate marker *qi-lai*, while an English middle contains only one verb, rather than a verbal phrase.

In terms of the restrictions for middle verbs, one similarity between English and Chinese is that the action described by the verb must be under the control of the active participant, which endows it with a certain language-specific logic. The following four examples illustrate these restrictions.

(25) a. *Paper tears easily.*

b. **Paper writes comfortably.*

c. *Zhe   zhong   zhi   si   qi-lai   hen   rong yi.*

This   kind   paper   tear QI-LAI very   easy

'This kind of paper tears easily.'

d. *Zhe   zhong   zhi   xie   qi-lai   hen   shu-fu.*

This   kind   paper   write QI-LAI very   comfortable

'This kind of paper writes comfortably.'

Both of the actions in examples (25a) and (25b) are under the control of the active participant (a person). The difference lies in the roles of the NP *paper*. *Paper* denotes the patient of *tear* in (25a) in a way that is similar to the role of *glass* in *Glass breaks easily*. However, *paper* in (25b) is the location where writing takes place; for   example,   we   can   say   *Peter is looking for a paper to write on*. (25b) is ungrammatical, although *paper* is closely connected with the action of writing. *Paper* cannot serve as the patient or instrument of the action. Consider now:

(26) a. *This problem solves easily.*

b. **This problem realizes easily.*

c. *Zhe-ge wen-ti jie-jue qi-lai rong yi.*
This problem solve QILAI easy
'This problem solves easily.'

d. ** Zhe-ge wen-ti yi-shi qi-lai rong-yi.*
This problem realize QILAI easy
'This problem realizes easily.'

The actions in examples (26c), solve the problem, and (26d), realize the problem, are logical, but in example (26d), *realize the problem easily* seems

out of the control of the active participant because realizing something is an unconscious process. Cao (2004) calls this kind of control *volitional control*, and he argues that to form a middle construction, a verb must be volitional, which means the action that a middle verb expresses should be under the volitional control of the active participant (Wang and Wu 2018). However, the analysis of examples (26a) to (26d) proves that the actions *tear* and *write* are under the volitional control of the active participant, but example (26b) is illogical in its language use. Thus, it must be postulated that the actions described by English and Chinese middle verbs must be under the control of active participants, while abiding by the logic of the language in question.

8.5.3 Modifier

A modifier is an indispensable part of both English and Chinese middle constructions. In typical patterns, the position of a modifier is at the end of a sentence: NP + VP + Modifier. In addition to typical structures, there are atypical middle constructions in English and Chinese. The difference between typical and atypical middle constructions lies in the modifiers. The typical parts of speech that serve as modifiers are adverbs in English and adjectives in Chinese.

As for the position of modifiers, there are two in which Chinese modifiers can be placed, while there is only one for English modifiers. The following examples illustrate the difference:

(27) a. *Greek translates easily.*

b. * *Greek easily translates.*

c. *Xi-la-yu hen rong-yi fan-yi.*

Greek very easy translate

'Greek translates easily.'

d. *Xi-la-yu fan-yi qi-lai hen rong-yi.*

Greek translate QILAI very easy

'Greek translates easily.'

The first two examples show that the position of modifiers in English middle constructions is fixed, and modifiers of English middle constructions can occur only at the end of sentences. Although the meaning in (27b) is understandable, the modifier position is not allowed in the middle construction. By contrast, (27c) and (27d) show that modifiers in Chinese middles can be placed before the VP or at the end, with the help of linguistic markers, such as *qi-lai*. In general, (27c) and (27d) convey the same meaning, but (27d) is more colloquial and common.

Regarding the parts of speech that can serve as modifiers, the examples show that typical English middle constructions use adverbs as modifiers, while typical Chinese middle constructions use adjectives. Apart from these, there are other components that can serve as modifiers in English middle constructions, such as adverbial phrases or prepositional phrases (with or without adverbs). The following examples illustrate the different components that can serve as modifiers in English:

Those books sell very well.   (Adverbial phrase)

This book translates with great difficulty.   (PP without adverb)

Woolen clothes wash by hand only.   (PP with an adverb)

In contrast, modifiers in Chinese middle constructions are adjectives only. However, it needs to be emphasized that most modifiers in Chinese are combinations of adjectives and the adverbs modifying them (e.g., *very easy*, *very good*). According to the iconicity principle of quantity, the longer a language unit is, the more complicated the information contained in this language unit tends to be (Tseng 2017). Compared with unmodified adjectives, a modified adjective such as *very easy* emphasizes the degree of ease, providing a more specific meaning to the sentence.

9.6 Licensing factors

9.6.1 Metonymy

Both English and Chinese middle constructions are affected by the grammatical metonymy. The typical one is the high-level metonymic chain PROCESS FOR ACTION FOR (ASSESSED) RESULT. According to Ruiz de Mendoza and Mairal (2007), there are two basic exploitations in this double metonymy. On the one hand, a special focus lies in the process, which is the initial source domain. On the other hand, the final target domain, the result, is especially highlighted. ACTION is a matrix domain, and PROCESS and RESULT are sub-domains at the same level. The mapping is from the initial sub-domain to the matrix domain and then to the resultant sub-domain. The working mechanism in the two languages is explained in the following.

(28) a. *The door opens easily.*

   b. *Men   hen   rong-yi   kai.*
   Door   very   easy   open
   'The door opens easily.'

In the sentences above, the patient *door* undergoes a change of state, from closed to open. The verb *open* shows how the opening action happens and shows that the result is open. The adjunct part *easily* evaluates the process; thus, the focal prominence falls on the process, as illustrated in Figure 1(a).
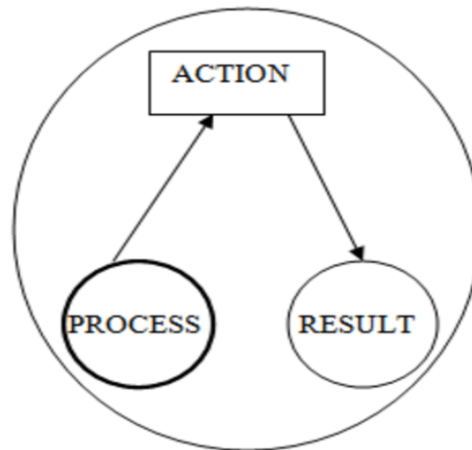
Figure 8.1(a) Focal prominence on PROCESS

In addition, the result part of the metonymic chain can be highlighted in some cases. For instance,

(29) a. *This washing powder washes whiter.*

    b. *Zhe zhong xi-yi-fen   xi   de   geng   bai.*
       This   kind   washing powder   wash   DE   more   white
       'This washing powder washes whiter.'

In (29), both agent and patient are left implicit. This sentence can be paraphrased as 'someone washes something with this washing powder with the result that something becomes whiter'. The instrument (*this washing powder*) serves as the subject, which is a prominent position, because the special property of the instrument is viewed as a key in the action. The ability

of the specific instrument makes the result possible. In other words, if someone washes the same thing with other types of detergent, the result may not be whiter. The double metonymy that works here is PROCESS FOR (INSTRUMENTAL) ACTION FOR (ASSESSED) RESULT. The adjunct part (*whiter*) evaluates the result rather than the process. Thus, the result is highlighted here. Figure 1(b) shows the double metonymy and the focal prominence.
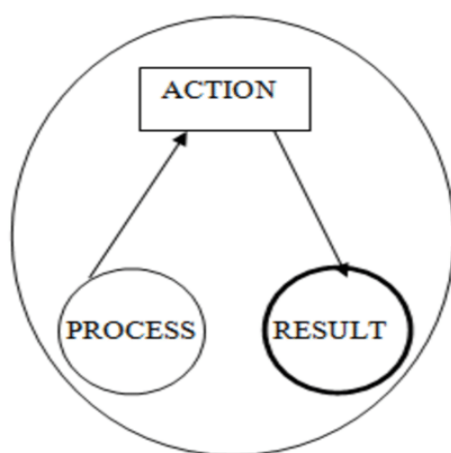
Figure 8.1(b) Focal prominence on RESULT

The two pairs of examples above show the similarity in English and Chinese, in which PROCESS FOR ACTION FOR RESULT works and the process or result can be highlighted with the help of the evaluative adjunct. In addition, when exploring the licensing factor in the Chinese linguistic marker *qi-lai*, we find there is a special metonymy that works in Chinese, not in English, and is discussed below.

Qi-lai in the Chinese middle construction is not an independent complement. In the evolution of V+ *qi-lai*, I find there is a metonymy from spatial to temporal. The original meaning of *qi-lai* is to move an object from bottom to top, occurring on the spatial plane. When it transitions onto temporal space, the movement from origin to destination implies that an action starts to

happen, including the starting time (origin) and ending time (destination). Therefore, we can interpret *Hai-zi ku qi-lai le* as meaning 'A child started to cry.' Similarly, *qi-lai* can be used in generic inchoatives and resultatives. All of them are motivated by the metonymy A CHANGE OF STATE IS A CHANGE OF LOCATION. In terms of its use in middle constructions, *qi-lai* transitions from the original spatial meaning to a temporal meaning in a specific event and then transitions into a generic meaning with a patient subject, illustrated in this pattern of a typical Chinese middle construction: NP + V + *qi-lai* + AP. This is illustrated in Figure 8.2 below.

Bottom	Top
Origin	Destination
Guan-zhong zhan qi-lai le. Audience stand QI-LAI PAST 'The audience stood up.'	

Starting Time	End Time	
Inchoative	Resultative	
Non-generic inchoative	Generic inchoative	Resultative
Hai-zi ku qi-lai le. Child cry QI-LAI PAST 'The child started to cry.'		*Ta ba xin shou qi-lai le.* He BA letter collect QI-LAI PAST 'He put the letter away.'

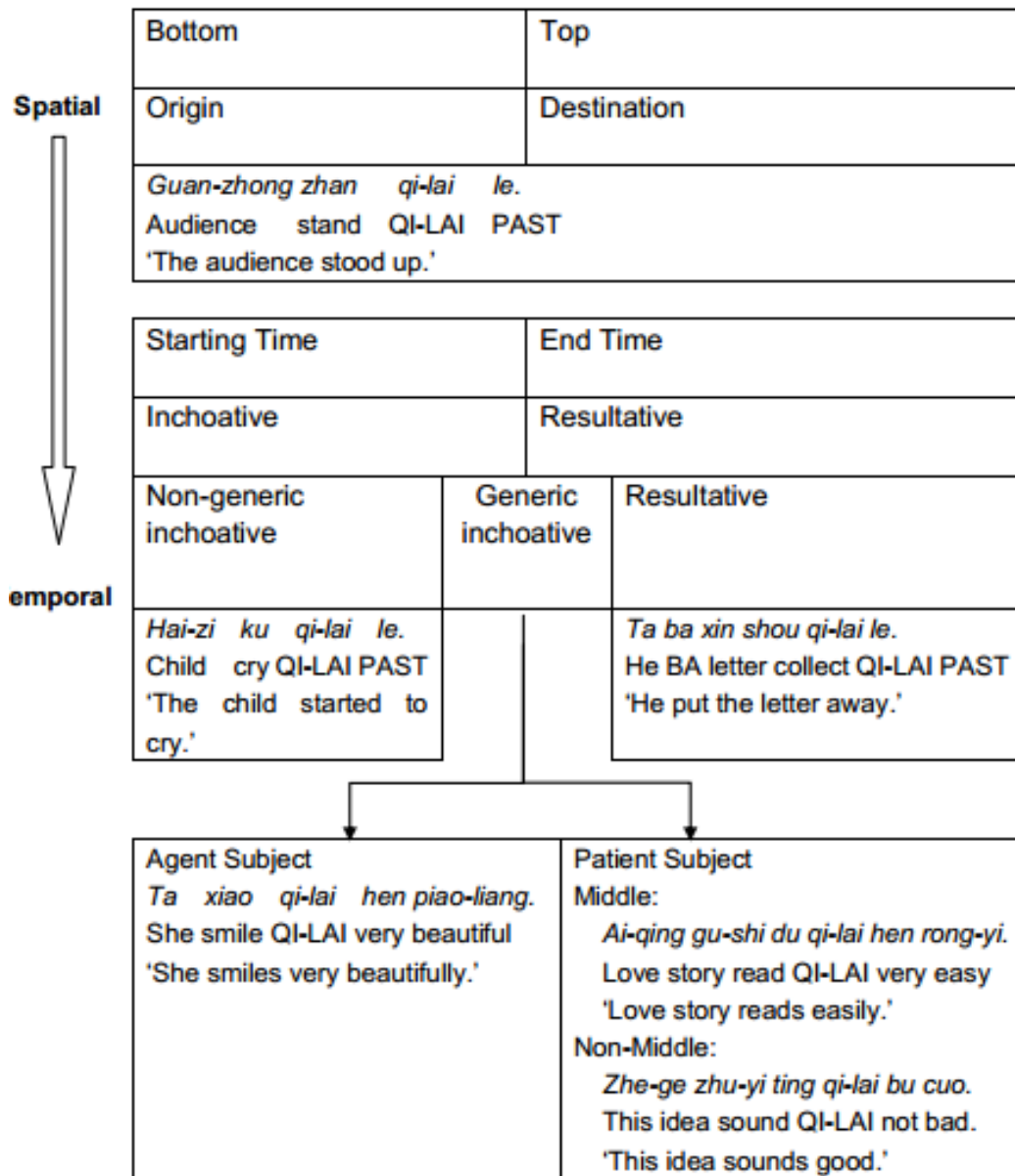| Agent Subject
Ta   xiao   qi-lai   hen piao-liang.
She smile QI-LAI very beautiful
'She smiles very beautifully.'
	Patient Subject
	Middle:
	   Ai-qing gu-shi du qi-lai hen rong-yi.
	   Love story read QI-LAI very easy
	   'Love story reads easily.'
	Non-Middle:
	   Zhe-ge zhu-yi ting qi-lai bu cuo.
	   This idea sound QI-LAI not bad.
	   'This idea sounds good.'

Spatial → emporal (Temporal)

Figure 8.2 Metonymy in 'NP + V + *qi-lai* + AP'

Figure 8.2 shows that the transition from spatial *qi-lai* to temporal *qi-lai* is not random. The categorization of different constructions is based on cognitive similarity. In addition, it shows that there is a convergent connection between the various constructions.

8.6.2 Constructional coercion

Because constructions have their independent meanings, there are situations where constructions and verbs come into conflict. For example, *read*, *sell*, and *write* are usually transitive verbs, while middle constructions require them to be intransitive. Constructional coercion (Michaelis 2003; Boas 2011; Goldberg 2006) explains why these verbs are transformed from transitive to intransitive in middle constructions.

The meaning of a middle construction has a top–down impact on the middle verb. It entails that the description of the property of the subject is motivated by the action of an implicit agent, the description of the attributes of a tool, or the capacity of a location. The middle verb is coerced by the meaning of the middle construction. For example:

(30) a. *This book reads smoothly.*

b. *This pen writes smoothly.*

c. *The house sleeps 20 people and has its own pool.*

d. *I know it is not a car, but these days safety sells.*

All the verbs in examples above are transitive verbs. Influenced by the whole meanings of the constructions, they change to an intransitive form and compact the meaning. In other words, this transformation shortens the form

and makes the meaning more concise and prominent. Example (10b) can be paraphrased as 'one can write words smoothly with this pen'. But the four-word sentence in (10b) is shorter in form and highlights the generic property of the pen. Similarly, the description of the capacity of the house and the importance of safety force this kind of change on the verbs. Figure 8.3 summarizes the process of constructional coercion.
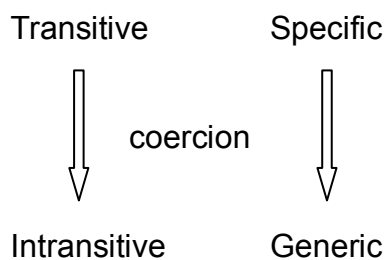
Transitive   Specific

coercion

Intransitive   Generic

Figure 8.3 Constructional coercion in the middle construction

In the case of Chinese middle verbs, the transformation from transitive to intransitive is realized by adding linguistic markers after them (e.g., *qi-lai*, *shang-qu*, *zhe*). These markers are similar to natural barriers that stop the original transitive verbs from being followed by an object. In other words, linguistic markers isolate the transitive verbs from their objects. This explains the position of linguistic markers in Chinese middles: NP + V + *qil-ai* /*shang-qu*/*zhe* + Modifier. For example:

(31) *Ni-de   shu   mai   de   hen   hao.*   (BCC)
    Your   book   sell   DE   very   good
    'Your book sells well.'

The example above shows the procedure of adding explicit pointers in Chinese, such as linguistic marker *de*. However, one of the motivations is the same as in English constructions, which is to depict the generic character of the subject.

This motivation underlies the transformation of the verb from transitive to intransitive.

Chapter 9

Pedagogical Implementations

9.1 Cognitive pedagogical grammar

Pedagogical grammar (PG) refers to the description of a language and it is aimed at the foreign language learners and teachers (Keck and Kim 2014). It promotes insights into foreign language acquisition. Consequently, its functions and uses are different from those of a theoretical grammar.

In general terms, a PG provides grammatical descriptions and it develops a pedagogical methodology and techniques, in the form of theory-driven teaching materials and activities, designed for foreign language students. According to Newby (2015:14), the main tasks of PG are the following:

> "1. setting grammatical objectives for a syllabus, school textbook, lesson or teaching sequence;
> 2. specifying grammar rules and making them available to learners – by explanation, illustration, exemplification, discovery of rules by students themselves etc.;
> 3. setting learning aims for specific exercise and activities – that is to say, determining what role a particular exercise might play in enhancing learning;
> 4. methodology-devising and evaluating grammar exercises and activities to be given to students;
> 5. testing grammatical competence and performance."

In recent years a number of scholars have applied cognitive linguistics to PG (Dirven 2001; Littlemore 2009; Tyler 2012; De Knop and De Rycker 2008). Cognitive Pedagogical Grammar (CPG) provides an overview of what

cognitive processes underlie the use of figurative language. Then that identification is used to build a comprehensive account of figurative meaning construction and comprehension. Finally, the account is used to systematize differences and similarities across languages (Ruiz de Mendoza and Agustín 2016; Barreras Gómez 2018, 2019).

Once the theoretical goals are achieved, some other steps are taken to reach the applied goals of a CPG. According to Ruiz de Mendoza and Agustín (2016), at the beginning, the use of cross-linguistic analysis helps to identify areas of language use that may pose problems for L2 learners. Second, the problem is studied in terms of an account of meaning construction, and then, appropriately tailored teaching strategies are provided. The last step is to devise a set of productive teaching strategies on the basis of principled (i.e., motivated) systematic contrast between L1 and L2. These techniques and strategies are part of a pedagogical implementation.

9.2 First language transfer in the second language acquisition

Cross-linguistic transfer refers to the carryover of people's previous knowledge or achievement to their subsequent learning (Brown 2000). A learner's first language (or mother tongue) can influence second language acquisition process in many respects, such as the phonological performance, morphological awareness, and grammar (Slabakova 2000; Cummins 2005; Sun-Alperin and Wang 2011; Ben-Yehudah et al. 2019). As initially stated by Lado (1957) and then restated by Larsen-Freeman (2001), second language learners tend to use their knowledge of the first language in order to learn the second language. If the background of first language interferes with the learning of a second language, then inter-lingual transfer occurs. This reflects

the influence that results from the similarities and differences between the target language and other languages that have previously been acquired.

Depending on the effect on the learning of the second language, first language transfer can be classified into negative and positive transfers. Negative transfer means that second language learners make mistakes because of the influence from their native language when learning the target language. The types of negative transfers include avoidance, errors and overproduction (Odlin 1989).

Fisrt-language transfer is not always negative because not all the background knowledge acquired from the first language is different from that in the second language (Ringbom 1992; Bu 2012; Jiang 2017). The influence is positive in some cases, particularly when the two languages have similarities at certain points. This kind of beneficial interference is named *positive transfer*, which enhances the learning speed and accuracy of another language (Wilkins 1972). In this situation, fewer errors occur (Amara 2015). In this way, the knowledge of the first language can facilitate the learning of the second language. When some part of the target language is different from the languages acquired previously, negative transfer will arise (Bardel and Falk 2007).

Therefore, the role of the first language transfer should be taken into account in devising a pedagogical grammar. If there are similarities between the mother language and the second language, we can make full use of positive transfer to enhance the accuracy and efficiency of the second language learning. In some cases, there can be aspects of the second language that are quite different from their counterparts in the first language,

and we should explain the differences clearly to lower the impact of negative transfer.

In the previous chapters, we have carried out a cross-linguistic analysis of English and Chinese change-of-state constructions and corresponding licensing factors from the cognitive-linguistic perspective. We have found similarities and differences between the two languages. This has a predictive potential of areas of special difficulty. Chinese EFL learners will tend to use expressions based on Chinese, where first language transfer occurs, in order to communicate in the second language.

9.3 Pedagogical implications

This section is devoted to developing usage-based pedagogical implications aimed at Chinese learners of English. Some explicit instruction will be provided to produce user-friendly versions of rules and principles specifically devised for Chinese native speakers. A large amount of usage-based examples of the way the rules and principles apply in L1 (Chinese) and L2 (English) will be given, so the similarities and differences can be adequately conveyed to L2 students. The goal is to make L2 students understand the cognitive processes underlying the construction of meaning and how they reveal patterns of knowledge organization that motivate linguistic form and its meaning potential. This understanding will therefore help the students to notice the differences between both languages and to produce a correct output in the L2. This pedagogical implementation includes three steps.

Step 1: Teach the cognitive motivation behind sentences that contain certain English constructions and compare them with Chinese.

Step 2: Illustrate the target construction with additional real examples. Let

students gain sufficient input to become acquainted with the English construction.

Step 3: Practice the construction in terms of accuracy and fluency (repeat Step 1 or 2 if necessary).

Lado (1957: 3) points out that the comparison between native and foreign languages is helpful for identifying the difficulties in foreign language learning. In other words, after a cross-linguistic analysis, we can predict or describe the patterns that may cause difficulties to students. In practice, language comparison, especially when it is designed to reveal the subtle differences, is seldom applied in the teaching process. As students of English can speak correct English without proper fluency, according to Oller and Ziahosseiny (1970), the greatest difficulty in second language learning is the acquisition of a native-like command of English.

Teachers who compare the native language and the foreign language can substantially improve their understanding of the students' challenges in their process of learning English. Comparative analysis offers them better analytical tools to improve their teaching methodology.

On the basis of the three-step procedure given above, section 9.5 to section 9.9 will provide some detailed examples of teaching materials and activities adopted by EFL teachers to implement relevant pedagogical implications.

Table 9.1 List of teaching samples

Caused-motion construction	*Peter broke an egg into the bowl.*
	The audience laughed the poor guy out of the room.
	Peter beat silence into Sam.

Resultative construction	Peter hammered the metal flat.
	Peter shouted himself hoarse.
	The ice cream froze solid.
Causative construction	Her faith melted that barrier.
	The knife frightened Mary.
	I have my house cleaned every week.
Inchoative construction	The ice cream melted.
	The vase broke.
	The door opened.
Middle construction	Ice cream melts quickly.
	Persil washes whiter.
	Peter terrifies easily.

9.4 The theoretical application in the pedagogical implementations

Based on the discussion above, the theoretical findings in Chapters 4-8 can be applied to the EFL classroom. The cross-linguistic analysis conducted in previous chapters efficiently helps EFL teachers to find the relatively difficult or easy parts in teaching English to Chinese students. For instance, when faced with the same causal event, English employs lexical causative sentences (e.g., *A redwood bucket faded my carpet*), while Chinese prefers periphrastic causatives (e.g., *A redwood bucket made my carpet faded*). It will cause Chinese EFL learners to frequently adopt periphrastic sentences which sound odd to the native English speaker. Therefore, our teachers should highlight the lexical causative construction in Step 1 and provide more significant examples in Step 2, while practice activities in Step 3 should pay more attention to the lexical causative patterns.

The English and Chinese inchoative constructions share many similarities. Such similarities facilitate the acquisition by Chinese EFL learners of the English inchoative uses. The three pedagogical steps should be more open and flexible, in order to allow Chinese students to make full use of self-study, imagination and creation in learning English as a foreign language. The cross-linguistic analysis between English and Chinese reveals the difficult or easy targets in the Chinese EFL classroom, which will not be the same for Spanish or other countries' EFL classrooms.

Besides cross-linguistic analysis, the motivating factors discussed in previous chapters (e.g. metonymy, iconicity, and typology) are beneficial for teachers to explain specific examples (especially the unusual and special cases). This can also help students to understand how to speak as native English speakers, instead of using traditional rote learning or other mechanical methods.

In the following case studies for each construction, when we design the pedagogical implementations, we will consider cross-linguistic similarities and differences together with the relevant licensing / restricting factors from a cognitive-linguistic perspective. For example, when teaching the English caused-motion sentence *Peter laughed Mary out of the room* to Chinese EFL learners, the bottlenecks are the explicit sub-event thinking pattern of Chinese and the negative influence of the Chinese linguistic marker *ba*, which are totally different from English. Considering this situation, we have designed two accuracy-developing activities in Step 3, which are translation and fill-in-the-gap exercises. And the other two practices will enhance the fluency of English language use in a communicative or contextualized situation.

In addition, our teaching discourse adopts a learner-friendly style. This means that the teachers' explanations will not involve very professional terms or obscure words which require a highly academic background. For example, we will explain the licensing factor of iconicity in this way:

The distance between words is like the distance between people. When you choose your seat in the classroom, you tend to sit closer to your good friends. The closer you are, the stronger the relationship between you two is. In a similar way, when the speaker changes the word order and puts two words closer, it means the speaker wants to emphasize the closer relationship or stronger relevance between them.

Therefore, the students will easily understand the cognitive motivations and their learning process will be improved. They will find it less difficult to do the activities proposed, as they pay attention to the differences between Chinese and English. They will achieve the final goal in the classroom, that is a better learning outcome. Moreover, when they are confronted with other new situations in the future, they will remember the similar examples which are deeply explored in the classroom. Learner-friendly teaching is intended to help them to improve self-study and learning output.

9.5 Pedagogical implementations for the English caused-motion construction

9.5.1 Case 1: Peter broke an egg into the bowl

Step 1

The basic meaning of *Peter broke an egg into the bowl* is that *Peter* causes the egg to change the from unbroken to broken, and to make the

substance in it get into the bowl. In other words, Peter causes the substance inside the egg to move into the bowl by breaking the eggshell first. This type of sentence is named the caused-motion construction. We ascribe the caused-motion interpretation to a construction which combines the verb and a preposition expressing direction yielding a particular, conventionalized interpretation. The verb is temporarily given an extra complement to express its full meaning.

How does Chinese express the meaning in *Peter broke an egg into the bowl*? The equivalent is:

彼得　把　一个　鸡蛋　打　进　碗　里　　了。 [18]
Peter   BA   an   egg   hit   enter bowl   inside   PAST
'Peter broke an egg into the bowl.'

The Chinese expression is much longer because it divides the caused-motion event into separate sub-events. However, both of them follow the temporal sequence. Chinese say the breaking event first and then the motion event (going into the bowl). The English sentence is condensed, since it combines the series of sub-events into one construction.

We suggest Chinese students should try to build an English thinking pattern in order to understand the sentence as a whole event, rather than by following sequential sub-events. The pictures below can help to build the pattern.

---

[18] The Chinese characters are used in this chapter in order to be in a real context of EFL classroom.

Recommend:

(To think about

a whole event)

Not recommend:

(To think about

two separate

events)

Step 2

In this step, students will be given twenty examples of the caused-motion construction in English. Based on the first step, Chinese students will further understand the cognitive mechanisms in similar English sentences.

(1)   Nola *broke* two eggs *inside* the mound of flour.

(2)   Daphne *shelled* the peas *onto* the plate.

(3)   The butcher *sliced* the salami *onto* the wax paper.

(4)   Joey *clumped* his potatoes *into* the middle of his plate.

(5)   Joey *grated* the cheese *onto* a serving plate.

(6)   She *folded* the money *into* the envelope.

(7)   The easiest method is to let any fallen leaves *decompose* directly

onto the bed.

(8) The doctor *froze* the wart *off* her finger.

(9) You need to *smash* the stone *from* the shelf.

(10) He looks like he is going to *smash* the guitar *onto* the tree.

(11) She *smashed* his racquet *onto* the ground.

(12) He goes over the britches with a heat gun to *melt* the wax *into* the cloth.

(13) A few times they've *melted* the rubber *onto* the tip of their finger.

(14) The heat *melted* the plastic *onto* the metal.

(15) You may want to *split* the photos *onto* the guests tables

(16) After we leveled the mountain of beef, we *split* the rest *onto* the 2 tortilla and enjoyed it.

(17) Once you *crack* the egg *onto* the sidewalk, the egg cools the sidewalk slightly.

(18) She *cracked* an egg *into* the pan.

(19) The crew *chipped* the branches *onto* the yard.

(20) Egyptian noblewomen *crushed* the petals *onto* their skin for cosmetic rejuvenation.

Step 3

(1) Isolated practice

Now we can try to make some sentences with the use of the English caused-motion construction. Please translate the Chinese sentences below into English.

a) 为什么先把鸡蛋打进碗里？[19]

b) 他把酒瓶摔到了地上。[20]

c) 山姆把纸撕了，扔进了垃圾桶。[21]

---

[19] Why first BA egg hit enter bowl inside (lit.)
[20] He BA wine bottle shatter arrive floor on(lit.)
[21] Sam BA paper shredded PAST, throw enter PAST garbage pail (lit.)

Possible answers:

a) Why crack the egg onto the bowl first?

b) He shattered the wine bottle onto the floor.

c) Sam shredded the papers into the garbage pail.

(2) Isolated practice

Multiple choices.

a) The doctor mistakenly _____ the needle inside the teeth.

   A. forgot   B. broke   C. took   D. picked

b) The workers would _____ the peppers through the sieve.

   A. halve   B. sell   C. fracture   D. smash

c) Robertson snapped the crossbow _____ the top of the mount.

   A. into   B. on   C. inside   D. across

Answers:

a) B. broke

b) D. smash

c) A. into

(3) Contextualized practice

Please read the following situations and tell us what you will say. The verb in brackets should be used in your answer.

a) Situation 1: You are ironing some clothes. You do not notice that the iron is too warm. Suddenly, you find there are melted plastic on the collar. You are upset to tell your families: sorry, _____.

b) Situation 2: Lola is a senior lady who lives alone. One day she fell down and cannot move by herself or call others. When she heard someone passes by her house, she wanted to make a big noise to let others notice her accident. Lola found a vase next to her and_____.

c) Situation 3: You are at a DIY course. The task is to make a soap which contains different colors. You do not know how to mix the color block with the soap, so you ask your teacher: _____.

Possible answers:

a) I have melted the plastic onto the collar by accident.

b) She smashed it onto the ground.

c) How to melt the color block into the soap?

(4) Contextualized practice

Imagine you are a chef. You are invited to a cooking class. What will you say to teach students to cook a dish? You can choose a type of dish whatever you like. For example, you can say: *It will be excellent to smash some feta into the avocado/ Grate half a block of cheese onto a pizza/ After you melt the butter into the batter, you should notice it beginning to fluff up.*

9.5.2 Case 2: Peter beat silence into Sam

Step 1

This example involves unreal motion. Silence is considered not only an object which can be moved, but also the result of the caused motion. To be specific, Peter is the person who transferred the silence to Sam (the

destination of motion) by way of beating him. The object of motion, the silence, does not map onto Sam but onto the new state which Sam is going to acquire by virtue of the state being figuratively caused to move into Sam. Sam acquired the property of silence, like possessing an object. The transformation is expressed as if it were caused motion.

Regarding Chinese, it does not use a caused-motion sentence to express the same meaning. The Chinese sentence is:

彼得　让　　山姆　　保持　沉默。

Peter　let　Sam　　keep　silence

'Peter beat silence into Sam.'

In this case, the Chinese sentence is very literal and explicit, sharply differing from its English counterpart. Chinese cannot view silence as an object. So, it cannot be transferred, let alone transferred by means of beating.

Step 2

In this step, students will be given some examples of the caused-motion construction in English. Based on the first step, Chinese students will further understand the working mechanisms in similar English sentences.

(1)   They would tell if he didn't *beat silence into* them.

(2)   The sound of a gunshot *drove madness into* the animals.

(3)   He wasn't invisible at all, but had *scared silence into* the both of us

(4)   Some enemy has *breathed this anxiety or sadness into* us.

(5)   I wish I could *cut all the sadness out of* me.

(6)   My mom *poured all her energy, love, loneliness, and sadness into* us.

(7) Dean had tried to fight them and in the end they had *beaten submission into* him.

(8) She *pushed patience into* her voice

(9) She is like a rock; I could not *beat sweetness into* her.

(10) It's useless. You cannot *beat patience into* her.

(11) Austerity is *beating recession into* Europe.

(12) I will *kiss the loneliness out of* me.

(13) Wine *pushes oblivion into* you.

(14) I walked in the garden, letting the sun *beat oblivion into* my eyes.

(15) Fate *brought patience into* his life.

(16) The heat had *beaten madness into* my brow.

(17) She was able to *bring diversity into* unity.

(18) She *slapped some common sense into* her friend.

(19) But something or someone had *beaten patience into* him at some stage of his life since then.

(20) You *split your entire depression into* him that night.

Step 3

(1) Isolated practice

Now we can try to make English sentences with the use of the caused-motion construction. Please translate the Chinese sentences below into English.

    a) 罗马人把屈服灌输进了凯尔特部落。[22]

    b) 我无法让自己记住这个教训。[23]

    c) 我想把通过拥抱把他的悲伤传给我。[24]

---

[22] Roman people BA submission pour enter PAST Celtic tribe (lit.).

[23] I no can let myself remember this lesson (lit.).

[24] I want to by hugging BA his sadness pass give me (lit.).

d) 音乐给她的心带来了平静。[25]

e) 冷静！他让你感到紧张了。[26]

Possible answers:

a) The Romans beat submission into the Celtic tribe.

b) I cannot beat this lesson into my head.

c) I wanted to hug his sadness into me.

d) The music brought calm into her heart.

e) Calm down! He pushed nervousness into you.

(2) Isolated practice

Choose one verb from the given table and use in appropriate form to finish the sentences below. Every word can only be used once.

pester	drive	instill	pump	beat

a) He _____ his sweetness into me.

b) His abuser had somehow _____silence into him.

c) My son was the only person that _____ madness into us.

d) I tried to _____patience into him.

e) My son had _____ the patience out of me.

Possible answers:

a) He pumped his sweetness into me

b) His abuser had somehow beat silence into him.

c) My son was the only person that drove madness into us.

d) I tried to instill patience into him.

e) My son had pestered the patience out of me.

---

[25] Music give her heart bring come PAST calm (lit.).

[26] Cool calm! He let you fell arrive nervous PAST (lit.).

(3) Contextualized practice

Please read the following situations and tell us what you will say.

a) Situation 1: Some gangsters tried to extort money from your car on the street last week. Today a bomb exploded outside you house. You complained at the police office that: _____ They think when someone is scared, he will become more agreeable.

b) Situation 2: Victor used to speak and laugh aloud. However, he fell into silence these days because his wife Mary quarreled with him about the noise. A next-door neighbor laughed and said: _____

c) Situation 3: When you worked at the office today, your boss was very strict and made you upset. You cried to call your good friend Lisa and say: _____

Possible solutions:

a) The bad guys put the fear into me.
b) Mary beat silence into Victor.
c) My boss has beaten sadness into me.

(4) Contextualized practice

Please debate with one of your classmates. One is on the positive side and the other is on the negative side. The topic is:

Parents should beat submission into children.

Try to follow the pattern of the caused-motion construction and use appropriate linking words if necessary.

9.5.3 Case 3: The audience laughed the poor guy out of the room

Step 1

When the students look at this example, they may wonder whether the sentence should have been expressed as *laughed **at** the poor guy*, since *laugh* is originally intransitive and we often say *laugh a*t *somebody*. We need to tell students it is definitely correct to say *The audience laughed the poor guy out of the room*. Originally, *laugh* is a non-motion predicate. For example,

The audience laughed at the poor guy.

However, in this case, *laugh* behaves like a transitive verb, because laughing is the cause which provides a force in this caused-motion sentence. It is more like the other transitive verbs which provide direct forces in caused motion, such as:

The audience pushed the poor guy out of the room.

The audience kicked the poor guy out of the room.

Laughing brings about a change of psychological state, and this change motivates the latter motion. When the audience laughed at the poor guy, it made the poor guy felt uncomfortable or ashamed. Although there is no direct force from the audience, laughing expresses an effectual action in order to fuse into the caused-motion construction. The impact on the poor guy can be understood as if it were physical impact, as in the case of kicking or pushing. Thus, the original usage of laugh is expanded. When it has the new function

like other transitive verbs, which can act as causes to motion, it is allowed to be transitive.

When we move eyes to the corresponding sentence in L1, we can find the difference. Chinese will say:

观众		用	哄笑	把	那个	可怜的	家伙	赶		出
Audience	use	laugh	BA	that	poor	guy	chase			out

了		房间。
PAST	room	

('The audience laughed the poor guy out of the room.')

It is an explicit expression. However, the Chinese also think that laughter can be a driving force to make someone leave. They view *laugh* as an instrument to chase someone out.

Step 2

In this step students are provided twenty English examples which involve the caused-motion construction. Based on cumulative language input, the Chinese students will understand and learn to speak as the native English speakers.

(1) The soldiers starved them out of their hiding place.

(2) Whenever be met a business worshipper like you he jeered him out of his own office.

(3) We applauded Walter's surprise entry into the council chamber

(4) The crowd laughed the clown off the stage.

(5) She cussed me up one side and down the other, yelled me out of

her house.

(6) He sighed me out of the hospital and we drove back home.

(7) He just laughed me straight out of the room.

(8) The audience were slower to laugh themselves into such a roaring myth.

(9) Whenever be met a business worshipper like you he jeered him out of his own office.

(10) The crowd hissed the clown off the stage.

(11) They whistled him outside the university.

(12) The workman shouted me outside.

(13) We laughed our conversation to an end.

(14) The captain blew through his nose loudly and stared him out of the room.

(15) He stared me into an assenting nod

(16) Pat shot Sam across the room.

(17) I goggled the hell out of this and I cannot find a removal for it.

(18) The Derry supporters clapped us into the stadium and as we left.

(19) I just applauded the heck out of your response.

(20) My other kids had yelled me out of my trance.

Step 3

(1) Isolated practice

Please paraphrase the sentences below by adopting the caused-motion construction.

    a) John frightened the mouse, which caused the mouse came out of its hiding place.

    b) The judges stared at me. It caused me to be silent.

c) We left the house because Nick kept crying.

d) Essentially, Jenny's screams made others go out of the store.

e) The players entered the court motivated by the audience applause after the match.

Answers:

a) John frightened the mouse out of its hiding place.

b) The judges stared me into silence.

c) Nick cried us out of the house.

d) Basically, Jenny screamed others out of the store.

e) After the match, the audience applauded players inside the court.

(2) Isolated practice

This is an error correction practice. Please find whether there are mistakes in the five sentences below. When you think they are correct, write down √ directly. If you find mistakes, write down a correct alternative.

a) The crowd of 35,000 below stadium capacity jeered at him off the field.

_____

b) Passers-by had gazed at me in cowardice.

_____

c) They absolutely grunted me out of the room.

_____

d) They jeered the speaker left the stage.

_____

e) I am cried by them out of the interview.

_____

Answers:

    a) The crowd of 35,000 below stadium capacity jeered him off the field.

    b) Passers-by had gazed me into cowardice.

    c) √

    d) They jeered the speaker off the stage.

    e) They cried me out of the interview.

(3) Contextualized practice

Imagine you are a newspaper reporter. Please write down suitable headlines for the following two pieces of news.

News 1:

    Headline: _____

Nathan died at the scene when a learner driver, Roux, hit him at an Albany intersection on May 18. Roux failed to stop. Nathan's mother Charlene started a petition questioning the national justice system and sought a harsher penalty. The government has accepted a 143,000 signature petition to appeal the sentence.

Roux's lawyer Belinda Sellars said the public backlash had been "frightening" for her client. "On Saturday night she had people outside her house, screaming that they wanted to kill her. She has been too afraid to sleep. It has been really frightening for her."

    Possible answer:

    People yelled the hit-and-run driver outside the house

News 2:

Headline: _____

Simon Peach of the Press Association gives us the lowdown on Saturday night's opponents at Old Trafford. Is this a good time for Brighton and Hove Albion to head to Old Trafford – what will the mood be like?

The FA Cup is the only trophy realistically within grasp of a demanding club that needs to respond to a galling loss. Many of those that had not made an early dash for the exits jeered the players off the field on Tuesday and that loss will surely increase the tension.

Possible answer:

People jeered the players off the field and increase the tension

(4) Contextualized practice

Write a short story (around 150 words) which includes the sentence below. You are encouraged to use the caused-motion construction in your writing.

The clerk sneered the poor girl out of the store.

9.6 Pedagogical implementations for the English resultative construction

9.6.1 Case 1: Peter hammered the metal flat

This sentence can be paraphrased as 'the metal became flat because Peter hammered the metal'. The meaning pattern is X CAUSES Y TO BECOME Z ('Peter caused the metal to become flat'), and the word order to express it is subject + verb + object + adjective. The whole sentence denotes a

change of state; the adjective shows the final state, flat; and the hammer displays the manner of action.

We call this a resultative sentence. Becoming flat is the result which is caused by hammering. Originally, *hammer* is a noun denoting a kind of heavy metal tool. Here, it becomes a transitive verb meaning 'to beat an object repeatedly with a hammer'. Thus, *hammer* expresses the action and also the manner of the action.

In Chinese, the corresponding sentence is：

彼得　　用　　锤子　　　把　　金属　　砸　　　扁　　了。

Peter   use   hammer   BA   metal   beat   flat   PAST

('Peter hammered the metal flat.')

Chinese adopts two verbs here, *use* and *beat*. The former is a generic verb, in order to express the instrument first, and the latter verb provides the specific action (beating). The two are linked together to express 'beat with a hammer'. Chinese shows a preference for understanding one event with linear sub-events, which makes the resulting sentence more explicit but longer than in English.

Step 2

In the second step students are given twenty real examples which involve the resultative construction. Based on cumulative language input, the Chinese students are expected to eventually understand and learn to express caused change in a native-like way or as close to it as possible:

(1) They *trampled* the field flat.

(2) My son *wiped* the table clean.

(3) John *drank* the pub empty.

(4) Tracy *pounded* the metal thin.

(5) The police officer *shot* the murderer dead.

(6) She had *creamed* her face clean.

(7) Others require you to take an air shower that *blows* you clean in the vestibule.

(8) Caz had to *spit* her mouth clean.

(9) The dog *poked* me awake.

(10) The warm snap had *melted* the trees clean.

(11) The waitress comes back, *wiping* the silverware dry with a cloth napkin.

(12) I couldn't *spin* the mop dry so it became a useless item in my garage.

(13) Davina and I erupted from the knife-sharp grass, *shrieking* our lungs dry.

(14) Before you go, *crank* me flat.

(15) Gansey stood at the top of the stairs and *shoved* the window open.

(16) They had *rammed* the window open and pulled it out.

(17) The rain started as soon as we *zipped* the tent closed.

(18) About to ask where, she *clamped* her lips shut, and he grinned.

(19) She *worked* them raw some days.

(20) He felt something slightly *tugging* him awake.

Step 3

(1) Isolated practice

Now we can produce English sentences with the use of the English resultative construction. Please look at the following Chinese sentences and write down their equivalents in English.

a) 警察把一名绑匪击毙了。[27]

b) 她已经把头发染成了红色。[28]

c) 那个男孩踢开了门。[29]

d) 我出去了两次，把人行道扫干净了。[30]

e) 服务员把酒瓶擦干了。[31]

Answers:

a) The policeman shot the kidnapper dead.

b) She has dyed her hair red.

c) The boy kicked the door open.

d) I went out twice and swept the walkway clean.

e) The waiter wiped the wine bottle dry.

(2) Isolated practice

Here are some English sentences. Each pair has two separate sentences. The first one tells us the cause and the second one shows the result. Can you write one sentence to express the same meaning?

a) The gardener watered the tulips. The tulips became flat.

b) She tapped the office door with her foot. The office door was closed.

c) Tony fried his steak. The steak became black.

d) Lily painted the wall. The wall became white.

e) The joggers ran. Their Nikes became threadbare.

---

[27] The policeman BA a kidnapper shoot dead PAST (lit.)

[28] She already BA hair dye become PAST red (lit.)

[29] That boy kick open PAST door (lit.)

[30] I go out PAST twice, BA walking road sweep clean PAST (lit.)

[31] Waiter BA wine bottle wipe dry PAST (lit.)

Answers:

  a) The gardener watered the tulips flat.

  b) She tapped the office door closed with her foot.

  c) Tony fried his steak black.

  d) Lily painted the wall white.

  e) The joggers ran their Nikes threadbare.

(3) Contextualized practice

Please read the following situations and express what you will say in English.

  a) Situation 1: Your friend is very thirsty after a long walk. You prepare a whole pot of tea for him because you think he can drink all of it. You can say that I think you can _____

  b) Situation 2: When you live in a farm, you choose to turn off the alarm of your mobile phone. You wake up in the morning when the cock crows. You can write in Facebook that the cock _____

  c) Situation 3: Your friend Nick started to learn rumba. He danced many hours in one day. The next day you found Nick walked very slowly and you asked him what happened. Nick says I _____

Answers:
  a) drink the teapot dry
  b) crows me awake every morning.
  c) danced my feet sore.

(4) Contextualized practice

You are the manager of a hotel. Now you need to train some new house keepers and need to write a list to tell them what they should do to clean a room. For example, you need to wipe the mirror dry/ sweep the floor clean. Please write other five requirements in the list.

9.6.2 Case 2: Peter shouted himself hoarse

Step 1

We can paraphrase this sentence as 'Peter caused his throat to become hoarse by shouting'. The resultant state is hoarse.

This statement combines a fake reflexive with a resultative pattern. The reflexive is fake because *himself* is not the real object of the shouting; the real target is another animate object, as in *Peter shouted at Mary/his dog*.

The reflexive is possible only if seen as the object of a causal pattern. As with similar uses where the adjective refers to the object (e.g., *Peter believes himself ugly*), the resultative adjective holds true of the verbal object.

The resultative element (*hoarse* here) cannot be omitted with fake resultatives, but it can be optional in other resultatives:

He drank himself.

He hammered the metal (flat).

We can summarize the pattern in this kind of reflexive resultative construction as follows: verb + reflexive pronoun + adjectival phrase.

The next question is why English uses *oneself* rather than *throat*, since the hoarse state applies only to the throat and not the whole body. However, the object does not choose the specific part of the body. The reason is that a person is seen as a whole consisting of two parts: the Subject and the Self. The Subject is supposed to be in control of the Self. The Subject can reason but cannot function directly in the world, as the Self can. The Subject is always the locus of consciousness, subjective experience, perception, reason, and judgment. The Self consists of other aspects of a whole person, such as the body, emotions, past history, social roles, and much more.

How, then, is the same event expressed in Chinese? It is:

彼得　　喊　　哑　　了　　嗓子。
Peter　shout　hoarse　PAST　throat
('Peter shouted himself hoarse.')

Throat is clearly mentioned in the Chinese sentence, making it explicit. This differs from English because in Chinese, the resultant state, hoarse, is related to part of the body, the throat, rather than the whole body.

Step 2

In this step students are given twenty real examples which involve the resultative construction. Based on cumulative language input, the goal is to help Chinese students develop native English-speaker fluency and accuracy.

(1)　The officers *laughed* themselves helpless.
(2)　Indian people *laugh* themselves sick when they hear these statements.
(3)　She had *worked* herself weary.

(4)   One of the teakettles have *whistled* itself dry.

(5)   Peggy *tossed* herself awake on the smooth linen sheets of her bed.

(6)   Noah liked to *read* himself awake.

(7)   Dad was a miner and *coughed* himself asleep and awake every day.

(8)   He has *roared* himself silent.

(9)   Kimimaro *toweled* himself dry, trying to avoid rubbing his cuts.

(10) An eight-year-old boy *kicked* himself free and ran off.

(11) Ms. Chua had *yelled* herself voiceless.

(12) Kurtz had *kicked* himself loose of the earth.

(13) The rugged star *patted* himself dry.

(14) He might have *cackled* himself silly at the hilarity of it.

(15) He just about *guffawed* himself hoarse.

(16) The bard would have *chortled* himself silly over it.

(17) It was about eight in the morning when Winn *groaned* himself awake.

(18) Do you realize the talented fellow *brays* himself giddy?

(19) A man *shot* himself dead in front of the White House on Saturday.

(20) He *screeched* himself hoarse and Rebecca tried to cope.

Step 3

(1) Isolated practice

Choose one verb from the five choices provided below and adapt it to the following sentences. Each choice is only used once.

read	scrub	cough	purr	cackle

Victor	a)	himself	hoarse.
	b)		blind.
	c)		awake.
	d)		asleep.
	e)		red.

Answers:

a) Victor coughed himself hoarse.

b) Victor read himself blind.

c) Victor cackled himself awake.

d) Victor purred himself asleep.

e) Victor scrubbed himself red.

(2) Isolated practice

Please paraphrase the sentences below by adopting the resultative construction.

a) Anna had cried too much and was nearly debilitated now.

b) Aria kept panting and had made herself wakeful.

c) He and his two friends had drunk too much and became stupid.

d) The majority of dogs barked a lot and became raspy.

e) The knot was so tight that the goat could not escape by kicking.

Answers:

a) Anna had almost sobbed herself sick at this point.

b) Aria had gasped herself awake.

c) He and his two friends had drunk themselves stupid.

d) Most of the dogs barked themselves hoarse.

e) The knot was so tight that the goat could not kick itself free.

(3) Contextualized practice

Imagine you are a newspaper reporter now. Here are two pieces of news and please write down suitable headlines.

News 1:

Headline: _____

Beckham finally wined the first season-opening match of his head coaching career. His voice becomes hoarse after shouting at training to guarantee they need it as severely as he does.

Answer:

Beckham yelled himself hoarse after winning

News 2:

Headline: _____

Maria Caballe, a famous opera singer who passed away this morning in Barcelona, kept singing until the last minute of her life. Many fans of her were deeply moved by her professionalism. We will remember her last on-stage singing forever.

Answer:

The opera star who sang herself to death

(4) Contextualized practice

Work in pairs and make a short story centered on the following sentence:

Sally laughed herself silly.

Follow the pattern of the fake reflexive resultative construction and use appropriate linking words whenever necessary.

9.6.3 Case 3: The ice cream froze solid

This example is an intransitive resultative sentence. It means that the ice cream froze, resulting in it becoming solid. Its syntactic pattern is NP + V + AP. The subject here, *ice cream*, is the patient that undergoes the change of state. The language form indicates a spontaneous action, but in reality it is not immediate. There must be an agent that causes the ice cream to freeze. However, the agent is not the focus here, so it is neglected. The ice cream cannot freeze by itself, but the expression "pretends" that the process occurs naturally and highlights the freezing of the ice cream.

From the meaning of the verb *freeze,* we know that the substance that freezes changes to a solid state.

The statement about the ice cream is an intransitive resultative sentence. A resultative may lack a direct object, in which case the AP immediately follows the verb. The pair below shows the intransitive and transitive situations.

Intransitive: *The ice cream froze solid.*

Transitive: *John froze the ice cream solid*.

We can see that there is a real causer to make ice cream freeze. The freezing process is like absorbing a portion of energy from an external causer, as illustrated below.
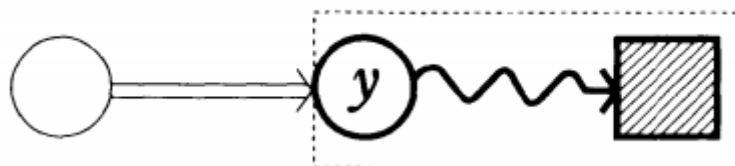

Figure 9.1 Energy transmission in *The ice cream froze solid*

The blank circle denotes the causer that provides a force or energy to y (ice cream). The left part denotes the change of state, which is the ice cream becoming solid. The curve refers to the manner of change, which is change by freezing in this case.

Now let us compare this with its Chinese counterpart:

冰淇淋　　冻　　　结实　　了。

Ice cream　freeze　solid　PAST

('The ice cream froze solid.')

The two languages show a high degree of similarity here. Both Chinese and English allow an intransitive resultative sentence of the form NP V AP. The subject pretends to take the action spontaneously, and the intransitive verb is in active form.

Step 2

In this step, students will be given twenty real examples which share similar motivations with the example *the ice cream froze solid*. Based on the first step, Chinese students will understand this construction better.

(1) A window *slammed* shut in the wind.
(2) The cable *wiggled* loose.
(3) The bottle *broke* open.
(4) The package *spilled* open.
(5) The tree *waxed* high.
(6) His new pants *wore* thin.
(7) The door *swung* open and what did she see?
(8) The window *pried* free.

(9)   The sheets have *aired* dry.

(10) The top of the container has *folded* open.

(11) The pond *froze* hard.

(12) The door *crashed* open.

(13) David *dropped* dead on stage in Philadelphia.

(14) Some diners may find the noodles *cooked* soft and limp as well.

(15) The chocolate *melted* soft.

(16) The dish *baked* hotter and hotter.

(17) The clothes *dried* wrinkled.

(18) The lid *snapped* shut.

(19) The seam has *ripped* open.

(20) The cushion *split* open and sent feathers everywhere.

Step 3

(1) Isolated practice

Now we can try to make English sentences with the use of the non-causative property resultative construction. Please translate the Chinese sentences below into English.

a) 床单晾干了。[32]

b) 地面已经冻实了。[33]

c) 这块肉烧焦了。[34]

d) 其中一颗螺丝松动了。[35]

e) 包吧嗒一声打开了。[36]

---

[32] Sheet hang dry PAST (lit.)

[33] Ground already freeze solid PAST (lit.)

[34] This meat burn black PAST (lit.)

[35] Among one screw wiggle loose PAST (lit.)

Answers:

   a) The sheet hung dry.

   b) The ground has frozen solid.

   c) The meat burned black.

   d) One of the screws wiggled loose.

   e) The bag snapped open.

(2) Isolated practice

It is an error correction practice. Please find whether there are mistakes in the five sentences below. If it is correct, write down √ directly. If you find mistakes, write down a correct sentence.

   a) The curtain was rolled open on the court.

   _____

   b) The saucepan had boiled dry and the carrots were burnt.

   _____

   c) In the course of the winter, beer casks placed in the ground was frozen almost solid.

   _____

   d) I did not leave the kitchen until the eggs were cooked hard.

   _____

   e) The potatoes crisped outside, and butter melted soft inside.

   _____

Answers:

   a) The curtain rolled open on the court.

   b) √

---

[36] Bag ba-da a sound hit open PAST (lit.)

c) In the course of the winter, beer casks placed on the ground froze almost solid.

d) I did not leave the kitchen until the eggs cooked hard.

e) √

(3) Contextualized practice

Here are some pictures. Please use one resultative sentence to describe them. The verb has been provided in brackets.

a)

(burn)

c)

(spill)

Answers:

a) The pot burned black.

b) The purse spilled open.

(4) Contextualized practice

Write a 150-word narrative which contains this sentence:

The winter of 1932 was so cold that Niagara Falls froze completely solid.

Try to follow the pattern of resultative construction and use appropriate linking words if necessary.

9.7 Pedagogical implementations for the English causative construction

The following part will provide three cases that implement the three steps involved in teaching the constructional features of the following sentences: *Her faith melted that barrier*, *The knife frightened Mary*, and *I have my house cleaned every week*. The wording is designed for EFL teachers.

9.7.1 Case 1: Her faith melted that barrier

Step 1

Her faith melted that barrier exploits the causative pattern to express figurative meaning. The sentence conveys the idea that the barrier became very soft because of her faith. The original meaning of the verb *to melt* is to make something become liquid as a result of heating; for example, *The sun melted the snow*. In this type of causative sentences, the agent/causer which brings about the change is the subject, her faith, in this case. The barrier is the patient/causee, which undergoes the change of state.

Melting has a dual role, the cause and the result. In other words, the figurative change of state happened as a result of the figurative melting event, and consequently the final result is the melting of the barrier. Now let us think about the process of the event. The complete event of melting is a complex event, made up of two events: her faith acted on the barrier and the barrier melted.

Based on the discussion above, we can notice that both aspects always appear in this type of sentence:

(1) Specific properties of objects. For instance, *to melt* implies the existence of an object that can change from solid to liquid, *to break* means that there is a breakable object, and *to burn* means that the object is inflammable.

(2) The end-state of objects. For example, the final state of a vase after breaking is broken into tiny bits, butter melts from solid to liquid, and burning changes the chemical state of objects.

Then we can think of the corresponding situations in the first language, Chinese. Chinese speakers will say:

我　打　破　　了　　沉默。
I　hit　break　PAST　silence
'I broke the silence.'

Chinese divides one complex event into two explicit sub-events: hit and break. However, in English the verb *to break* already contains the two sub-events. In general terms, the English verbs are characterized by combining a series of sub-events into one verb. The Chinese EFL teacher could compare it to a 2-in-1 shampoo product, containing the shampoo plus the conditioner together. In addition, the Chinese EFL teacher can also explain the use of two explicit verbs which are not allowed in English.

Step 2

In the following step students are given a representative sample of English sentences based on this construction. Here is a list of examples sharing the same cognitive motivations: X melt/ break/ open / burn/ inflate/ swell/

compress/ boost/ shrink/ explode Y. Chinese students have to understand them in English. In addition to this, they have to understand the use of the thought patterns underlying them.

(1)   Warmth *melted* some of the polar ice.

(2)   Her smile *melted* my heart.

(3)   Forgiveness *melted* every barrier we crossed.

(4)   I *broke* the glass, so I'll pay for it.

(5)   They *broke* the ice and carried water to the site.

(6)   Work songs *broke* the silence of the forest.

(7)   He *broke* McEnroe's serve.

(8)   Lisa *opened* the perfumed envelope.

(9)   Can you help me to *open* the front door?

(10) Protesters set cars on fire and *burned* a building.

(11) Some coal fell out of the fire and *burned* the carpet.

(12) He *burned* his hands at the glass-works.

(13) When we *inflated* the balloon, the children moved progressively further apart.

(14) The wind *swelled* the sails.

(15) Poor posture, sitting or walking slouched over, *compresses* the body's organs.

(16) He knows how to *compress* large masses of material.

(17) We try to *boost* our energy by eating.

(18) As the sun *shrank* the ledge, he waited to plunge to his death into a crevasse.

(19) Bomb disposal experts *exploded* the device under controlled conditions.

(20) Someone had *exploded* a rocket outside.

Step 3

After knowing how the English causative construction works, we can try to use the new knowledge in practice.

(1) Isolated practice

Now we can produce English sentences with the use of the English causative construction. Please look at the following Chinese sentences and write down their equivalent counterparts in English.

a) 香烟把他的外套烧了一个洞。[37]

b) 她张开双臂，紧紧地拥抱了我。[38]

c) 你可以把大量的数据压缩到一张 CD 上。[39]

d) 猛拽绳扣使你的救生衣充气。[40]

e) 那部电影有助于她的银幕生涯的发展。[41]

Answers:

a) The cigarette burned a hole in his coat.

b) She opened her arms and gave me a big hug.

c) You can compress huge amounts of data onto a CD.

d) Inflate your life jacket by pulling sharply on the cord.

e) That movie helped boost her screen career.

(2) Isolated practice

Here are some intransitive sentences. Can you find another way to express the same meaning using the verb in its transitive form? You are free to use the agent that you want.

a) The pencil broke.

---

37 Cigarette BA his coat burn PAST a hole (lit.)

38 She open two arm, tightly hug PAST me (lit.)

39 You can BA huge amounts data compress arrive a CD (lit.)

40 Fiercely pull rope cord SHI your life jacket inflate air (lit.)

41 That movie has help for her screen career's development (lit.)

    b)   The clothes dried.

    c)   My vocabulary will enlarge.

Possible solutions:

    a)   John broke the pencil.

    b)   My wife dried the clothes.

    c)   Reading will enlarge my vocabulary.

(3) Contextualized practice.

Please read the following situations and express what you would say in English.

    a)   Situation 1: You are watching the Olympic games. Your favorite athlete performs better than anyone else in history. You are excited, and you say: _____

    b)   Situation 2: You went back home, surprised to find that one of windows was broken. You want to ask your neighbor whether he saw the breaker: _____

    c)   Situation 3: You have found a previous picture but now you need a smaller size. One of your friends is friendly to help you. When he finished, he told you that: _____

Possible solutions:

    a)   My idol broke the Olympic record.

    b)   Do you know who has broken the window of my house?

    c)   I have shrunk the picture for you.

(4) Contextualized practice.

Work with your classmate and choose one topic to speak about for around five minutes. The use of causative sentences is encouraged in the students' conversations.

a) Internet has shrunk the world.

b) Getting a good job does a lot to boost one's ego.

9.7.2 Case 2: The knife frightened Mary

Step 1

The example in the heading of this section is a case of psychological causative sentence.

Frighten is a causative transitive verb. Besides *frighten*, we can also find other psychological causative verbs:

annoy, *amaze*, *astonish*, *astound*, *confuse*, *bore*, *delight*, *disappoint*, *depress*, *disgust*, *distress*, *encourage*, *embarrass*, *excite*, *flatter*, *harass*, *irritate*, *interest*, *relieve*, *scare*, *shock*, *startle*, *surprise*, *satisfy*, *thrill*, *upset*, *worry*

With regard to the selected example, *The knife frightened Mary*, we can further interpret this sentence as 'the idea of being hurt with a knife frightened Mary'. But the knife is an instrument and cannot take action by itself, so there is a person who is the real causer and who takes the knife as a tool. The knife stands for the idea of being hurt with a knife. Thus, we get the underlying meaning of this sentence:

Someone frightened Mary with a knife.

Someone frightened Mary with the idea of being hurt with a knife.

Why can the instrument *knife* be a subject? The cognitive motivation is that an instrument can stand for the person who uses this instrument, in order to highlight this special instrument. In this example, *knife* is paid more attention and the person who uses the knife is not very important. In other words, the speaker wants to stress that it is the knife that frightens Mary, rather than other instruments, such as sword or scissors.

In this type of psychological causative sentences, we can find there are two features:

(1) It expresses a change of psychological or mental state, such as anger, fear, and satisfaction;

(2) There is a causative relationship between the subject and the object, according to which 'X causes Y to undergo a change of psychological state'.

Compared with L1, the corresponding Chinese sentence is:

刀子　把　玛丽　吓　　坏　了。
Knife　BA　Mary　frighten　bad　PAST
('The knife frightened Mary. ')

Chinese BA is followed with the object *Mary*. The position of object changes to the middle between the subject and verb. The iconicity principle in this Chinese case adopts distance iconicity, meaning that the knife and Mary are in a closer and stronger relationship. The iconic distance principle is like the distance between people. When you choose your seat in the classroom,

you tend to sit closer to your good friends. The closer you are, the stronger

relationship between you two is. In addition, we should note that the English

follows the SVO sentence pattern which is different from Chinese SOV pattern.

Step 2

In the second step students are provided with twenty English examples

which involve the change of psychological state in the causative construction.

With cumulative language input, the Chinese students will come to understand

how the native English speakers use these sentences.

(1) Wet weather always *depresses* me.

(2) I must admit the state of the country *depresses* me.

(3) Constant criticism is enough to *demoralize* anybody.

(4) Your explanation *satisfied* me greatly.

(5) Her explanation did not *satisfy* the teacher.

(6) I believe the proposed plan will *satisfy* everyone.

(7) The story *interests* me a lot.

(8) We will solve the case by ourselves and *surprise* everyone.

(9) *Surprise* a new neighbor with one of your favorite home-made dishes.

(10) This speech seemed to *stun* the king.

(11) This banal observation *astounded* her, though she did not know why.

(12) Amanda *astounded* his group in October 1934 with his discovery.

(13) The explosion *startled* the horse.

(14) His favorite custom is to loom out from the wayside and *startle* travelers.

(15) Just the huge size of the place *amazed* her.

(16) What *amazes* me is how long she managed to hide it from us.

(17) The strange sound *puzzles* me and causes me anxiety.

(18) I have in mind some doubts which really *puzzle* me.

(19) What has *astonished* the baby?

(20) His next words *astonished* me.

Step 3

Based on the two steps above, the students will know how the psychological causative construction works. We can try to use the new knowledge in practice.

(1) Isolated practice

Now we can try to make English sentences with the use of the psychological causative construction. Please translate the Chinese sentences below into English.

  a) 这支乐队使全世界的观众痴迷。[42]

  b) 影片中的暴力程度实在让我反感。[43]

  c) 这一观点将让大多数政策制定者感到震惊。[44]

  d) 她故意操那种口音的样子实在令我恼火。[45]

  e) 这个消息是他的粉丝感到高兴。[46]

Possible answers:

  a) This band has thrilled audiences all over the world.

---

[42] This band SHI all world's audience thrill (lit.)

[43] Film in 's violence level really RANG me disgust (lit.)

[44] This argument will RANG most policy makers feel horrify (lit.)

[45] She on purpose use that accent's appearance really make me irritate (lit.)

[46] This news will SHI his fans feel delighted (lit.)

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  b) The level of violence in the film really disgusted me.

  c) This argument will horrify most policy makers.

  d) The way she puts on that accent really irritates me.

  e) This news will delight his fans.

(2) Isolated practice

 Follow the causative construction and fill in gaps with the correct choice.

  a) I have in mind some doubts which really _____ me.

   A. rattle B. puzzle C. beat D. surprise

  b) The explosion _____ the baby and made him cry.

   A. interested B. woke C. startled D. threw

  c) It _____ her that he could be so calm at such a time.

   A. amazed B. beat C. shocked D. amused

  d) Nothing _____ him – he is always complaining.

   A. surprises B. interests C. calms D. satisfies

  e) A matter of repeated occurrence like this will not _____ people.

   A. frighten B. astonish C. attract D. delight

 Answers:

  a) B. puzzle

  b) C. startled

  c) A. amazed

  d) D. satisfies

  e) B. astonish

(3) Contextualized practice.

 Here is a dialogue. Please finish it with a causative sentence.

A: Oh my God. The weather forecast says there will be some showers of rain tomorrow.

B: It will ruin the party. I won't be in the mood of going.

A: Why?

B: I do not like rainy days. I am scared of thunder and lightning.

A: Ok. I know. You mean _____.

Answer:

Thunder and lightning always frighten you.

(4) Contextualized practice

There are two sentences below and you can choose one of them to start a story. Write about 150 words. You are encouraged to use the psychological causative construction as you write your story.

a) *I opened the envelope and the result did not surprise me at all.*

b) *A sudden explosion startled the horse.*

9.7.2 Case 3: I have my house cleaned every week

Step 1

I have my house cleaned every week is a *have*-causative sentence. To be specific, it is a periphrastic causative sentence, meaning that there are two clauses in one sentence which encode the notions of cause and result in different clauses. The main verb, *have* in this example, is generic and expresses the notion of cause, while the embedded specific verb *clean* expresses the particular result. The underlying meaning of *I have my house cleaned every week* is usually that I pay for another person to clean my house every week.

If I say *I cleaned my house*, it means I cleaned my house by myself. If I paid someone to clean it, of course I can say: *A cleaner cleaned my house*. But another way is to use a causative construction. So, I will say:

I had my house cleaned.

In a sense, using a causative verb is similar to using a passive. The important thing is that the house is now clean. We do not focus on who did the cleaning.

The periphrastic causative construction expresses the idea that two or more words are used to express a single meaning rather than a single inflected form. In a periphrastic causative, there is a separate verb associated with the causative meaning which implies the occurrence of a causal interaction together with an embedded verb that specifies a resulting state or location.

We generally use *have something done* when we are talking about paying someone to do something for us. It is often used for services. The usual form is subject + have + object + past participle. We will see more similar examples in the next step.

After talking about how the English sentence works, we can think about the corresponding Chinese one:

我 每 周 让 人 打扫 我的 房子。
I every week let people clean my house
('I have my house cleaned every week.')

We can find that the Chinese has to add the part *let people* to make the causative meaning explicit. However, the English periphrastic causative construction does not need this explicit expression.

Step 2

In this step, students will be given twenty real examples of the periphrastic causative construction in English. Based on the first step, Chinese students will further understand the mechanisms in similar English sentences.

(1) I have no intention of *having* my hair *cut*.

(2) I *had* my car *washed* after the accident.

(3) Peter will *have* his house *painted*.

(4) I *had* the paperwork *done* by my secretary.

(5) Did you *have* the TV *repaired*?

(6) My friend will *have* the broken toy *mended*.

(7) *Having* a villa *painted* may be expensive.

(8) He does not *have* his homework *done* in time.

(9) Have you ever *had* your hair *cut* by your mother?

(10) I am *having* the roof *repaired*.

(11) Mary must *have* the parcel *sent* today.

(12) I want to *have* my T-shirt *ironed*.

(13) I *had* my old house *mended* yesterday.

(14) Our institution *has* a monument *erected*.

(15) The teacher *had* the work *done*.

(16) The student hopes to *have* their essays *checked*.

(17) My mother is happy to *have* the washing machine *fixed*.

(18) Peter will *have* the documents *typed*.

(19) Lily *has* her garden *tidied*.

(20) I have *had* the second-hand furniture *delivered*.

Step 3

(1) Isolated practice

Here are some English sentences. Can you make a periphrastic causative sentence with *have* to expressing the same meaning? For example: *I cleaned my kitchen* (have) → *I had my kitchen cleaned*.

a) I sent the letter.

b) Lucy wrote the report.

c) My grandma has repaired the necklace.

d) I checked my teeth.

e) Simon edited the article.

Possible answers:

a) I had the letter sent.

b) Lucy had the report written.

c) My grandma has the necklace repaired.

d) I had my teeth checked.

f) Simon had the article edited.

(2) Isolated practice

The following sentences involve the periphrastic causative construction. Can you try to translate them into English?

a) 一位女士把车开到修理厂修理。[47]

b) 我一定要把这件外套洗干净而且烫平，以备晚上之用。[48]

c) 她总是让她的助手预订房间。[49]

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[47] A woman BA car drive arrive garage repair (lit.)

[48] I must need BA this coat wash clean and iron flat, to prepare evening's use (lit.)

d) 我们已经让人把车停好了。[50]

e) 你应该请一位建筑师来设计你的房子。[51]

Possible answers:

a) A woman drove her car to the garage to have it repaired.

b) I must have this coat cleaned and pressed for this evening.

c) She always has her rooms booked by her assistant.

d) We have already had our car parked.

e) You should have your house designed by an architect.

(3) Contextualized practice

Please read the three situations below, think about what they want to mean and finish the sentences.

Situation 1: Mary's car is broken but she does not know how to fix it. So Mary needs to _____

Situation 2: Lucy looks herself in the mirror and sees her long hair is messy. She decides to go to the salon right now and _____

Situation 3: Ana's grandmother was reading the newspaper and suddenly she noticed that she could not read clearly. So she called the optician and asked _____

Possible answers:

Situation 1: have her car fixed.

---

[49] She always let her assistant book room (lit.)

[50] We already let people BA car park good PAST(lit.)

[51] We already let people BA car park good PAST (lit.)

Situation 2: have her hair cut

Situation 3: When can I have my eyes checked?

(4) Contextualized practice

Look at the picture below. Mary has just bought an old house. It is in very bad condition. She has contacted an agent building and told them the list of repairs to carry out.

Possible answers:

I need to have the roof mended.

I need to have the walls painted.

I need to have the laminate flooring laid.

I need to have the pipes laid and erected.

I need to have the water and electricity supplied.

9.8 Pedagogical implementations for the English inchoative construction

9.8.1 Case 1: The vase broke

Step 1

It seems very easy and natural to understand this sentence. The state of the vase changes from unbroken to broken. Break is used intransitively in this case. Besides, it can also act as a transitive verb (e.g. Peter broke the vase).

We can say it can be used in the causative/ inchoative alternation. The transitive use appears in the causative construction and the intransitive use is adopted in the inchoative construction. When we rethink this sentence, *The vase broke*, the breaking must be caused by a force, meaning the vase is broken by someone or something. In other words, the agent is omitted, although we know that the patient cannot break spontaneously. However, in an inchoative sentence, the speaker pretends that the action has happened by itself. This pretense works naturally because vases are breakable and highly fragile. Besides, we should note that the breaking of a vase is irreversible since the breaking can only happen once. It is different from the actions expressed by other inchoative verbs, such as *open/close*, which involve reversible changes.

The Chinese equivalent is highly similar to the English expression:

瓶子　　碎　　　了。

Vase　　break　　PAST

('The vase broke.')

Based on this similarity, the Chinese EFL learners are expected to have less difficulty.

Step 2

In the following step students are given a large amount of sentences in English with this construction. The examples below have the same cognitive motivation as the example *The vase broke*. Chinese students have to understand them in English. In addition to this, they have to be aware of the use of underlying thought patterns.

(1)   The glass *broke* with a loud noise.

(2)   The axle has *broken* three times.

(3)   A gas main had *cracked* under my neighbor's garage.

(4)   The glass will *crack* if you pour hot water into it.

(5)   The paint has *chipped* over time.

(6)   The system *crashed* suddenly.

(7)   The dishes *crashed* in the kitchen.

(8)   Her wrist *fractured* in the fall.

(9)   One strut had *fractured* and been crudely repaired in several places.

(10) Many people predicted that the party would *fracture* and *split*.

(11) They were clearing up when the second bomb *exploded*.

(12) Her camera *busted*.

(13) Her coat *ripped* when it caught on the doorknob.

(14) The seam has *ripped* and needs sewing.

(15) The wine glass *shattered*.

(16) The dish *smashed* when it hit the floor

(17) A twig *snapped* behind her.

(18) The party began to *splinter*.

(19) The tall tree *splintered* during the storm.

(20) If I remain here, my energy will *disintegrate*.

Step 3

(1) Isolated practice

Can you translate the following five sentences into English and adopt inchoative construction?

a) 大坝在水的压力下溃决了。[52]

b) 当我踩上去的时候，冰裂了。[53]

c) 树枝断了，落在地上。[54]

d) 炮弹正在在我们四周爆炸。[55]

e) 岩石由于风和水的作用而分裂。[56]

Answers:

a) The dam burst under the weight of water.

b) The ice cracked as I stepped onto it.

c) The branch broke and fell to the ground.

d) Shells are exploding all around us.

e) Rocks disintegrate because of the effects of wind and water.

(2) Isolated practice

Choose one verb from the given table and use it in the appropriate form to finish the sentences below. The word can only be used once.

smash	splinter	disintegrate	crack	split	shatter

a) The mirror _____ but did not _____.

b) During October 1918 the Austro-Hungarian Empire began to _____.

c) Waves _____over the boat.

d) Her coat _____ along the seam.

e) The bottle will _____ if you drop it.

---

[52] Dam under water's weight burst PAST (lit.)

[53] When I step onto, ice crack PAST(lit.)

[54] Branch break PAST, fall at ground on (lit.)

[55] Shells are around us exploding (lit.)

[56] Rock because wind and water's effects so disintegrate (lit.)

Answers:

 a) The mirror <u>cracked</u> but did not <u>splinter</u>.

 b) During October 1918 the Austro-Hungarian Empire began to <u>disintegrate</u>.

 c) Waves <u>smashed</u> over the boat.

 d) Her coat <u>split </u>along the seam.

 e) The bottle will <u>shatter</u> if you drop it.

(3) Contextualized practice

Please read the three situations below and write down what you want to say.

 a) Situation 1: You went skating together with your friend Jennifer. She fell down by accident and fractured her wrist. You helped her to call the doctor and tell him about Jennifer's wrist _____ (fracture)

 b) Situation 2: You just bought a new lawn mower. It did not work after you used it once. You contacted the shop assistant and asked _____ (break)

 c) Situation 3: You are a physics teacher and want to teach the term *fission*. The textbook shows that *fission* is defined as the process where the splitting of atoms happens. You can tell your students that _____ (split)

Possible solutions:
 a) Jennifer's wrist fractured when she fell on the ice.
 b) Why did the new lawn mower break after I used it once?
 c) When atoms split, the process is called fission.

(4) Contextualized practice

Here is an inchoative sentence. Please try to use your imagination and write a story which contains this sentence:

A plane crashed mysteriously near the small island.

Write about 150 words. You are encouraged to use the inchoative construction in your text.

9.8.2 Case 2: The door opened

Step 1

In *The door opened*, the state of the door changes from closed to open. It is a reversible change, which means the patient can return to its original state or situation, the open/closed state in this case. Besides, it is a locational state, meaning that part of the door changes its position in the process of opening. The verb *open* is originally transitive (e.g. *Peter opened the door*), but it can also be used in an intransitive way. We can say it is a "double-in" sentence, meaning *in*choative and *in*transitive. The complete pair is listed as:

The door opened.   Inchoative, intransitive

Peter opened the door.   Causative, transitive

In addition, this sentence is motivated by the grammatical metonymy PROCESS FOR ACTION. Although the agent is implicit, it is easy to understand that someone or a certain force carried out the action of opening the door.

Regarding the Chinese sentence, it shares the same cognitive mechanism, which fosters the acquisition of the English sentences. The Chinese one is:

门   开   了。

Door   open   PAST

('The door opened.')

Step 2

In this step EFL students are provided with 20 real English sentences using this construction. The examples below share their cognitive motivation with that of the sentence *The door opened*. Based on the explanation given in step 1, Chinese students will determine the use of the underlying thought patterns.

(1)   After I showed my ID badge to the guard, the gate *opened*.

(2)   We were waiting at the bus stop when the heavens *opened*.

(3)   The door *slammed* and *locked*.

(4)   The brakes *locked*.

(5)   The hospital *closed* at the end of last year.

(6)   The library will *close* at 3:30 pm.

(7)   The chair *folded* under his enormous weight.

(8)   The platform has *folded*.

(9)   Sometimes the crust has *folded* and *buckled*.

(10) The whole sky *unfolds* in front of us.

(11) The door has *shut* in the cold.

(12) The door *buckled* when something else struck its base.

(13) The post office *shuts* at 5 o'clock.

(14) The sun was *setting* when they left the beach to make camp.

(15) The rod *bent*.

(16) The saplings *bent* in the wind.

(17) The tree *bent* under the weight of the fruit.

(18) The passengers were not told that the ship was *sinking*.

(19) His approval ratings in the polls began to *sink*.

(20) The second vessel, built by Gustavo Heyermann, *sank* on its maiden voyage.

Step 3

(1) Isolated practice

Here are some transitive sentences. Can you try to express the same meaning in an intransitive way? The agent can be removed in intransitive sentences if you want.

    a) We will reopen the royal theatre in November.

    b) The intense heat of the fire buckled the rails.

    c) Do not worry if you accidentally close the window.

  Possible solutions:

    a) The royal theatre will reopen in November.

    b) The rails buckled under the intense heat of the fire.

    c) Do not worry if the window closes accidentally.

(2) Isolated practice

Multiple choices.

    a) The doors of the building _____ automatically.

A. ring   B. open   C. knock   D. push

b) As the story _____, we learn more about Max's childhood.

A. uncovers   B. unrolls   C. unravels   D. unfolds

c) I heard the front door _____.

A. removed   B. shut   C. cleaned   D. hurt

Answers:

a) B. open

b) D. unfolds

c) B. shut

(3) Contextualized practice

Imagine you are a newspaper reporter. Please write down suitable headlines for the following two pieces of news.

News 1:

Headline: _____

The Gocycle GX, officially launched this spring, is the fastest compacting electric bicycle in the UK-based brand's range. "The fast-folding of the Gocycle GX is achieved thanks to a front frame, which was developed using hydro formed aluminum technology", explained by Richard Thorpe, the designer of Gocycle GX. The collapsible bike can be compacted within 10 seconds. It can then be rolled along on its side-by-side front and rear wheels, with the saddle serving as a handle.

Possible answer:

New electric bike folds under 10 seconds

News 2:

Headline: _____

Officials of the Directorate of Civil Aviation (DGCA) inspected an aircraft this Sunday. The Pantnagar-Pithoragarh bound aircraft was carrying 78 passengers to Pithoragarh but made an emergency landing at the Pantnagar airport within minutes of taking off. "It was a nightmare. A gate opened mid-air with a bang and a portion fell inside while a part of it dangled in the air," said Pankaj Chand, a passenger who was in the flight with his wife and child. Meanwhile, the state government said that it will review the terms and conditions of the MoU signed with the state government, DGCA and Heritage Aviation.

Possible answer:

A plane door opened during a flight

(4) Contextualized practice

Here are some pictures below. Please use inchoative sentences to describe them. Use the verb which is provided in brackets.
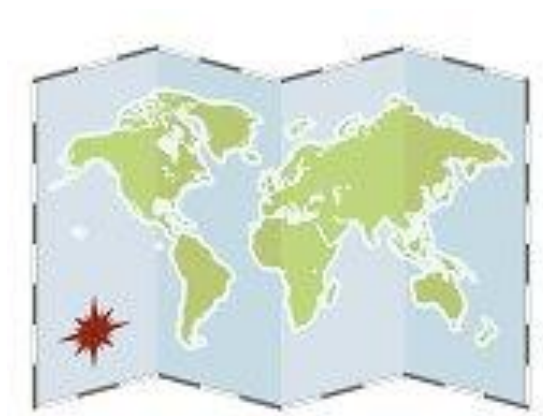
a)

(bend)

b)

(open)

c)

(unfold)

Possible answer:

    a) The tree bent under the weight of the snow.

    b) The passengers moved forward to the bus after the door of the bus opened.

    c) The world map has unfolded.

9.8.3 Case 3: The ice cream melted

Step 1

This sentence is very close to the natural intransitive sentence. It assumes that the ice cream melts without anyone doing anything to it. It is because the causer of the melting, the temperature, is invisible and people unconsciously think it happens naturally.

The corresponding Chinese sentence is:

冰淇淋　　化　了。

Ice cream　melt　PAST

('The ice cream melted')

Its pattern and motivations are very close to the ones in English. The learning outcome should be excellent.

Step 2

In this step, students are offered 20 real English sentences using this construction. The examples below have the same cognitive motivation as that of the case example. Based on the explanation given in step 1, Chinese students will understand the use of the thought patterns involved.

(1)　The sugar has *melted*.

(2)　My fears *melted* when I saw his kind expression.

(3)　The lake froze last night.

(4)　My computer started to freeze occasionally.

(5)　Depending on how much chicken you are using, the chicken will defrost at different times.

(6)　As the frozen berries defrost, they'll exude more juice than fresh ones.

(7)　It has finally started to thaw.

(8)　The rivers scarcely thaw before July.

(9)　The ground has thawed.

(10)　The food in the freezer has thawed during the power cut.

(11)　The relations between the two enemies may be thawing.

(12)　The wine is chilling right now.

(13) Let the pudding chill for an hour until set.

(14) Upon releasing the accelerator, the air will cool after about 30 seconds.

(15) His anger cooled.

(16) The ink has dried.

(17) The paper burned with a yellow and blue flame.

(18) The fire burned in the grate.

(19) Two of my teeth decayed from lack of care.

(20) Popular cinema seems to have decayed.

Step 3

After explaining how the English causative construction works, we can try to use the new knowledge in practice.

(1) Isolated practice

Please paraphrase the sentences below by means of the inchoative construction.

    a) His kind words melted Lily's anger.

    b) The river changed into liquid and barges of food started to move to the capital.

    c) Hold the tube steady in an upright position until the temperature of the hot glue has dropped.

Answers:

    a) Lily's anger melted at his kind words.

    b) The river thawed and barges of food began to reach the capital.

c) Hold the tube steady in a vertical position until the heated glue has cooled down.

(2) Isolated practice

This is an error correction practice. Please find whether there are mistakes in the three sentences below. If a sentence is correct, write down √ directly. If you find mistakes, write down the correct sentence.

a) Water freezes at 0 degrees Celsius.

_____

b) If you add hot water inside frozen milk, the milk will be defrosted a little bit.

_____

c) The fire was   burned   for   eight hours before the fire crews subdued it.

_____

Answers:

a) √

b) If you add hot water to frozen milk, the milk will defrost a little bit.

c) The fire burned for eight hours before the fire crews subdued it.

(3) Contextualized practice

Please read the following situation and express what you will say. The verb has been provided in brackets.

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a) Situation 1: You are a DIY instructor. Your student is making a new terrine and he is worried that it may break in the firing process. You told him not to worry because _____ (cool)

b) Situation 2: In a chemical lab, you are warning young students to pay attention to a dangerous chemical agent. The experiment involves white phosphorus, whose fire point is about 30℃ in air. You tell students to notice this point: _____ (burn)

c) Situation 3: You are preparing dinner for your family. Your brother wants fish. But you just take the frozen fish out of the refrigerator a few minutes ago. You explain this to your brother by saying: We cannot have a fish today because _____ (thaw)

Possible solutions:

a) The terrine will cool after reaching a maximum temperature.
b) White phosphorus burns at around 30℃ in air.
c) The frozen fish has not thawed yet.

(4) Contextualized practice

You are working at a documentary film studio. Now you need to subtitle a documentary. The starting sentence is given below. Please continue to write about 150 words:

When spring comes, the snow melts.

Try to use inchoative sentences as often as possible in your text.

9.9 Pedagogical implementations for the English middle construction

9.9.1 Case 1: Ice cream melts quickly

When we look at this example, we will wonder why it is not in the passive voice or even in the active voice; for example,

Ice cream can be melted quickly.

Hot weather can melt the ice cream quickly.

The case sentence is in active form but it conveys passive meaning. We call it middle construction. It involves the notion of ability or possibility, which is inherent in the meaning of a middle sentence. This is why we can express this idea in other related constructions with the verb *can*.

Melting stands for the action and the result. *Quickly* evaluates the result. In the evaluative part, the typical choices are to assess the speed (e.g. *quickly, slowly, fast, rapidly*), difficulty (e.g. *easily, with/ without difficulty*), or value (e.g. *well, beautifully, badly, properly, oddly, strangely*).

When we compare this English middle sentence with L1, we find that the equivalent Chinese expression is:

冰淇淋　　化　　起来　　很　　快。
Ice cream　melt　QI-LAI　very　quick
('Ice cream melts quickly.')

Chinese also adopts the active form to express passive meanings, which is consistent with the English middle construction. However, the Chinese adds a linguistic modifier *qi-lai*, which prevents the verb *melt* from being followed by

any object, making the sentence intransitive. By contrast, English can use the verb melt in intransitive or transitive ways without the help of an additional marker.

In addition, Chinese prefers adjectives in the evaluative part of middles, such as *very quick*, whilst English prefers adverbs.

Step 2

In this step, students will be given twenty examples of the English middle construction. Based on the first step, Chinese students will further understand the working mechanisms in native English sentences.

(1) Alloy *blackens easily.*

(2) This rose *prunes easily.*

(3) Meat *decays easily.*

(4) Make sure the window *opens easily.*

(5) This dress *buttons nicely.*

(6) This kind of portable cabinet *assembles without much difficulty.*

(7) Love letters *write* easily.

(8) This oven *cleans* quickly and effortlessly.

(9) This car *handles smoothly.*

(10) Crystal *breaks at the slightest touch.*

(11) The snow doesn't *pack too well,* does it? It's not wet enough.

(12) Fair-skinned people *burn easily* in the sun.

(13) The chalkboard *erased easily.*

(14) Wholegrain cakes *bake slowly.*

(15) A sonnet does not *write so easily.*

(16) Does the bread *cut well*?

(17) The door *shuts badly*.

(18) This paper *tears easily*.

(19) The wall *paints quickly*.

(20) Vegetables chop easily.

Step 3

(1) Isolated practice

Please paraphrase the sentences below by adopting the middle construction.

a) It is easy to open the door.

b) The lake can freeze very fast.

c) This bread can be cut by most people easily.

d) The clothes can be washed with no trouble because they are machine-washable.

e) Lots of people like to buy sports cars.

Answers:

a) The door opens easily.

b) The lake freezes quickly.

c) This bread cuts easily.

d) The clothes wash without difficulty.

e) Sports cars sell well.

(2) Isolated practice

Multiple choices.

a) This old house _____ let.

   A. can   B. isn't   C. may   D. won't

   b) This umbrella ____ up neatly.

       A. sells   B. folds   C. cleans   D. uses

   c) Ripe apples ____ easily.

       A. look   B. grow   C. throw   D. pick

   d) This wine drinks ____.

       A. bad   B. healthy   C. well   D. uncomfortably

   e) The ____ wash well.

       A. rice   B. woolens   C. machine   D. water

Answers:
a) D. won't
b) B. folds
c) D. pick
d) C. well
e) B. woolens

(3) Contextualized practice

Imagine you are a bookseller now. You want to recommend some new books to the customers. Some customers like the best-seller lists. Some prefer the books which can be understood easily. Some want to translate books into another language. What you can say to them?

Possible answers:

These new books sell well/fast.

The short novel reads effortlessly.

The latest collection of poems translates easily.

(4) Contextualized practice

Please debate with one of your classmates. One is on the positive side and the other is on the negative side. The topic is:

Bureaucrats bribe easily.

Try to follow the pattern of the middle construction and use appropriate linking words whenever necessary.

9.9.2 Case 2: Persil washes whiter

This example is a famous advertising slogan for a washing powder whose brand is Persil.

In the action of washing, washing powder is an instrument. It becomes the subject in order to emphasize the importance of the instrument. The state of clothes changes into a whiter condition. Some students may wonder who uses the instrument. Actually, the middle construction expresses generic events, meaning the doer can be most people. The example means that most people can use Persil's product and can achieve the result (the clothes become whiter).

In this type of instrument-subject middle sentence, the characteristic property of instrument is highlighted, which allows the reader of the advertisement to believe that this product is much better than others.

After discussing the English case, let us think about its Chinese counterpart. Chinese speakers will say:

宝莹　洗　得　更　白。

Persil　wash　DE　more　white

'Persil washes whiter'.

De is an auxiliary word which follows the verb. *De* means that the action conveyed by the verb is highly likely t happen. The Chinese example is also in active form with passive meaning, in compliance with the rules of the middle construction. Compared with English, neither of them provides an explicit agent and both imply generic events. But Chinese needs to be more explicit by adding an auxiliary word, in order to express the strong possibility of events occurring. We should note that the English does not need to be so explicit and it has no auxiliary word after the verb. The single verb in active form is enough.

Step 2

In the second step, EFL students will be provided with twenty examples of the instrument-subject middle construction, which are similar to the example *Persil washes whiter*. Based on the first step, students will further understand the working mechanisms in native English sentences.

(1) This soap *washes* well.

(2) This pen *writes* well.

(3) The app *scans* fast and has real time protection.

(4) *This knife cuts easily and neatly, without tearing individual slices.*

(5) The aluminum pan *bakes* higher.

(6) This oven *bakes* well.

(7) This frying pan *cooks* well.

(8) This cream *polishes* nicely.

(9) This music *dances* better than the other one.

(10) This fishing rod *fishes* well.

(11) This key *unlocks* easily.

(12) Lexy's scissors *cut* easily through the lining.

(13) This model won't *generalize* well.

(14) This vacuum *cleans* better.

(15) This towel *dries* better.

(16) This tape recorder *records* nicely.

(17) The hammer *broke* the glass easily.

(18) This screen *fills* that *space* nicely.

(19) This rope won't *tie* properly.

(20) This kind of knife *cuts* well.

Step 3

(1) Isolated practice

Please paraphrase the following sentences by means of the middle construction.

    a)   Basically, we can use this machine to do the cleaning very well.

    b)   We cannot scan documents with this device easily.

    c)   Is it quick to open doors with the electronic lock?

Answers:

    a)   This machine basically cleans really well.

    b)   This device won't scan easily.

    c)   Does the electronic lock open quickly?

(2) Isolated practice

Multiple choices.

    a) The knife _____ better with this addition.

A. is saved   B. saves   C. can be cut   D. cuts

b) The new sewing machine sews _____ and is fairly quiet.

A. beautiful   B. nicely   C. freely   D. very quick

c) If the pen _____ easily, there will be no problem.

A. will write   B. is written   C. can be written   D. writes

Answers:

a) D. cuts

b) B. nicely

c) D. writes

(3) Contextualized practice

You are responsible for ad designs in an advertising company. Now you are faced with some new products shown in the following. Try to find a suitable advertising slogan which highlights their functions and attract customers.

Products	Samples
(a) Pizza scissors	
(b) Typewriters	

Possible answers:

  a) The pizza scissors cut easily.

  b) The typewriter types well.

(4) Contextualized practice

Communicate with your classmates. The topic is *Incredible Life Hacks*. You are encouraged to use the middle construction wherever it is possible. For example, *A hot knife cuts better than a cold one*.

9.9.3 Case 3: Peter terrifies easily

When we look at this sentence, some students may be confused about the language form and its meaning. Originally, *terrify* is a transitive verb (e.g. Sam terrifies Peter). But in this case, terrify behaves like an intransitive verb.

The target of terrifying is Peter, but it is placed in the subject position, different from the common word order in the English SVO pattern. This special word order also causes some misunderstanding for EFL learners. They may think Peter is the agent to carry out an action, meaning that he terrifies someone else easily. But actually, the real agent of terrifying is not given, because it refers to a generic event. The example means it is easy for Peter to be terrified by other people, events, or circumstances.

This sentence follows the middle construction, which expresses the active meaning in a passive form. Terrifying is the cause which brings about a change of psychological state and the resultant state is becoming terrified. The example expresses that John has specific properties. For instance, it is easy for someone or something to frighten him, or he is easily frightened independently of any particular agent. These qualities may be explicitly mentioned in the discourse context.

The sentence is an experiencer-subject middle. The experiencer is any entity that can be affected by a frightening situation. These middles often contextually invoke personality traits, psychological features and dispositions of the experiencer which are conducive to that type of mental process having such an impact.

Step 2

In the second step students are provided with twenty real examples which involve the middle construction. Based on cumulative language input, the Chinese students are expected to understand and produce examples of the construction with native-speaker competence or close to it:

(1)   Does this fellow look like he *terrifies* easily?

(2)   John *persuades* easily.

(3)   Sometimes she *satisfies* quickly and rightly.

(4)   The life of a person who *angers* easily is not considered a life.

(5)   This is a hard dog with a strong personality and who doesn't *frighten* easily.

(6)   These people *discourage* easily, and can become despondent.

(7)   Some of them even *cheered* easily and eagerly when she arrived.

(8)   He was in his forties and had an emotional face that *gladdened* and *saddened* easily.

(9)   Women *offend* quickly.

(10)   At 83, Maurice Phillips doesn't *surprise* easily any more.

(11)   You don't strike me as someone who *surprises* easily.

(12)   Bob is a tough coach who doesn't *please* easily.

(13)   This book is not recommended for those who *offend* easily.

(14)   She laughed. "You *astonish* easily," she said.

(15)   None of us *shocks* easily.

(16)   They don't *shock* easily but accept your feelings.

(17)   Thrax is not one who *saddens* easily.

(18)   But she also *saddened* easily, and hungered for clarity, security, and purpose.

(19)   She *confused* easily... but she's sweet.

(20)   Freeman *disappoints* quickly.

Step 3

(1) Isolated practice

Choose one verb from the table below and use it in the appropriate form to finish the sentences. Every word can only be used once.

astonish	disappoint	embarrass	enrage	confuse

a) The girl _____ quickly, and finds it difficult to even make eye contact with people.

b) Mike _____ easily because something out of the ordinary is expected each time.

c) She _____ quickly at time of disagreement.

d) Lisa just can't be left alone in the museum because she _____ easily.

e) We live in knowing times, and do not _____ easily.

Answers:

a) embarrasses

b) disappoints

c) enrages

d) confuses

e) astonish

(2) Isolated practice

This is an error correction practice. Please find whether there are mistakes in the five sentences below or not. If a sentence is correct, write down √ directly. If you find any mistakes, write down the correct sentence.

a) They wanted to surprised me, but I am not a person surprising easily.

_____

b) There has always been people who have been grieved quickly.

_____

    c)   My daughter just turned four months and she scares easily.

       _____

    d)   My friend warns me that Julia annoys easy.

       _____

    e)   Is it wise to fall in love with someone who angers easily?

       _____

Answers:

    a)   They wanted to surprise me, but I am not a person who surprises easily.

    b)   There have always been people who have grieved quickly.

    c)   My daughter just turned four months and she scared easily.

    d)   My friend warns me that Julia annoys easily.

    e)   √

(3) Contextualized practice

Please read the three situations below and write down what you want to mean. Use the verb given in brackets.

    a)   Situation 1: You are a zookeeper. You find some naughty children frightening some little birds in the zoo. You warn them that _____ (startle)

    b)   Situation 2: When I walk on the street, I find a friend, but she mistakes me for someone else. She says that she suffers from face blindness and always feels confused to recognize people. You said: Never mind. Now I know you are a person _____ (confuse)

c) Situation 3: Peter tells a lame joke at the party, but nobody laughs. People quips that Peter should tell this joke to Monica. She will laugh without thinking. Monica _____ (cheer)

Possible solutions:

a) The little birds startle easily. Do not hurt them.

b) who confuses easily

c) cheers easily

(4) Contextualized practice

Write a 150-word narrative and the topic is:

A friend who angers easily

Try to use the middle construction and appropriate linking words if necessary.

Chapter 10

Conclusion

This chapter will provide the concluding remarks of this dissertation. The first section will summarize the main findings within the theoretical and applied fields. Then the originality of this study will be highlighted. The final section will suggest future lines of research that can be based on this study.

10.1 Theoretical and practical outcomes

This dissertation has carried out a cognitive study of change-of-state constructions in English and Chinese. Chapter 1 explores which members can belong to the change-of-state family. They are the CMC, the resultative construction, the causative construction, the inchoative construction, and the middle construction. Except for some cases of middle construction, which are not within the scope of this thesis, they all share a primary or primitive 'become' component and in all of them either the object of the action or any other non-agentive element (variously realized syntactically as clausal objects or satellites) attains syntactic subject status.

Regarding the methodology in Chapter 2, a corpus-based qualitative research approach has been argued for. Qualitative analysis benefits greatly from handling large amounts of data, which are subjected to close scrutiny to find usage patterns from which high-level generalizations may arise. In the present case, the data has been collected from computerized corpora with the help of reliable search engines in the two languages. Moreover, use has been made of a combination of inductive and deductive analytical procedures to make relevant generalizations consistent with the data.

After a critical review of the literature in Chapter 3, we have found that the change-of-state verbs and events explored by previous scholars can be incorporated into a more comprehensive study of the change-of-state constructional family. Considering the representative theories in Construction Grammars (FCG, CG, CxG, and RCG), the LCM has been proved to be a solid theoretical foundation that achieves explanatory adequacy and provides a unified framework of analysis by integrating lexicalism and constructionism.

The five constructions under the change-of-state family are explored in parallel from Chapter 4 to Chapter 8. In Chapter 4, we have analyzed the CMC. In the pattern X CAUSES Y TO MOVE Z, the change of state can be expressed in a literal way (e.g., *Mary cracked the eggs into the bowl*), or in a figurative way (e.g., *Wartime production pulled the economy out of depression*) motivated by the metaphor A (CAUSED) CHANGE OF STATE IS A (CAUSED) CHANGE OF LOCATION. In addition, a change of psychological state can act as the driving force that results in motion, such as *Peter laughed Mary out of the room*. The CMC includes two sub-events which are the initiator's causal sub-event and a motion sub-event. Each element of the CMC can be seen in relation to an element of the resultative construction as an effectual action. In other words, an action can have an identifiable physical or psychological impact on an object. English and Chinese show sharp differences in the CMC. English accepts to combine motion and manner into one verb, making the sentence compact. For example, *The audience laughed the poor guy out of the room* adopts only one verb, *laugh*. However, Chinese uses a verbal group, meaning that a sentence can have two verbs (a specific verb and a generic verb) with the assistance of linguistic markers (*ba*, *shi*, *de*). For example, Chinese prefers a sentence such as *The audience laughed at the poor guy, making him go out of the room*. This raises a discussion on typological preferences in the two languages. English is a satellite-framed language, meaning one verb can display motion and manner of motion together. By contrast, Chinese has a preference for equipollent

framing regarding caused-motion events, showing motion and manner of motion in separate verbs.

Regarding the resultative construction, which has been studied in Chapter 5, the change of state can be expressed in the transitive pattern X CAUSES Y TO BECOME Z (e.g., *Peter hammered the metal flat*), or the intransitive pattern Y BECOME Z (e.g., *The river froze solid*). The former profiles the causer while the latter highlights the causee which pretends to take action by itself. Both English and Chinese convey the cause (or manner and instrument) in the verbal predicate, such as *freeze*, *wipe*, and *hammer*. The resultant state is covered in the AP, such as *solid*, *clean* and *flat*. Both the English and Chinese resultatives have transitive and intransitive types, but the usage is different. The fake reflexive resultative construction is more widely attested in English than in Chinese. For example, English *Peter shouted himself hoarse* cannot have a direct equivalent in Chinese, which makes use of a non-reflexive object specifying the part of the body directly affected by the verbal action (i.e. *Peter shouted "his throat" hoarse*). Also, *Peter laughed himself silly* is expressed with no object in Chinese (i.e. *Peter "laughed" silly*) and sometimes Chinese will make use of a reflexive object (i.e. *Peter "burned himself" dead*), which is not present in English. In addition, we have found cultural differences in the two languages, such as the color metaphor RED FOR POPULAR and the cross-sensory metaphor PAIN IS BITTERNESS. Regarding the representative licensing factor, iconicity, we have proved that iconic sequencing and iconic proximity affect both languages. The language form (e.g., word order, tense, and aspect) in both languages conveys that the action takes place prior to the result, which completely parallels the temporal order of event development. However, Chinese resultatives can describe action events and result events either with time intervals in between or without time intervals, while no temporal delay is allowed in English. It depends on the influence of an action on a patient is indirect or direct.

In Chapter 6, we have explored the causative construction in the two languages. The change-of-state event can then be decomposed as X ACTS ON Y CAUSING Y TO CHANGE STATE. Both English and Chinese have three types of causatives which are lexical causatives (e.g., *The sun melted the ice*), morphological causatives (e.g., *Snow has whitened the trees*), and periphrastic causatives (e.g., *I have my house cleaned every week*). Causativeness is zero-marked in lexical causatives, where the causal meaning is explicit. Morphological causatives require causative affixation by adding prefixes or suffixes to adjectives. Finally, periphrastic causatives express the indirect causativeness in analytical ways. English and Chinese are found to select different methods from among these three types to express the same causative event. For example, the counterparts of some English lexical causatives (e.g., *A redwood bucket faded my carpet*) are periphrastic causatives in Chinese (e.g., *A redwood bucket made my carpet fade*). The class shift by means of affixation in English and Chinese causatives is a little different. In English, it is formed by suffixes (e.g., *en-*, *-ize*), while Chinese causatives accept to add an adverb to a deadjectival verb, such as *X very satisfy Y*, so as to highlight the degree of emotion. Grammatical metonymy is one of licensing factors. Adjectives can be shifted to verbs to describe the change of state, for example, *shu-xi* ('familiar') in Chinese can be shifted to a verb in *X familiar Y,* which is motivated by the grammatical metonymy RESULT FOR ACTION THAT BRINGS ABOUT RESULT.

In Chapter 7, the inchoative construction has been analyzed. The inchoative verb which can operate in a transitive/intransitive way works in the causative/inchoative alternation, linking this chapter to the discussion in Chapter 6. The causative pattern $NP_1 + V + NP_2$ pays more attention to the cause-become part. By contrast, the inchoative pattern $NP_2 + V$ puts more emphasis on the result-state. The inchoative construction portrays events in which a participant undergoes a change of state due to an unknown external

force, for example, *The window broke*. Generally, English and Chinese inchoative constructions take the same pattern $NP_2 + V$. The V part in Chinese could be a verbal group ($V_1 + V_2$). Reflexive pronouns can act as modifiers in both languages (e.g., $NP_2 + V$ + by oneself). They share the same causal chain model, including three key elements: action, cause-become, and result-state. As to the licensing factors, we have identified metonymy and telicity at work in the inchoative construction. English and Chinese inchoative constructions profile the result of an event which is licensed by the metonymy PROCESS FOR ACTION. Inchoative verbs tend to be telic, but the choices of inchoative verbs in Chinese are more restricted than in English. English verbs can imply the final point of the action by itself, such as *break* and *open*. Chinese verbs are limited in expressing accomplishments and need to add V_2, such as *zeng-jia* ('increase-add'). The V_2 helps to express the endpoint, showing the completion of the action.

Chapter 8 is devoted to the middle construction. Some notable features of this construction are the existence of an implicit agent and the designation of generic events where the active form expresses passive meanings. In addition, the change of state can be divided into six types: a partial change of the subject, a complete change of the subject, changes of location in physical space, implicit changes caused by instrument-subjects, changes of the conditions associated with an object, and resultative middles. According to syntactic forms, such as NP + V + *qi-lai* + modifier (Chinese) and NP + V + modifier (English), both Chinese and English middle constructions have three components, namely, nominal phrase, middle verb, and modifier. The subjects of English and Chinese middle constructions are nominal phrases. The patient is placed at the beginning of sentences to endow it with thematic prominence and the agent is left implicit. Both English and Chinese middle constructions are active in form. However, the verbal constituent in Chinese middle construction can be a verbal phrase, in the form of a middle verb with a subordinate marker *qi-lai*. By

contrast, an English middle sentence only contains one verb, rather than a verbal phrase. A modifier is an indispensable part of both English and Chinese middle constructions. In typical patterns, a modifier is positioned at the end of a sentence: NP + VP + modifier. The typical parts of speech which serve as modifiers are adverbs in English and adjectives in Chinese. Both English and Chinese middle constructions are constrained by grammatical metonymy, typically the high-level metonymic chain PROCESS FOR ACTION FOR (ASSESSED) RESULT. In the case of Chinese middle verbs, the transformation from transitive to intransitive is realized by adding linguistic markers after them (e.g., *qi-lai, shang-qu, zhe*), while English can directly transitivize verbs without any explicit linguistic marker.

In Chapter 9, the theoretical findings made in previous chapters are applied to the pedagogical implementations. A user-friendly pedagogical grammar has been developed for the Chinese EFL classroom. This pedagogical implementation includes three steps. The first step involves teaching the cognitive motivation behind the sentence of certain English construction and comparing it with that in the L1 (Chinese). The second step is to illustrate with more English examples so that students receive enough input to become acquainted with the English construction. The third step requires to practice the construction for accuracy and fluency (repeating Step 1 or 2 if necessary). These three-step procedure has been applied to fifteen teaching samples. The specific design of the resulting teaching activities, based on the cross-linguistic analysis between L1 and L2, improves the acquisition of these constructions in question for Chinese EFL learners.

10.2 Originality of this study

The present dissertation fills a gap in cognitive-linguistic research on

constructions by the application of the cross-linguistic study of several related constructions to pedagogical pursuits in the context of EFL. The originality of this dissertation lies in four aspects.

Firstly, the study has examined a group of constructions bearing family resemblance connections. This aligns the present study with those that focus on constructions in their relatedness to one another thus improving on constructionist analyses centered on isolated constructions often singled out by their singularity. All of the constructions in this dissertation have been identified as belonging to Level 1 in the LCM, where the only previous work has been devoted to resultative constructions (e.g., Luzondo 2014) and to the study of constructional variation in some lexical classes (e.g., Rosca and Ruiz de Mendoza 2016). This study has thus evidenced the need to account for the ins and outs of this descriptive level internally rather than just in its vertical relation to the rest of the descriptive levels of the LCM.

Secondly, this dissertation is the first attempt to apply the LCM to cross-linguistic research between two phylogenetically unrelated languages, English and Chinese in this case. Our analysis proves that an account of meaning construction in terms of cognitive models and operations can work across typologically distant languages.

Thirdly, it is a theoretical innovation to add iconicity, typology and telicity as part of the explanatory apparatus of the LCM. Beyond high-level metaphor and metonymy, this dissertation has demonstrated that these categories act as licensing/constraining factors in lexical-constructional behavior.

Finally, the pedagogical implementation on a whole family of constructions has been designed within the context of Cognitive Pedagogical Grammar. This improves on previous Cognitive Pedagogical Grammar proposals, still highly programmatic, which tend to focus on a few isolated constructions. This new

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proposal sorts out the problem of teaching constructions as isolates, which they are not, and promotes the more effective acquisition of new constructions in terms of family-resemblance relations.

10.3 Further research lines

This dissertation provides some groundwork for future research.   Prospective future lines of research are listed as follows.

Firstly, change-of-state constructions constitute a large family which can be broadly divided into changes of physical state and changes of psychological state categories. These two sub-categories are related to each other and can also be found in various figurative uses. It is necessary to further explore constructions falling within the domain of change of psychological state and those making use of figurative change-of-state.

Secondly, having found family resemblance relations across several telic constructions, it may still be possible to generalize further and describe the higher-level properties of these and other related constructions. For example, we can postulate the existence of a telic/ atelic order of constructions and examine their role within the even more generic domain of pretense constructions.

Thirdly, we can move further ahead from cross-linguistic analysis into a more comprehensive study with theoretical consequences for linguistic typology. For example, it should be possible to examine the same group of constructions of our study in other languages falling within the categories of satellite-framed, verb-framed, and equipollently-framed languages. It would necessary to see to what extent typological constraints on constructional behavior can affect non-typological constraints such as high-level metaphor and metonymy or iconicity. Accumulating cross-linguistic analyses can result in

the formulation of encompassing typological principles regulating lexical-constructional integration and other level-1 phenomena.

Finally, the theoretical findings of this dissertation can be applied in many fields. A handbook of pedagogical implementations for various constructions could be developed, with a comprehensive treatment of pedagogical situations in terms of their complexity. Finally, empirical studies would be important in various respects. One set of experiments should focus on the effectiveness of the proposed pedagogical strategies real EFL classrooms, so as to observe the learning effect and bottlenecks. Other experiments, of different theoretical consequence, should test on constructional behavior and the effect of learning one construction on the mastery of others. An additional benefit of this type of experimental work is the fact that it could provide feedback on the proposed connections across constructions, thus contributing to the refinement of the theoretical postulates derived from linguistic observation.

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Conclusión

Este capítulo ofrece los comentarios finales del trabajo desarrollado en esta investigación. La primera sección resume los principales hallazgos dentro de los campos teóricos y pedagógicos. Después se destaca la originalidad de este estudio y finalmente se enumeran algunas líneas de investigación futuras que se pueden acometer, basándose en este trabajo.

10.1 Resultados

Se ha llevado a cabo un estudio cognitivo de construcciones de cambio de estado tanto en inglés como en chino. El primer capítulo explora qué construcciones pueden pertenecer a la familia de cambio de estado, explicando que son: la construcción resultativa, la construcción de movimiento causado, la construcción causativa, la construcción incoativa y la construcción media. Excepto en algunos casos de la construcción media, que no están entre los objetivos marcados para esta tesis, todos ellos comparten un componente primario o primitivo de "llegar a ser" y en todos ellos el objeto de la acción o cualquier otro elemento no agente (realizado de forma diversa sintácticamente como objetos de cláusula o satélites) alcanza la condición de sujeto sintáctico.

Con respecto a la metodología del segundo capítulo, se ha utilizado un enfoque de investigación cualitativa basada en corpus. El análisis cualitativo se beneficia en gran medida del manejo de grandes cantidades de datos, sometidas a un examen detallado para encontrar patrones de uso a partir de los cuales puedan surgir generalizaciones de alto nivel. En este estudio, los datos se han recopilado de corpus informatizados con la ayuda de motores de búsqueda fiables en los dos idiomas. Además, se ha hecho uso de una combinación de procedimientos analíticos inductivos y deductivos para realizar generalizaciones relevantes consistentes con los datos.

Después de hacer una revisión crítica de estudios previos en el tercer capítulo, se ha llegado a la conclusión de que los verbos y eventos de cambio de estado estudiados por investigadores anteriores se pueden incorporar a un estudio exhaustivo de la familia construccional de cambio de estado. Habiendo examinado las teorías representativas de las varias gramáticas de construcciones (FCG, CG, CxG y RCG), se prueba que el LCM constituye una base teórica sólida que puede proporcionar un marco de análisis adecuado mediante la integración del lexicalismo y el construccionismo.

Las cinco construcciones de la familia de cambio de estado se estudian de manera paralela desde el capítulo cuarto al octavo. En el cuarto capítulo se ha analizado la construcción de movimiento causado. En el patrón X CAUSA QUE Y SE DESPLACE A Z, el cambio de estado puede expresarse literalmente (*Mary cracked the eggs into the bowl*), o de manera figurada (*Wartime production pulled the economy out of depression*) por la metáfora UN CAMBIO DE ESTADO CAISADO ES UN CAMBIO DE LOCALIZACIÓN. Además, un cambio psicológico causado puede actuar como una fuerza motora instigadora de movimiento, como sucede en *Peter laughed Mary out of the room*. La construcción de movimiento causado incluye dos subeventos, que son el subevento causal del iniciador y un subevento de movimiento. Cada elemento de la construcción de movimiento causado se puede ver en relación con un elemento de la construcción resultativa como una acción efectual. En otras palabras, una acción puede tener un impacto físico o psicológico identificable en un objeto. Los idiomas inglés y chino muestran diferencias sobresalientes en la construcción del movimiento causado. El inglés acepta combinar el movimiento y la manera en un solo verbo, haciendo que la oración sea compacta. Por ejemplo, *The audience laughed the poor guy out of the room* utiliza solo un verbo, *laugh*. Sin embargo, el chino usa un grupo verbal, lo que significa que una oración puede tener dos verbos (un verbo específico y un verbo genérico) con la ayuda de marcadores lingüísticos

(*ba*, *shi*, *de*). Por ejemplo, el chino prefiere el siguiente patrón *The audience laughed at the poor guy, making him go out of the room*. Esto da lugar a una explicación sobre las preferencias tipológicas en los dos idiomas. El inglés es una lengua de marco satélite, lo que significa que un verbo puede mostrar el movimiento y la manera del movimiento a la vez. Por otro lado, el chino tiene una preferencia por el marco equipolente con respecto a los eventos de movimiento causado, realizando el movimiento y la forma de movimiento en verbos separados.

Con respecto a la construcción resultativa, que se estudia en el capítulo quinto, el cambio de estado puede expresarse con el patrón transitivo X CAUSA QUE Y LLEGUE A SER Z (*Peter hammered the metal flat*), o el patrón intransitivo Y LLEGA A SER Z (*The river froze solid*). El primero perfila al causante, mientras que el segundo resalta lo causado como si hubiera sido provocado por sí mismo. Tanto el inglés como el chino transmiten la causa (o la manera y el instrumento) en el predicado verbal, como *freeze*, *wipe* y *hammer*. El estado resultante se cubre en el sintagma adjetivo, como *solid*, *clean* y *flat*. Las resultativas del inglés y del chino tienen tipos transitivos e intransitivos, pero us uso es diferente. Por ejemplo, la falsa construcción reflexiva-resultativa aparece más en inglés que en chino. *Peter shouted himself hoarse* en inglés no puede tener un equivalente directo en chino, ya que hace uso de un objeto no reflexivo especificando la parte del cuerpo directamente afectada por la acción verbal (*Peter shouted "his throat" hoarse*). Además, *Peter laughed himself silly* se expresa sin ningún objeto (*Peter "laughed" silly*) y, a veces, el chino hace uso del objeto reflexivo (*Peter "burned himself" dead*), lo que no sucede en inglés. Además, hemos encontrado diferencias culturales en los dos idiomas, como la metáfora de color ROJO POR POPULAR y la metáfora intersensorial EL DOLOR ES AMARGURA. Con respecto al destacado factor licenciador de iconicidad, se ha demostrado que la secuenciación icónica y la proximidad icónica afectan a ambos idiomas. La forma del lenguaje (por

ejemplo, el orden de las palabras, el tiempo y el aspecto) en ambos idiomas indica que la acción tiene lugar antes del resultado, lo que es completamente paralelo al orden temporal del desarrollo del hecho. Sin embargo, las oraciones resultativas en chino pueden describir eventos de acción y de resultado tanto con intervalos de tiempo intermedios como sin intervalos de tiempo, mientras que no se permite un retraso temporal en el inglés; depende de que la influencia de una acción sobre un paciente sea indirecta o directa.

El capítulo sexto se dedica a la construcción causativa en los dos idiomas. La acción de cambio de estado puede dividirse en X ACTS ON Y CAUSING Y TO CHANGE STATE. Tanto el inglés como el chino tienen tres tipos de causativas, que son: las causativas léxicas (*The sun melted the ice*), las causativas morfológicas (*Snow has whitened the trees*) y las causativas perifrásticas (*I have my house cleaned every week*). La causalidad no está marcada en las causativas léxicas, donde el significado causal es explícito. Las causativas morfológicas necesitan la afijación causativa mediante prefijos o sufijos añadidos a los adjetivos. Finalmente, las causativas perifrásticas expresan la causalidad indirecta de manera analítica. Tanto el inglés como el chino seleccionan diferentes métodos entre estos tres tipos mencionados para expresar el mismo hecho causativo. Por ejemplo, los equivalentes de algunas causativas léxicas inglesas (*A redwood bucket faded my carpet*) son causativas perifrásticas en chino (*A redwood bucket made my carpet fade*). El cambio de clase utilizando la afijación tanto en inglés como en chino es diferente. En inglés, está formado por sufijos *(en-, -ize),* mientras que el causativo en chino acepta añadir un adverbio a un verbo deadjetival, como *X muy satisfacer Y,* para resaltar el grado de emoción. La metonimia gramatical es uno de los factores licenciadores.   Los adjetivos se pueden transformar en verbos para describir el estado, por ejemplo, *shu-xi* ('familiar') en chino puede transformarse en verbo en *X familiar Y*, lo que está motivado por la metonimia gramatical RESULTADO POR ACCIÓN QUE CAUSA EL RESULTADO.

La construcción incoativa se analiza en el capítulo séptimo. El verbo incoativo, que puede funcionar de manera transitiva o intransitiva, opera en la alternancia causativa / incoativa, lo que permite relacionar este capítulo a la exposición ofrecida en el capítulo sexto. El patrón causativo $NP_1 + V + NP_2$ se centra más al componente 'causar que lle ue a ser'. Por el contrario, el patrón incoativo NP_2+V enfatiza el resultado. La construcción incoativa retrata hechos en los que un participante pasivo sufre un cambio de estado debido a una fuerza externa desconocida, por ejemplo, *The window broke*. Generalmente las construcciones incoativas en inglés y chino tienen el patron NP_2+V. La parte V en chino podría ser un sintagma verbal ($V_1 + V_2$). Los pronombres reflexivos pueden actuar como modificadores en ambas lenguas ($NP_2 + V + by$ oneself). Las dos lenguas tienen en común el mismo modelo de cadena causal, incluyendo los tres elementos relevantes: acción, causa-convertida y estado resultante. Con respecto a los factores licenciadores, se ha identificado la operatividad de la metonimia y la telicidad para la construcción incoativa. Las construcciones incoativas en inglés y en chino perfilan el resultado de un hecho que se permite por la metonimia PROCESO FOR ACCIÓN. Los verbos incoativos tienden a ser télicos, pero las opciones de verbos incoativos en chino son más restringidas que en inglés. Los verbos en inglés pueden implicar el punto final de la acción en si, como *break* y *open*. Los verbos chinos están limitados a expresar logros y necesitan añadir V_2, como *zeng-jia* ("aumentar-agregar"). El V_2 ayuda a expresar el punto final, mostrando la finalización de la acción.

El octavo capítulo está dedicado a la construcción media. Algunas características notables de esta construcción son la existencia de un agente implícito y la designación de hechos genéricos donde la forma activa expresa los significados pasivos. Además, se pueden apreciar seis tipos de cambio de estado: cambio parcial del sujeto, cambio completo del sujeto, cambio de ubicación en el espacio físico, cambio implícito causado por

sujetos-instrumento, cambios de las condiciones asociadas al objeto, y las resultativas medias. De acuerdo con las formas sintácticas, tales como NP + V + *qi-lai* + modificador (en chino) y NP + V + modificador (en inglés), las construcciones medias tanto chinas como inglesas tienen tres componentes, a saber, frase nominal, verbo medio y modificador. Los sujetos de las construcciones medias inglesas y chinas son sintagmas nominales. El paciente se coloca al comienzo de las oraciones para dotarlo de prominencia temática y el agente queda implícito. Tanto las construcciones medias inglesas como las chinas son activas en cuanto a su forma. Sin embargo, el constituyente verbal en la construcción media china puede ser un sintagma verbal, en forma de verbo medio con un marcador *qi-lai*. Por el contrario, una oración media en inglés solo tiene un verbo, en lugar de un sintagma verbal. Un modificador es una parte indispensable de las construcciones medias tanto en inglés como en chino. En patrones típicos, la posición de un modificador se encuentra al final de una oración: NP + VP + Modificador. Las categorías lingüísticas que sirven como modificadores en chino son los adverbios en inglés y los adjetivos. Las construcciones medias tanto en inglés como en chino están constreñidas por una metonimia gramatical, generalmente la cadena metonímica de alto nivel PROCESO FOR ACCIÓN FOR RESULTADO (EVALUADO). En el caso de los verbos medios chinos, la transformación de transitivo a intransitivo se realiza añadiendo marcadores lingüísticos después de ellos (*qi-lai*, *shang-qu*, *zhe*), mientras que la lengua inglesa puede transitivizar verbos directamente sin ningún marcador lingüístico explícito.

En el noveno capítulo, los hallazgos teóricos realizados en capítulos anteriores se aplican a las implementaciones pedagógicas. Se ha diseñado una gramática pedagógica fácil de usar en el aula de inglés como lengua extranjera. Esta implementación pedagógica incluye tres pasos: primero, enseñar la motivación cognitiva que hay detrás de la oración de la construcción en inglés y compararla con la L1 (en este caso, el chino);

segundo, se ofrecen ejemplos en inglés para que los estudiantes reciban suficiente información y puedan familiarizarse con la construcción en inglés; tercero, se practica la construcción para utilizarla con precisión y fluidez (repitiendo los dos primeros pasos si es necesario). Este procedimiento de tres pasos se ha aplicado a quince actividades de aprendizaje. El diseño específico de las actividades de aprendizaje resultantes, basado en el análisis interlingüístico entre L1 y L2, pretende mejorar la adquisición de las construcciones en cuestión para los estudiantes chinos de inglés como lengua extranjera.

10.2 Originalidad de este estudio

El presente estudio llena un vacío en el campo de la investigación de la lingüística cognitiva sobre las construcciones, utilizando el estudio contrastivo de idiomas en varias construcciones relacionadas con objetivos pedagógicos y en el contexto de la enseñanza del inglés como lengua extranjera. La originalidad de esta tesis radica en cuatro aspectos.

En primer lugar, el estudio ha examinado un grupo de construcciones que tienen conexiones de semejanza familiar. Esto alinea el presente estudio con aquellos que se centran en las construcciones en su relación entre sí, mejorando así los análisis construccionistas basados en construcciones aisladas que a menudo se distinguen por su singularidad. Todas las construcciones objeto de esta tesis han sido identificadas como pertenecientes al Nivel 1 del LCM, donde los únicos trabajos realizados previamente se dedicaron a las construcciones resultativas (por ejemplo, Luzondo 2014) y al estudio de la variación construccional en algunas clases léxicas (por ejemplo, el trabajo de Rosca sobre verbo contributivos; Rosca y Ruiz de Mendoza 2016). Por lo tanto, este estudio ha demostrado la necesidad de dar cuenta de las características de este nivel descriptivo internamente y no solamente en su relación vertical con el resto de los niveles descriptivos del LCM.

En segundo lugar, este estudio es el primer intento de aplicar el LCM al estudio contrastivo de idiomas que, además, no están relacionados filogenéticamente, como son el inglés y el chino. Nuestra investigación demuestra que una explicación de la construcción de significado en función de modelos y operaciones cognitivas puede ser operativa para tratar lenguas tipológicamente distantes.

En tercer lugar, es una innovación teórica el añadir iconicidad, tipología y telicidad como parte del aparato explicativo del LCM. Más allá de la metáfora y la metonimia de alto nivel, este estudio ha demostrado que estas categorías actúan como factores licenciadores y restrictores de los fenómenos léxico-construccionales.

Finalmente, la implementación pedagógica en todo un grupo de construcciones ha sido diseñada dentro del contexto de la Gramática Cognitiva Pedagógica. Supone una mejora con respecto a las propuestas anteriores de esta gramática, a pesar de ser altamente programáticas, ya que tienden a centrarse en unas pocas construcciones aisladas. Esta nueva propuesta resuelve el problema de enseñar construcciones de manera aislada, ya que no lo están, y promueve la adquisición más efectiva de las nuevas construcciones, teniendo en cuenta las relaciones de semejanza familiar.

10.3 Otras líneas de investigación.

Esta tesis ofrece futuras líneas de investigación, que se detallan a continuación.

Primero, las construcciones de cambio de estado constituyen una gran familia que se puede dividir en categorías de cambio de estado físico y cambio de estado psicológico. Estas dos subcategorías están relacionadas entre sí y también se pueden encontrar en varios usos figurativos. Es necesario explorar

más a fondo las construcciones que están dentro del dominio del cambio del estado psicológico y aquellas que hacen uso del cambio de estado figurado.

En segundo lugar, después de haber encontrado relaciones de semejanza familiar en varias construcciones télicas, todavía es posible generalizar más y describir propiedades de alto nivel de éstas y otras construcciones relacionadas. Por ejemplo, podemos postular la existencia de un orden télico / atélico de construcciones y examinar su papel dentro del dominio aún más genérico de las construcciones de pretensión.

En tercer lugar, podemos avanzar más allá del análisis interlingüístico a un estudio más completo con consecuencias teóricas para la tipología lingüística. Por ejemplo, debería ser posible examinar el mismo grupo de construcciones de nuestro estudio en otras lenguas dentro de las categorías de marco satélite, de marco verbal y marco equipolente. Sería necesario ver hasta qué punto las restricciones tipológicas en el uso construccional pueden afectar a las restricciones no tipológicas, como la metáfora de alto nivel y la metonimia o la iconicidad. La acumulación de análisis interlingüísticos puede llevar eventualmente a la formulación de principios tipológicos que regulen la integración léxico-construccional y otros fenómenos del nivel 1.

Finalmente, los hallazgos teóricos de esta tesis pueden aplicarse en muchos campos. Se podría desarrollar un manual de implementación pedagógica para varias construcciones, con un tratamiento exhaustivo de las situaciones pedagógicas según su complejidad. Se podrían desarrollar estudios empíricos, que serían importantes en varios aspectos. Por ejemplo, un conjunto de experimentos podría centrarse en la efectividad de las estrategias pedagógicas propuestas en las clases de inglés como lengua extranjera para estudiar los resultados de aprendizaje y sus limitaciones. Otros experimentos, de diferentes consecuencias teóricas, podrían probar el comportamiento construccional y el efecto de aprender una construcción en el

ámbito de otras. Otra ventaja de este tipo de trabajo experimental es el hecho de que podría proporcionar retroalimentación sobre las conexiones propuestas en las construcciones, contribuyendo así al refinamiento de los postulados teóricos derivados de la observación lingüística.