Analysing Secondary Predication in East Asian Languages
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By

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CAMBRIDGE SCHOLARS
PUBLISHING
For my parents, Tetsuo and Hiroko Shibagaki
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The preface is where one might make excuses for what he might have written but did not. My first excuse is that research on secondary predication did not stop while I was writing about it. In other words, this book is not as fully an up-to-date account of what is currently being said about secondary predication (“up-to-date” in the sense of taking into consideration the very latest syntactic and semantic theories). Instead, I mainly relied upon government and binding theory in order to figure out the syntactic structure of secondary predication. Even without using the latest techniques, I think I have still managed to reveal the core properties of secondary predication and thus the results cannot be said to be of no lasting value.

The intention underlying this book is to describe accurately the language facts of secondary predication in the East Asian languages of Chinese, Japanese, Mongolian and Korean. I aimed to build on earlier analyses of secondary predication, which have thus far been somewhat overly biased towards English, and in the process discovered truly accurate syntactic and semantic properties of secondary predication.

I must stress that this is a book of language analysis; that is, I have included affluent data and its theoretical analysis. So the resulting interaction between elegant descriptive studies and serious analytical works is deliberate. I could have created a compendium of the theory of secondary predication, but this would have been a different book. For better or worse, I have furthermore chosen to illustrate and investigate the less well-trodden languages in linguistics.

The existence of disagreements over the exact meaning of terms that frequently appear in the analysis of secondary predication has been another obstacle. In particular, I had difficulties with “case assigning”, “small clause” and “complement/adjunct”. As I wrote this book, I felt an urgent need to provide my own definitions of these concepts. Conducting a respectable analysis of Mongolian was another tough challenge, since there is little research linguistically on this language.

Finally, I ought to state my own attempts at impartiality in the face of the controversies in the field of syntax and semantics. I tried to keep to a principle of equal and equally critical representation. Thus, it is no coincidence that this book utilizes the ideas of minimalist programme as
well as lexical functional grammar, even going as far as extending the idea of lexical conceptual structures to the domain of syntax. This is the result of my attitude throughout of simply trying to listen to the language and analyse it as naturally and intuitively as possible. Often, this meant the use of what I judged to be the best theory to explain each phenomenon.
ACKNOWLEDGEMENTS

First and foremost, I wish to thank Peter Sells. His influence on me as a linguist has been profound. Without Peter, I could not have written this book. Andrew Spencer, Hideki Kishimoto, Mamoru Saito, Dolgor Guntsetseg, Shin-Sook Kim, Toru Ishii, Masatoshi Koizumi and my anonymous reviewers have read all or part of this work at various stages, and they have my thanks for the generosity they have shown me and their helpful comments. I also wish to acknowledge Andrew Simpson, who led me to the world of linguistics. Last but not least, I wish to express my gratitude to my parents Tetsuo and Hiroko Shibagaki. It is impossible to fully express my appreciation of them with these few words.
CHAPTER ONE
INTRODUCTION

Predication is a concept which has been immensely difficult for linguists to define. A complete predication is thought to provide a proper proposition, which has been discussed since the time of Aristotle in the domains of philosophy and linguistics, though there is no commonly agreed definition of “predication”. This book observes predication from the linguistic point of view, where predication is regarded as a relation which connects a subject with a predicate.

There is a split whether predication represents a meaning-based relation or structure-based relation in the domain of linguistics. In this book I follow the proposals by Williams (1980) and Rothstein (1983), and assume that predication represents a structure-based (syntactic) relation.

The fact that a clause requires a subject and a predicate indicates that predication is a necessary element in a sentence. However, it seems that it is not always the case. Unlike the case of primary predication which is a necessary element of a sentence, secondary predication is generally an unnecessary element to provide a grammatical sentence. Consider the examples of predications.

(1) a. The meat is raw.
   b. John ate the meat raw.

(1a) represents the case of primary predication, where the meat receives its theta role only from raw.1 (1b) represents the case of secondary predication, where the meat receives its theta roles from raw as well as ate. From the syntactic point of view, when an argument receives its theta role only from one predicate, the predicate functions as a primary predicate. When a predicate offers a theta role to an argument which receives another theta role from another predicate, then the predicate functions as a secondary predicate.

---

1 The terminology theta role represents the type of meaning which a verb inherently assigns to its arguments.
predicate. Furthermore, true secondary predication does not involve tense and aspect, whilst primary predication does.

In this book, I offer an account of secondary predication of four different languages, Chinese, Japanese, Mongolian and Korean, in the areas of syntax and semantics.

Secondary predicates have two subtypes, resultatives and depictives. Here, I lay out English resultatives in (2) and their subtype “subject-oriented resultative” in (3), and then describe depictives in (4) and (5). In the examples, secondary predicates are italicised and the arguments modified by the secondary predicates are underlined.

(2) [Object-oriented Resultatives]
   a. John shot the dog dead.
   b. John shot the dog to death.
   c. He painted the fence a vivid shade of blue.
   d. The joggers ran the pavement thin.
      (Matsui and Kageyama, 2009)
      (Carrier and Randall, 1992)

(2a,b,c) represent the canonical resultative construction, where, the linking is always object-oriented as Simpson (1983) stated in her Direct Object Restriction (DOR). In this type, the secondary event is clearly brought about by the primary one, and thus I will use the term “direct causation” to describe the relation between the two events of canonical resultatives. As in (2a,b,c), in English the resultative predicates can morphologically be realized with adjective, prepositional phrase or noun phrase. (2d) represents an intransitive resultative, where the object is licensed by the secondary predicate.

Next, I will show the “subject-oriented resultatives” in (3).

(3) [Consequence Depictive OR Goal/Path sentence in English]
   (SUBJ-oriented)
   a. The wise men followed the star out of Bethlehem.
   b. The sailors managed to catch a breeze and ride it clear out of the rock.
   c. He followed Lassie free of his captors. (a-c; Wechsler 1997)
   d. He danced mazurkas across the room.
   e. John swam laps to exhaustion.
   f. The children played leapfrog across the park. (d-f; Verspoor 1997)
(3a-f) have been considered as “subject-oriented resultative” by Wechsler (1997) and Verspoor (1997). There is an on-going debate as to whether these sentences are true resultatives or mere Goal/Path sentences. Since Wechsler (1997) and Verspoor (1997) introduced sentences like (3a) as subject-oriented transitive resultatives, some linguists including Rappaport Hovav and Levin (2001) and Goldberg and Jackendoff (2004) agreed with Wechsler and Verspoor and admitted that the “restriction on the internal argument” (proposed by Levin and Rappaport Hovav 1995 and Kageyama 1996), that only internal arguments can be semantically modified by the resultative secondary predicate, was wrong. On the other hand, others like Kageyama (2003), Rothestein (2004), and Mateu (2005) disagreed with Wechsler and Verspoor, and insisted on retaining the restriction on the internal argument. Their counterargument against Wechsler and Verspoor is that genuine resultatives should not allow the phrase all the way right before the resultative predicate, since the resultative predicate denotes a terminative point but not a whole process.

(4) [Canonical Resultative]
   a. John shot Mary to death.
   b. *John shot Mary all the way to death.

[“Subject-oriented” Resultative]
   c. The wise men followed the star out of Bethlehem.
   d. The wise men followed the star all the way out of Bethlehem.

Kageyama (2003) argues that (4a) is the canonical resultative construction, where all the way cannot be inserted in front of the secondary predicate to death, as shown in (4b). On the other hand, (4c) allows all the way to precede the “secondary predicate” out of Bethlehem, as shown in (d). This suggests that (4c) is a mere goal/path sentence, like John went to school, which allows the insertion of all the way as John went all the way to school. However, I think that if the main verb shot in (4b) is replaced with punched, the grammaticality of the sentence rises.

(5) ?John punched Mary all the way to death.

I am not going to debate whether the sentences (3a-f) represent true resultatives or not any more in this chapter. However, if the italicised words in (3a-f) were secondary predicates, then I would call them as “consequence depictives”; e.g. there are two events in (3a), and the secondary event takes place only after the first event occurs. Thus there is
a causative relationship between the primary and secondary events. However, there is no external causer; the causer is internal (the Actor performs an action possibly without volition and the resultant state occurs to the Actor itself). In fact, the primary event in (3a) could easily cause not only the state of staying out of Bethlehem but also many other different types of secondary events, such as becoming unhappy, hungry, tired, and so on. In this respect the extent of causation in (3a) is relatively weak, and thus I will use the term “indirect causation” to describe it later in chapter 2. Consequence depictives may or may not exist in English, but do exist and are productive in Mandarin Chinese as well as some other languages including Thai. The linking pattern in this type is always subject-oriented.

Next I will show the subject-oriented depictives.

(6) [Subject-oriented Depictives]
   a. John ate the oyster *naked*.
   b. He came home *breathless*.
   c. He came home *out of breath*.
   d. He left the hospital *a shade of his former self*.
      (Rothstein, 2006)

The examples in (6) represent the subject-oriented depictives. In depictives, the state described by the depictive predicate takes place before the action denoted by the main verb takes place, unlike the case of resultatives and consequence depictives: e.g. in (6a), John had been naked when he ate the oyster. As in (6), morphologically, English allows adjective, prepositional phrase and noun phrase to be a depictive predicate.

(7) [Object-oriented Depictives]
   a. John ate the oyster *raw/alive/uncooked*.
   b. John sold the book *used*.

In (7), the depictive secondary predicates link to the objects. In English unlike some other languages whether a depictive secondary predicate links to subject or object fully depends upon the context.

As to the typological studies of depictives, there is a substantial work by Himmelmann and Schultze-Berndt (eds.) (2005). They had a critical survey of classification of depictives and adverbials; they discussed not only depictive secondary predicates but also other adverbials such as manner adverbs (*John angrily read the review*) and so-called weak free adjuncts (*Standing on a chair, John can touch the ceiling*), stating that from a cross-linguistic point of view it is necessary to posit an overarching category, participant-oriented adjunct, which subsumes all of these
construction types. In fact, they investigated participant-oriented adjuncts in a variety of languages, especially lesser-known languages.

This book explores the syntactic structure of secondary predication on Chinese, Japanese and Korean in which secondary predications have been researched well, and on Mongolian in which there is few work on them. Though my focus is on secondary predicates, I will discuss the other participant-oriented adverbials and subordinate clauses, whenever possible.

In the rest of the chapters, I will investigate the secondary predicates in Chinese (Ch.2), Japanese (Ch.3), Mongolian (Ch.4) and Korean (Ch.5). In each chapter I describe the language facts carefully, and analyse them syntactically and semantically. Chapter 6 concludes the book.
1. Introduction

This section looks at the derivation of the Modern Mandarin resultatives. First, the history of Chinese dialects will be introduced, focusing upon disyllabification. This will later suggest that the resultative construction in Modern Mandarin Chinese has been developed from the one in Middle Chinese, and thus implies that Chinese resultative construction may have the underlying syntactic structure similar to the English one. The observation of the disyllabification also explains why Chinese internally-caused change-of-state predicates are different from those of English. This will be discussed in detail in section 5. As for the data of this chapter, I consulted a number of native Mandarin (non-)linguists from Beijing, Nanjing, Hong Kong, and Taiwan.

In Modern Mandarin Chinese disyllabic words are much more numerous than monosyllabic words. The table (1) shows the research by Lü (1961) on the first 3000 common words in Standard Chinese.

(1) The proportion of disyllabic words in Modern Chinese by Lü (1961)\(^1\)

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Disyllabic words</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nouns</td>
<td>1621</td>
<td>1379</td>
<td>85%</td>
</tr>
<tr>
<td>Adjectives</td>
<td>451</td>
<td>311</td>
<td>69%</td>
</tr>
<tr>
<td>Verbs</td>
<td>941</td>
<td>573</td>
<td>61%</td>
</tr>
</tbody>
</table>

The table (1) by Lü shows that more than 75% of the first 3000 common words are disyllabic. On this point, Hu (1981) stated that, overall, around 80% of Modern Chinese words were disyllabic. However, interestingly, the proportion of disyllabic words in Old/Middle Chinese

\(^1\) In Chinese the syntactic category of “adjective” is mysterious; some of them are more like intransitive verbs and others are more like nominals. Here, I simply introduce what Lü (1961) illustrated as it is.
was distinctively different from that in Modern Mandarin Chinese. According to Guo (1997), disyllabic words counted approximately 20% of the whole lexicon before 200 B.C. Although there never was a stage where the Chinese lexicon was purely monosyllabic, Guo stated that the methods for creating disyllabic words were in the embryonic stage in the period from the 1100 B.C. to 700 B.C. and were actually established between 700 B.C. and 200 B.C. (Guo, 1997).

As for disyllabification, there seem to be a couple of motivations. Her (2010) explains that one of the most widely-accepted hypotheses is that disyllabification took place due to the simplification of the phonological system over the history of Chinese; that is, reduction in the sound variety caused an increasing number of homonyms. The addition of syllables was an effective way to preserve sufficient numbers of distinctive sound forms in the lexicon.

Wang, L. (1990) listed several phenomena of phonological simplification.

(2) a. All of the three stop consonants at coda position-[p], [t], and [k]-disappeared.
   b. The distinctive features “voiced” and “voiceless” are neutralised, and, as a result, the set of voiced consonants all merged with their corresponding voiceless counterparts, for example, [b] became [p], and [d] became [t].
   c. During the translation from Old to Middle Chinese, the long entering tone (chang ru) merged with falling tone.
   d. The 35 consonants used as initials in middle Chinese were reduced to 20 in modern Chinese.
   e. As for the finals, 16 sound categories (yun she) were reduced to 12. (Wang, 1990)

These phenomena in fact resulted in a serious increase of homonyms. Shi (2002) illustrated the number of the characters of syllable “yi” in Modern Chinese as in (3); there are 168 characters which have the syllable “yi”, and 88 out of the 168 characters possess precisely the same phonological representation.

(3) The number of the characters of syllable “yi” in Modern Chinese by Shi (2002)

<table>
<thead>
<tr>
<th>Number of words</th>
<th>level</th>
<th>raising</th>
<th>falling-raising</th>
<th>falling</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tonal contours</td>
<td>21</td>
<td>38</td>
<td>21</td>
<td>88</td>
<td>168</td>
</tr>
</tbody>
</table>
In order to avoid and improve misleading utterances in conversation, Mandarin Chinese has selected disyllabification, whereas other dialects (especially southern ones) took different ways to reduce homonyms. Generally speaking, Southern dialects preserved more phonological properties of Old and Middle Chinese than the Northern ones (Li, X. et al. 1995). For example, Cantonese (mainly spoken in the Southern mainland China and Hong Kong) has 11 types of tones and 59 types of finals (Li, X. et al. 1995), while Mandarin Chinese currently has only 4 tones plus a neutral and 39 finals. Thus, many disyllabic words in Mandarin Chinese correspond to monosyllabic ones in Cantonese. Examples are shown in (4), quoted from Li, X. et al. (1995).

(4) **Cantonese** | **Standard Chinese** | **Meanings (English)**
--- | --- | ---
\(xie\) 蟹 | pang-xie 蟹蟹 | “crab”
\(yan\) 眼 | yan-jing 眼睛 | “eye”
\(ming\) 明 | ming-bai 明白 | “understand”
\(wei\) 味 | wei-dao 味道 | “taste”

Li, X. et al. (1995) also noted that Cantonese lacks many suffixes of Modern Mandarin Chinese which primarily function to make a monosyllabic word disyllabic, such as the nominal suffixes \(-zi\), \(-er\) and \(-tou\). This again suggests that Cantonese has more phonological devices to distinguish lexical forms and thus does not need as many disyllabic words as Standard Chinese.

Moving onto the Chinese resultative constructions, I introduce some data from Middle Chinese and Modern Shanghainese (spoken in Shanghai) as evidence that the derivation of Modern Mandarin resultatives indeed came from those of Middle Chinese. Sentences (5) and (6) are the examples of the resultative construction in Middle Chinese. Secondary predicates are in bold font.

(5) 唤江郎覚
*Huan Jiang-lang jue*
call Jiang-lang awake
“Call Jiang-lang awake.”
*(Shi shuo xin yu, Jiajue, A.D. 425, quoted from Shi (2002))*
(6) 秉直通直
Zhi jieheng ping-zhi
build street flat-straight
“He built streets flat and straight.”
(Shi shuo xin yu, Yan yu, A.D. 500, quoted from Shi (2002))

(5) and (6) represent the canonical resultative construction. They contain the primary and secondary events in each sentence; (5): “Call Jiang-lang, as a result Jiang-lang became awake”, (6): “He built the streets, as a result the streets became flat and straight.” In each sentence, the verb and resultative predicate are split; the object intervenes between the verb and resultative predicate. Thus, each sentence has a structure: “(SUBJECT) + VERB + OBJECT + RESULTATIVE PREDICATE (S-V-O-R)”. This structure is exactly identical with the English resultative construction which also takes “S-V-O-R”. Sybesma (1999) claims that the resultative construction of Modern Mandarin Chinese is derived from the one of Middle Chinese by merging the main verb with the resultative predicate, firstly because the semantic property of the resultatives in Middle Chinese fully corresponds with that in Modern Chinese, and secondly because the merging of the main verb and the secondary predicate can be well supported by the overall trend of disyllabification. This historical analysis supports the syntactic structures of the Modern Mandarin resultatives deduced from the theoretical domain by Huang (2006) and many others, where the internal argument and resultative predicate syntactically form a small clause inside VP like the English resultatives.

The fact above in turn suggests that in some Southern dialects, which has not adopted the disyllabification in their history of language, the original form (the style of Middle Chinese, as in S-V-O-R, unlike the Modern Mandarin’s S-V-R-O) of the resultative construction should be preserved. (7a,b) are from Shanghai dialect (South-east mainland China).

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2 Generally, it is extremely difficult to make a word with more than two syllables for phonological reasons in Chinese. So when secondary predicate is realised as a separate lexical item as in (6) in Middle Chinese, it is possible to have a two-character secondary predicate. In modern Chinese, a secondary predicate merges to a main verb to give a compound verb. That is, the compound verb as a whole should consist of two characters; the main verb must be one character and secondary predicate one character.
(7) a. 烧伊酥
   shao yi su
   toast it crisp
   “Toast it crispy.”

b. 曝伊干
   shai yi gan
   shine-upon it dry
   “Expose (to sunshine) it dry.” (Huang, B.1996)

As the phonological systems are more complicated than those of the Northern dialects, the southern dialects have fewer disyllabic words compared with the Northern dialects. Huang (1996) explains that in the resultative construction of many Southern dialects the reanalysis of V and R has not yet occurred or is half way to a completion point, and V and R in these Southern dialects can still be separated by object, adverb or negative, reminiscent of the separable resultative structure in Middle Chinese.

2. Categorisation of Secondary Predicates:
   Canonical Resultative and Consequence Depictive

In the first part of this section, I provide examples of secondary predicates in English and Mandarin on consequence-depictives (SUBJ-oriented) and resultatives (OBJ-oriented), which adopt an intransitive verb/adjective for their secondary predicate. In the second half, I present an account of the linking issue on “resultative” compound predicates in Mandarin Chinese, building on the LFG/LMT work of Her (2007), who assumed that the argument structures of each predicate merge to give a composite structure, which determines whether a resultative sentence is semantically causative or not, and from which the arguments link to grammatical functions. I argue here that the facts require a more articulated semantics, for unlike Her’s analysis, the determination of causativity and the linking of the arguments of the two predicates is fully an issue of semantics; specifically, I argue that there are two types of secondary predicates in terms of their semantics, namely those with internally- and externally-caused changes of state (see Levin and Rappaport Hovav: 1995, McKoon and Macfarland: 2000), which are respectively “indirect-causative” and “direct-causative”; causativity should be categorised into three types, non-causative, indirect-causative, and direct causative. I further argue that the argument undergoing internally-
caused change always links to Actor and that the one undergoing externally-caused change always links to Undergoer.

Here, I lay out two types of “secondary predicate” with Mandarin ones. In the examples, secondary predicates are italicised and the arguments modified by the secondary predicates are underlined.

Mandarin Chinese can also exhibit the two types of secondary predicates shown in (7), using intransitive verbs or adjectives. Examples are given in (8), where the causation and linking of each type will be briefly explained. They will be theoretically analysed later.

(8) [Two Types of Secondary Predicates in Mandarin]
[Consequence Depictive] (SUBJ-oriented)
a. John *chi-ni* le mantou
   John eat-bored PFV bun
   “John ate the bun and became bored with doing so.”

b. Wo *chuan-guan* le zhe shuang xie
   I wear-accustomed PFV this kind shoe
   “I wore these shoes and became accustomed to them.”
   (Li, 1990)

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3 As for the variety of so-called secondary predicates, it is well known that there are some other variants such as spurious resultative and subject- and object-oriented depictives. I only briefly introduce these data here; these constructions are not the targets in this book. In addition, it is doubtful whether Chinese has true depictives, for the grammaticality of (ii) and (iii) are only marginal. In some other languages including English, spurious and depictive secondary predicates are adjectival, while as can be seen below, they are adverbial in Chinese; –de stands for an adverbial marker.

(i)  [Spurious Resultative] (OBJ-oriented)
   ?Ta *song-song-de* zha le tiao bian zi
   she loosely braid PFV pigtail
   “She put her hair into a pigtail loosely.”

(ii) [Depictives] (SUBJ-oriented)
    ?!*John *pa-pa-de* pao le
    John shyly run PFV
    “John shyly ran.”

(iii). [Depictive] (OBJ-oriented)
      ?!*John *re-hu-hu-de* chi le mantou
      John hotly eat PFV bun
      “John ate the bun hot.”
c. 小宝宝 吃-lei le
    little baby cry-tired PFV
   “The little baby cried (a lot) and became tired.”
   [Resultative] (OBJ-oriented)

d. John da-po le bo-li
   John hit-broken PFV glasses
   “John hit the glass broken.”

e. Lisi peng-shang le Zhangsan
   Lisi bump-injured PFV Zhangsan
   “Lisi bumped into Zhangsan and Zhangsan got injured.”

f. Mengjiangnü ku-dao le wanli-changcheng
   Mengjiangnü cry-fall PFV Great-Wall
   “Mengjiangnü cried the Great Wall to ruins.”

((e,f) : Huang, 2006)

(8a-c) exemplify the consequence depictive in Chinese. (8a) consists of two events; the primary one can be interpreted as John ate the bun, and the secondary one John became bored. The secondary event takes place only after the primary event occurs; if you ask “Why is John bored with eating buns?”, then the answer has to be “Because he ate them (a lot of them)”. So there is a causative relation between the primary and secondary events; the secondary event is brought about by the first one. However, John of (8a) does not need to have volition to become bored of eating buns. Moreover, the event of eating could cause various types of caused events such as being happy, unhappy, full, sick and so on, unlike the case of the typical resultative construction. Therefore, this type should be called “consequence-depictive”, since two descriptive events take place one after another under the weak causative relationship. I call this subject John “the internal causer” because the entity itself, which performs an action without volition, ends up in a resultant situation denoted by the secondary predicate. This argument can be applied to (8b,c) as well. The consequence depictive construction is always subject-oriented and productive in Mandarin Chinese. As can be seen in (8c), the intransitive type also exists.

(8d-f) represent cases of the canonical resultative, which is always object-oriented. The secondary event is clearly brought about by the primary event; the possible caused events are semantically restricted compared with the case of the consequence depictive: in (8d) the resultant state has to be something closely associated with the meaning of hitting,
unlike the cases of the consequence depictives. The subject John plays the role of external causer.

3. Some Properties of Mandarin Secondary Predicates

In terms of linking and causation, Mandarin secondary predicates can be categorised into three types, consequence depictives, resultatives and inverse-linking resultatives, which were previously discussed in the category of “resultatives” by, most notably, Li (1995, 1999) and Her (2007). Linking stands for whether the secondary predicate modifies the subject (SUBJ-oriented) or the object (OBJ-oriented). Causative means “the bringing about of one state of affairs directly by another state of affairs, usually an event or action” (Van Valin & LaPolla, 1997). The linking pattern and the issue of causation are explained in section 3.1 and 3.2 following the accounts of Li (1995), and in section 3.3 I will illustrate some linguistic tests to show that Mandarin object-oriented resultatives, such as canonical resultative and inverse-linking resultative, share the cross-linguistic properties of “resultative”, whereas the consequence depictive does not.

3.1 Linking Patterns

Examples of the three constructions with a true secondary predicate are given below.

(9)  <consequence depictive>
    John  chi-ni  le  mantou
    John  eat-bored  PFV  bun
    “John ate the bun and became bored with doing so.”

(10) <resultative>
    John  niu-gan  le  maojin
    John  wring-dry  PFV  towel
    “John wrung the towel, which caused the towel to become dry.”

(11) <inverse-linking resultative>
    Zhe zhong yao  chi-si  le  John
    this kind medicine  eat-die  PFV  John
    “The taking of this kind of medicine (by John) caused John to die.”
(9) represents the consequence depictive type, where the secondary predicate \( ni \) ‘bored’ modifies the subject \( John \) (SUBJ-oriented). On the other hand in (10) the secondary predicate \( gan \) ‘dry’ modifies the object \( maojin \) ‘towel’ (OBJ-oriented). In both (9) and (10), those are the only possible interpretations; in any context, it is impossible to have the OBJ-oriented reading for (9) or SUBJ-oriented reading for (10).\(^4\) Interestingly, (11) is grammatical, where, among the two arguments \( John \) and \( zhe zhong yao \) ‘this kind of medicine’, \( John \) is the proto-subject entity EATER, yet which maps to the object, and \( zhe zhong yao \) ‘this kind of medicine’ is the proto-object entity EATEE which maps to the subject.\(^5\) This situation appears to go against the thematic hierarchy, that a hierarchically more prominent theta role should correspond to a structurally more prominent argument position. Thus, (11) shows an inverse-linking phenomenon. As for the linking of (11), it is the surface object that is modified by the secondary predicate \( si \) ‘dead’ (OBJ-oriented). Moreover, the interpretation shown in (12) is unacceptable.

(12) \#Zhangyu chi-si le John  
Octopus eat-die PFV John  
Int. “John ate the octopus and it (the octopus) died.”

(12) is grammatical only with the OBJ-oriented reading as in (11); it cannot be interpreted as SUBJ-oriented, although it is possible to create a context that a living octopus was eaten by John and it died (in John’s mouth). These are the basic data on the linking patterns of Mandarin secondary predicates. The theoretical explanations for the linking pattern will be offered in sections 6 and 7.

### 3.2 Causative vs. Non-causative

Many linguists including Huang (1988) stated that examples like (9) are “non-causative”, while those like (10) and (11) are “causative”.\(^6\) The

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\(^4\) In some dialects of Mandarin Chinese, it is possible to use \( ni \) ‘bored’ in the inverse linking type. I will mention this issue later in this chapter.

\(^5\) The proto-properties of subjecthood and objecthood will be discussed in section 4.3 by introducing some arguments from Dowty (1991) and Van Valin and LaPolla (1997).

\(^6\) Though I use the conventional term “non-causative”, I will later show that the consequence-depictive sentence (9) is not non-causative but “indirect-causative”, which is incompatible with BA and BEI constructions like “non-causative”; BA and BEI tests are the ones which detect whether a sentence is direct-causative or not.
distinction between “causative/ non-causative” can clearly be observed with BA (affected object) and BEI (passive) tests, because in Mandarin such constructions carry a causative interpretation and are compatible only with causative sentences. Below, (13), (14) and (15) correspond to (9), (10) and (11), respectively, where (13a, b) are ungrammatical, which means (9) is non-causative, while (14a, b) and (15a, b) are both grammatical, which means (10) and (11) are both causative.

(13) a. *John  ba mantou chi-ni le  (cf (9))
   John  BA bun eat-bored PFV
   “John ate the bun, which caused John to become bored with doing so.”

   b. *Mantou bei John chi-ni le
   bun  BEI John eat-bored PFV
   “The bun was eaten by John, which caused John to become bored with doing so.”

(14) a. John  ba maojin niu-gan le  (cf (10))
   John  BA towel wring-dry PFV
   “John wrung the towel dry.”

   b. Maojin bei John niu-gan le
   towel  BEI John wring-dry PFV
   “The towel has been wrung dry by John.”

(15) a. Zhe zhong yao ba John chi-si le  (cf (11))
   this kind medicine  BA John eat-dead PFV
   “The eating of this kind of medicine caused John to die.”

   b. John bei zhe zhong yao chi-si le7
   John  BEI this kind medicine eat-dead PFV
   “John was caused to die by the eating of this kind of medicine.”

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7I am not sure whether BA is the genuine passive trigger or not; in (9b) the thematically more prominent Actor links to SUBJ, and the less prominent Undergoer links to OBJ. This phenomenon contradicts the proposal on the passive construction by Jackendoff (1992). In Mandarin, the BA construction may only be a device that changes the positions of SUBJ and OBJ of an active sentence. In any case, (5)/(9) is at least causative.
3.3 Tests and Diagnoses on Mandarin Resultatives

In this subsection, I will illustrate two tests, aspectual test and pseudo-clefting, in order to observe whether Chinese secondary predicates share the semantic and syntactic properties with those of other languages.

First, the aspectual structure of the canonical depictives are cross-linguistically activity or achievement types, which follows the fact that the canonical depictives are compatible with for 10 minutes phrase but not with in 10 minutes phrase. In the examples below, both in and for ten minutes phrases are inserted into the three types of VV-compound sentences (9), (10) and (11).

(16) [in and for 10 minutes Tests with the Consequence-depictive Sentence (9)]
   a. John zai shi fen-zhong nei (jiu) chi-ni le mantou
      John LOC ten minute within just eat-bored PFV bun
      “John ate the bun and became bored with doing so in 10 minutes.”
   b. John chi-ni le mantou shi fen-zhong
      John eat-bored PFV bun 10 minutes
      “John ate the bun and became bored with doing so for 10 minutes.”

(17) [in and for 10 minutes Tests with the Resultative Sentence (10)]
   a. John zai shi fen-zhong nei (jiu) niu-gan le maojin
      John LOC ten minute within just wring-dry PFV towel
      “John wrung the towel, which caused the towel to become dry in 10 minutes.”
   b. *John niu-gan le maojin shi fen-zhong
      John wring-dry PFV towel 10 minutes
      “John wrung the towel, which caused the towel to become dry for 10 minutes.”

(18) [in and for 10 minutes Tests with the Inverse-linking Resultative Sentence (11)]
   a. Zhe zhong yao zai shi fen-zhong nei (jiu) chi-si le John
      This kind of medicine LOC ten minute within just eat-die PFV John
      “This kind of medicine caused John to die in 10 minutes.”
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b. *Zhe zhong yao chi-si le John shi fen-zhong
   this kind medicine eat-die PFV John 10 minutes
   “The eating of this kind of medicine (by John) caused John to die for 10 minutes.”

(16) shows that the Chinese consequence-depictive construction is at least compatible with zai shi fen-zhong nei (jiu) ‘in 10 minutes’ phrase, which is atypical of the canonical depictives. As for the shi fen-zhong ‘for 10 minutes’ test, I have received different judgements from my consultants; though most of them judged (16b) as ungrammatical, some accepted it in the interpretation ‘John ate the bun, and was bored with doing so for 10 minutes’, suggesting that the state denoted by the depictive predicate lasted for 10 minutes.

(17) shows that the Chinese resultative construction like (10) represents the true resultative construction in terms of its ASpectual structure; the test in (17) indicates the ASpectual structure of (10) is the accomplishment type, which is a significant feature of resultatives. (10) is compatible with zai shi fen-zhong nei (jiu) ‘in 10 minutes’, but not with shi fen-zhong ‘for 10 minutes’.

(18) shows that the so-called inverse-linking resultative construction like (11) represents the true resultative construction in terms of its ASpectual structure. As to (18a), because an entity/thing does not Generally DO something, the sentence seems slightly strange. However, the grammaticality of (18a) is much higher than that of (18b). (18b) is in any sense ungrammatical.

Second, the pseudo-cleft construction reveals the contents of VP. In English, depictive and resultative predicates are both inside VP. In the examples below, I apply the pseudo-cleft operation onto the three types of VV-compound sentences (9), (10) and (11).

(19) [Pseudo-cleft Construction with the Consequence-depictive Sentence (9)]
   a. John zuo de (shi) shi [vp chi-ni mantou]
      John do GEN thing COP eat-bored bun
      “What John did was eat the bun and become bored (with doing so).”
   b. John zuo ni de (shi) shi [vp chi mantou]
      John do bored GEN thing COP eat bun
      “What John did bored was eat the bun.”