Chinese Resultative Verb Compounds: 
Lexicalization and Grammaticalization

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This paper is an historical study of the formation of the Chinese resultative verb compounds (RVCs) that signal a resultant state of a non-agent with a V1V2 predicate. Metaphorization and metonymization, understood within the theoretical framework of Brinton & Traugott (2005), are proposed to have played a most important role in the formation of the RVC in Middle Chinese. Many scholars noted (Wang 1958, Ota 1958, and Mei 1991) that the Modern Chinese RVCs as a linguistic form did not exist in Old Chinese. Mei (1991) further claimed that the neutralization of the second verb in a matching transitive verb-verb sequence gave rise to the present-date RVC with a transitive-intransitive format. This paper, however, demonstrates that, in light of the polysemous structure of many verbs and Levin & Hovav’s theory on argument realization (2005), the ambitransitive nature of the verbs in these verbal sequences ultimately was responsible for the unification of the two verbs as a process of metonymization exemplified by hyperbole and its spread as a process of metaphorization. Moreover, it is also argued that, on the basis of several formal distinctions, Chinese RVCs can be separated into two different categories: those resulting from lexicalization and those resulting from grammaticalization.

Key words: resultative verb compounds, grammaticalization, lexicalization, ambitransitive

1. Introduction

Over the last two millennia, hardly any other change in Chinese history has impacted Chinese syntax more notably than the formation of the Chinese resultative verbs (hereafter RVC) in Middle Chinese1 as it directly fed into, among other things, the emergence of the BA construction, the potential construction, etc. (Ota 1958, Mei 1991,

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1 In this paper, Old Chinese is conveniently used to refer to the language of historical texts from the 5th century BCE to the 2nd century CE, Middle Chinese from the 3rd to 10th century CE, Early Modern Chinese from the 11th century to 19th century, and Modern Chinese from the 20th century to the present day.
Sun 1996, and Liang 2006). As compared to the Old Chinese grammar, it drastically changed the landscape of Chinese syntax in subsequent times. Thus, a good understanding of the formation of the Chinese RVC is essential in the study of the history of Chinese syntax.

In this paper, a Modern Chinese RVC construct can be taken to be a unified verb compound composed of two verbal morphemes such as *da-po* ‘hit-break’, *kan-wan* ‘see-finish’, *he-zui* ‘drink-drunk’, and *tui-chu* ‘retreat-exit’ as shown in Example (1), with the second verb (hereafter V2) indicating the result of the action signified by the initial verb (hereafter V1). This kind of compound forms an independent lexical word, as the verbal suffix *le* signaling perfective aspect cannot be inserted between the two unified components, as shown in example (1e) (Li & Thompson 1981).

(1) a. 他打破了杯子
   ta  da-po-le  beizi
   3rd  hit-break-ASP  cup
   ‘He broke the cup.’

   b. 他看完了這本書
   ta  kan-wan-le  zhe-ben shu
   3rd  see-finish-ASP DEM-CL book
   ‘He finished reading the book.’

   c. 他喝醉了酒
   ta  he-zui-le  jiu
   3rd  drink-drunk-ASP liquor
   ‘He got drunk.’

   d. 他退出了比賽
   ta  tui-chu-le  bisai
   3rd  retreat-exit-ASP competition
   ‘He withdrew from the competition.’

   e. *打了破、* *看了完、* *喝了醉、* *退了出
   da-le-po  kan-le-wan  he-le-zui  tui-le-chu
   hit-ASP-break  see-ASP-finish  drink-ASP-drunk  retreat-ASP-exit

   Functionally speaking, a Chinese RVC serves to predicate a non-agent argument signaling a resultant state. In terms of the semantic case roles of its arguments, the RVCs are not totally consistent. In (1a) the object *beizi* ‘cup’ occurring after an RVC is the patient of V1 and V2 of the RVC, *da* ‘hit’ and *po* ‘break’. Accordingly, the resultant state is a predicate of the patient, i.e., the broken cup resulting from the action of
‘hitting’. In (1b), the object shu ‘book’ is the theme of V1 kan ‘see’ and wan ‘finish’. In other words, the resultant state ‘finish reading a book’ is a predicate of the theme. But in (1c) the postverbal object jiu ‘liquor’ is the theme of the V1 ‘drink’ but not the V2 zui ‘drunk’, which is a predicate of the preverbal subject experiencer, ta ‘3rd person pronoun’, not a predicate of its theme object jiu of V1 he. It will be shown that throughout history, the Chinese RVCs have not been limited to predicking a syntactic object exclusively, but rather a non-agent element of any given RVC.

Moreover, traditionally examples such as tui-chu ‘retreat-exit’ in (1d) have an intransitive V2 indicating a resultant state of a theme, or an experiencer, and are treated as a type of RVC (Li & Thompson 1981).

In a Chinese RVC construct there are two essential constituents, V1 and V2. Typically, the former is a transitive verb (hereafter Vt) and the latter an intransitive verb (hereafter Vi) associated with a certain number of subcategorized arguments. Most V2s in (1), as intransitive verbs (Vi), can function on their own as free morphemes, such as the intransitive verb si ‘die’ in (2b).

(2) a. 他打死了一隻蒼蠅
   ta da-si-le zhi cangying
   3rd hit-die-ASP CL fly
   ‘He hit a fly (to death).’

b. 蒼蠅死了
   cangying si-le
   fly die-ASP
   ‘The fly died.’

Note that an intransitive verb such as si ‘die’ usually takes an experiencer subject such as the one in (2b). But in an RVC, the object cangying ‘fly’ is the patient/object of V1 but a logical experiencer/subject of V2 si in (2a). In this paper, this fact is taken to imply that the V2 in a Chinese RVC, as a resultative component of a lexical item with a V1+V2 formation, typically does not participate in the argument selection, such as the sequence da-si in (2a), in which the fly is the patient object of V1 da. However, the intransitive V2 functions to predicate a resultant state, or extent of change, of a non-agent argument of the V1.

2 Note that in this paper, the grammatical terms subject and object are used very loosely for ease of elucidation following the tradition adopted by most Chinese linguists. Typically, a subject refers to an agentive NP in a preverbal position, and an ‘object’ an NP in patient/theme in a postverbal position.
Li & Thompson (1981) also define the Modern Chinese RVCs from other verb compounds by an infixal potential marker, -de/bu- ‘positive/negative potential’, such as the pairs in (3), in which the potential marker and V2 together indicate the extent of an event, for example, beat to a possible extent of dying, or not dying.

(3)  

a. 打得/不死  
da-de/bu-si  
‘can/cannot be beaten to death’  

b. 打得/不破  
da-de/bu-po  
‘can/cannot be broken’  

c. 看得/不完  
kan-de/bu-wan  
‘can/cannot finish reading’  

d. 喝得/不醉  
he-de/bu-zui  
‘can/cannot drink to be drunk’  

Those in (4) that cannot co-occur with the potential markers de/bu are treated as coordinate verb compounds by Li & Thompson (1981). Whereas the two morphemes in (4a) and (4b) can be treated as semantically parallel, it is, nevertheless, unclear how the sequences in (4c) and (4d) are semantically different from the resultative verb compounds in (3) as the same resultative relationship can be easily construed from these sequences, kuo-da and gai-liang ‘expand to a resultant state that is big’ and ‘change to a resultant state that is good’.

(4)  

a. 批評  
pi-ping  
‘to criticize’  

批得/不評  
pi-de/bu ping  

b. 加強  
jia-qiang  
‘to strengthen’  

加得/不強  
jia-de/bu qiang  

c. 擴大  
kuo-da  
‘to expand’  

擴得/不大  
kuo-de/bu-da
d. 改良 *改得/不良
   gai-liang     gai-de/bu-liang
   change-good  ‘to improve’

It then follows that RVCs as a semantic group may not be completely homogeneous and there can be RVCs of different kinds. Similar observations have been made by Liang (2006). In the following sections, I will show how this issue can be fully accounted for within a framework of lexicalization/grammaticalization proposed by Brinton & Traugott (2005).

Historically, many scholars (Wang 1958, Ota 1958, and Mei 1991) noted that this kind of Modern Chinese RVC as a linguistic category did not exist in Old Chinese. Section 2 deals with insights and insufficiencies in the literature in order to fully account for the formation of the Chinese RVCs. Section 3 proposes a new analysis of the Old and Middle Chinese verbs in terms of transitivity with some insights from Levin & Havov’s work (2005). Section 4 discusses how regularization motivated the emergence of the Chinese RVC as a process characteristic of metonymization. Section 5 summarizes the historical developments of Chinese RVCs within a lexicalization/grammaticalization framework (Brinton & Traugott 2005).

2. Previous studies on the formation of Chinese resultative verb compounds

It has been observed by many (Wang 1958, Ota 1958, Mei 1991, and Xu 2006) that in Old Chinese there were no RVCs, i.e., lexical items composed in the Vt+Vi format. All the verbal sequences in Old Chinese were parallel in nature. For example, even though in (5a) the two verbs in sequence can be construed to have a resultative relationship, they are, nevertheless, both transitive verbs, meaning 激 ji ‘to excite’ and 怒 nu ‘to irritate’ respectively, systematically different from the Modern Chinese RVCs which have a Vt+Vi format. Similarly, the two verbs in (5b) should also be analyzed as a sequence in a Vt+Vt format. Although V2 zou ‘to run’ looks like an intransitive verb, it was used as a transitive verb with a causative meaning ‘to make someone run’.

Vt+Vt:
(5) a. 乃激怒張儀 (Shiji 史記: 蘇秦列傳)
   nai ji nu Zhang Yi
   then excite irritate Name
   ‘Then made Zhang Yi become angry.’
b. 謝餘擊走常山王張耳
(Shiji 史記: 張丞相列傳)
Chen Yu ji zou Changshan wang Zhang Er
Name strike run Title king Name
‘Chen Yu strike (and cause) King Changshan Zhang Er to run.’

In other words, the constraint for two Old Chinese verbs to occur in this type of parallel construct was that the two verbs must share a common argument structure. The examples in (6) are two cases with a parallel construct encompassing two intransitive verbs, Vi+Vi.

Vi+Vi:
(6) a. 閻陳王戰敗
(Shiji 史記: 蘇秦列傳)
wen Chen wang zhan bai
hear Name king battle lose
‘(Someone) hears that King Chen fought and lost.’

Vi+Vi:
(6) b. 恐帝長大後見怨
(Hanshu 漢書: 王莽傳)
kong di zhang da hou jian yuan
afraid emperor grow big after see resent
‘(Wang Yu) was afraid that after the emperor (Ping Di) would have grown up, he would face (the emperor’s) resentment.’

It is generally believed (Wang 1958, Ota 1958, Li 1984, Mei 1991, and Xu 2006) that the typical Modern RVC pattern, Vt+Vi, did not surface until Middle Chinese, which Ota (1958) and Mei (1991) treated as a case of neutralization in transitivity. Note that among the Middle Chinese data, there are cases in which the V2s must be treated as an intransitive verb such as the two cases of si ‘die’ in (7). Note that on the one hand, the Vi si in (7a) is followed by an objective noun phrase, in spite of the fact that it is an intransitive verb. On the other hand, as Old Chinese is a VO-type language, the argument in objective case typically is expected to occur after a verb. There is no such objective NP after the so-called transitive verb shao in (7b).

Vt+Vi+O:
(7) a. 乃打死之
(You Ming Lu 劉義慶: 幽明錄)
nai da si zhi
then hit die 3rd
‘… then, beat it (the dog) to dead.’
**Vt+Vi:**

b. 四畔放火燻死

(Dunhuang Shun Zi Bian 敦煌舜子變)

si pān fāng huo shāo sì

four side set fire burn die

‘Set fire on (his) four sides to burn (him) to dead.’

Mei (1991) identified four reasons for this neutralization, the appearance of an object NP after an Old Chinese Vi such as *si*. First, the Old Chinese causative use of an intransitive verb such as *zou* ‘to run’ → make some one run’ in (5b) may be related to the loss of a reconstructed Sino-Tibetan pre-verbal causative marker *s*- in Middle Chinese. For instance, for the Modern Chinese pair 墨 ‘ink’ / 黒 ‘black’ pair in (8), it is hypothesized (Yakhontov 1960, Mei 1988, and Gong 2000) that the relationship between the initials *m/*h of this modern pair can be systematically linked to the loss of a Sino-Tibetan pre-verbal causative prefix *s*- that had devoiced, and thus changed, the Old Chinese voiced initial *m* into *x* first as a process of assimilation before the prefix itself became lost in Middle Chinese.

(8) 墨 *mək* → mək

hei *s-mək* → xək

ink to make dark black

According to Mei, the loss of the causative prefix might have motivated the neutralization of transitivity in these VV compounds, making the Vt+Vi sequence possible. In what follows, I will claim that while the loss of the causative prefix may, or may not, have encouraged the development of Vt+Vt into a Vt+Vi construct, a more important mechanism of change is the metonymization process triggered by hyperbole.

The other three reasons that Mei identified include V2’s changing into a complement of V1, allowing adjectives to appear as a V2 such as the one *da* ‘big’ in (6b), and the emergence of a new serial-verb construction, V1+NP+V2 such as the one in (9), in which the two verbs *chui* ‘blow’ and *kai* ‘open’ are separated by a noun phrase *wo luoshang* ‘my silk robe’.

(9) 春風復多情，吹我羅裳開 (Zi Ye Si Shi Ge 子夜四時歌: Chun ge 春歌)

chun feng fu duo qing, chui wo luo-shang kai

spring wind again many emotion blow 1st grey-dress open

‘The wind of spring, with so much emotion again, blew open my silk robe.’

As a matter of fact, the V1+NP+V2 sequence was not totally new in Middle Chinese. In Old Chinese this type of construction did exist (Liang 2006), particularly
when V2 was an intransitive verb of displacement such as the one in (10). What actually might have happened was that the kind of V2s that could occur in this construction expanded from Old Chinese verbs of displacement to commonly include intransitive verbs of other kinds in Middle Chinese.

\[
V_t + NP + V_i
\]

(10) 持劍盾步走  
chi jian dun bu zou  
hold sword shield step run  
‘(They) held their sword and shield running.’

Nonetheless, no full account would directly follow from the four reasons as a whole. If the Old Chinese V1+V2 sequence must be parallel, i.e., Vt+Vt or Vi+Vi, this constraint would have required that a transitive verb, or an intransitive verb, must be followed by a V of the same kind. Logically, this matching constraint should have prevented the emergence of a Vt+V1 sequence of any kind, as it would have blatantly violated the very constraint. My hypothesis is that the neutralization may follow more closely from the ambitransitive nature of many of the Chinese verbs.

3. Historical ambitransitivity of many Chinese verbs

In this section, pertaining to the issue of neutralization in transitivity, it will be demonstrated that Middle Chinese was an essentially monosyllabic language without any overt transitivity markers and many verbs could easily be used either as transitive verbs or as intransitive verbs. Furthermore, I will show that at a certain time many verbs could be used predominantly one way but, at another time, this changed. Ambitransitivity, or the ability to function as either a transitive or an intransitive verb, therefore, may have led to ambiguity and been a more important contributing factor to the formation of the Chinese RVCs.

3.1 Ambitransitivity

The verb ‘to kill’ is generally considered to be one of the more prototypical transitive verbs, implying a volitional initiator of an event. Ota (1958) and Mei (1991) noted that whereas the parallel VV sequence in (11a), with sha ‘to kill’ as its V2, is a transitive pattern, (11b), with si ‘to die’ as its V2, is an intransitive pattern. Typically, the transitive pattern has an NP following V2 functioning as the common object of V1 and V2. In contrast, there is no NP following V2 in an intransitive pattern.
Vt+Vt:

(11) a. 岸崩，盡壓殺臥者
    (Shiji 史記: 外戚世家)
    an beng, jing ya sha wo zhe
    bank collapse all press kill lie one
    ‘The collapsed bank (bury) killed all the sleepers.’

Vi+Vi:

b. 百餘人炭崩盡壓死
    (Lunheng 論衡: 吉驗)
    bai yu ren tan beng jin ya si
    hundred more person mine collapse all press die
    ‘More than 100 people (bury) died in the collapse of the mine.’

However, if the transitivity properties of sha ‘kill’ and si ‘die’ are unambiguously so, ya ‘press’ must be capable of functioning either as a transitive or an intransitive verb. Otherwise, the Old Chinese matching constraint for a VV sequence would have prevented it from co-occurring with both transitive sha ‘kill’ and intransitive si ‘die’. The matching condition for the Old Chinese V1+V2 sequences dictated that either the Vt+Vt format or the Vi+Vi format is acceptable, but not *Vt+Vi, nor Vi+Vt. It appears that ya ‘press’ and sha ‘kill’ in (11a) both have an instrument as its subject and a patient as its object. In (11b), ya ‘press’ and si ‘die’ share an experiencer as the subject without an overt object. Then, if ya ‘press’ can be used either transitively or intransitively, one would wonder if transitivity for any given verb can be unequivocally determined.

As Liang (2006) and Xu (2006) noted, even though sha is used predominantly as a transitive verb and si predominantly as an intransitive one, in (12a) sha and si, with an experiencer subject, are predicates parallel to each other, functioning intransitively as a middle-voice verb meaning something close to ‘to die’. In contrast, the verb si is used transitively as a causative verb, with an agent and a patient in (12b), functioning somewhat like a transitive verb ‘kill’.

(12) a. 秦孝王死，公孫鞅殺
    (Zhangguo Zonghengjia Shu 戰國縱橫家書)
    Qin Xiao wang si, Gongsun Yang sha
    Name Name king die Name kill
    ‘King Xiao of Qin died, and Gongsun Yang died (too).’

b. 崔子之徒以戈斫公而死之
    (Hanfeizi 韓非子)
    Chui-zi zhi tu yi ge zhuo gong er si zhi
    Name REL disciple with ax smash lord and die 3rd
    ‘The disciples of Chuizi smashed at the lord with an ax and caused him to die.’
3.2 Changes in its dominant uses in terms of transitivity

It then follows that there might be no clear-cut distinction between the Old Chinese verbs ‘to kill’ and ‘to die’ completely without reference to a given context, as they can be used synonymously either as a transitive verb or as an intransitive verb in different contexts. Such a phenomenon persisted throughout Chinese history. As a matter of fact, sha was used more and more with an intransitive meaning and eventually ceased to occur in a RVC as a V2 in Early Modern Chinese. The examples in (13) are some cases of sha used in Zhuzi Yulei (13th century CE).

(13) a. 婦殺夫  
fu sha fu  
wife kill husband  
‘The wife killed the husband.’

b. 打殺那要向便門底心  
da-sha na yao xiang bian men de xin  
hit-extinguish DEM want toward convenient door REL heart  
‘Give up on the idea of wanting the door of convenience.’

c. 便自殺身  
bian zi sha shen  
then self kill body  
‘Then, kill oneself.’

d. 草木春生秋殺  
cao mu chun sheng qiu sha  
grass wood spring life autumn die  
‘The plants grow in the spring and die in the autumn.’

The verb sha is used as a transitive verb in (13a-c) and an intransitive verb in (13d). The increase of intransitive usage is shown by the table in Table 1. Furthermore, it is interesting to note that as a V2 in (13b) sha is used metaphorically. With an agent/theme case roles for its argument, there is not an obviously affected patient that would die resulting from the action of ‘to kill’. Furthermore, its intransitive use in (13d) simply means something like ‘die/wither’ that would only have a theme as its subject.

Between the 10th century CE text Dunhuang and the 13th century CE text Zhuzi Yulei, the ratios between the transitive pattern (suo) sha (+V2) N and the intransitive pattern (V1+) sha decreased from 3.8:1 to 1.4:1. This may suggest that sha’s intransitive usage became more common over the 300 years. But the key is that the verb that was originally more closely associated with the transitive ‘kill’ could be used more and more
in transitively over time. With regard to its function as a V2, in Early Modern Chinese the intransitive use of *sha* was completely replaced by *si* ‘die’ as is in *da-si* hit-die ‘kill’ of (2) (I will return to discuss the significance of this change in §4).

**Table 1:** The increase of intransitive occurrences of *sha* ‘to kill’ over time

<table>
<thead>
<tr>
<th></th>
<th>(suo) sha (+V2) N³</th>
<th>(V1+) sha</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Dunhuang Bianwen</em> (敦煌變文)</td>
<td>68</td>
<td>18</td>
<td>86</td>
</tr>
<tr>
<td>Ratio</td>
<td>3.8</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><em>Zhuzi Yulei</em> (朱子語類 1-21)</td>
<td>30</td>
<td>21</td>
<td>51</td>
</tr>
<tr>
<td>Ratio</td>
<td>1.4</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Ambitransitivity is a prevalent feature for a multitude of Chinese verbs. In relation to the history of the RVC, *po* ‘break’ is another commonly used V2 in Modern Chinese with a converging ratio between transitive and intransitive usages over time in history. Recall that one of the reasons given by Mei (1991) for the neutralization of the V2 in transitivity was the emergence of a new serial-verb construction, V1+NP+V2. It was also noted in §2 that such a sequence is not completely new in Middle Chinese and, in Old Chinese, a verb of displacement following a transitive verb already took this pattern. What happened was that verbs, other than the displacement type, started to appear in this position. Mei (1991) noted that there is, for this type of V2, an alternative pattern V1+V2+NP, in which V2 should be treated as an intransitive verb just like its counterpart in the V1+NP+V2, such as *po* ‘break’ in the pair of examples in (14).

(14) a. 當打汝口破   *(You Ming Lu 遊明錄)*  
     *dang da ru kou po*  
     should hit your mouth **break**  
     ‘(Someone) should break your mouth.’

   b. 以梨打破頭  *(Bai Yu Jing 百喻經)*  
     *yi li da po tou*  
     with pear hit **break** head  
     ‘(Someone) break open the head with a pear.’

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3 *Suo* 所 in historical Chinese texts is an optionally used preverbal pro-form signaling a syntactic object of the following transitive verb. So any instance of a verb co-occurring with it is considered a transitive use and, thus, categorized under the transitive pattern.
However, historically \textit{po} ‘break’, like \textit{sha} ‘kill’ and \textit{si} ‘die’, could commonly function as either a transitive verb with a following NP (15a) or an intransitive verb without an NP (15b-c). As a transitive verb, it may have an agent and patient thematically such as the one in (15a). As an intransitive verb, it can be construed as a middle voice verb, in other words informally it is syntactically active but semantically passive resembling English verbs ‘open’ and ‘cook’ in the sentences such as ‘The door opens easily’ or ‘The casserole cooked in the oven’.

\begin{enumerate}[(15)]
\item a. \textit{破塔壞寺} (\textit{Dunhuang FoshuoAmituo Jing 2} 敦煌佛說阿彌陀經講經文二)
\textit{po ta huai si}  \\
‘break pagoda bad temple’
\item b. \textit{宅舍破壞無投處} (\textit{Dunhuang Mulian jiu mu} 敦煌大目乾連冥間救母)
\textit{zai-she po huai wu tou chu}  \\
‘All houses were destroyed and (we) have no place to go.’
\item c. \textit{刀剜骨肉片片破} (\textit{Dunhuang Mulian jiu mu} 敦煌大目乾連冥間救母)
\textit{dao gua gu-rou pian-pian po}  \\
‘A knife cut the flesh off the bone, (and) every piece is cut.’
\end{enumerate}

After counting its occurrences in the Shiji and Dunhuang texts, (from the 1\textsuperscript{st} century BCE and the 10\textsuperscript{th} century CE, respectively), we found that the transitive use of \textit{po} ‘break’ was much more common in Old Chinese (6:1), but that its intransitive use became nearly just as common in Middle Chinese (2.2:1).

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|c|}
\hline
\textbf{Shiji: biographies} & \textbf{(suo) 破 (+V2) N} & \textbf{(V1+) 破} & \textbf{Total} \\
\hline
\textit{史記列傳} & 278 & 46 & 324 \\
\hline
\textbf{Ratio} & 6 & 1 & \text{} \\
\hline
\textit{Dunhuang Bianwen} & 60 & 27 & 87 \\
\hline
\textbf{Ratio} & 2.2 & 1 & \text{} \\
\hline
\end{tabular}
\caption{The decrease of the transitive occurrences of \textit{破} \textit{po} ‘to break’ over time}
\end{table}

In this light, possibly those occurring in the V1+NP+V2 pattern signify \textit{po} ‘to break’ being treated more as an intransitive verb and those in the V1+V2+NP pattern
were modeled after a transitive verb by the Middle Chinese native speakers. Furthermore, the upshot of the above discussion shows that the forging of the Chinese RVC cannot be fully explained simply in terms of neutralization in transitivity as many of them are ambitransitive.

The examples in (16) are a case illustrating the ambitransitive nature of the V1 in the Old Chinese’s V1+V2 sequence. As a V1, *餓* could mean ‘to starve’ transitively, or intransitively. In (16a), the two verbs, *餓* ‘to starve’ and *sha* ‘to kill’ are both transitive verbs with a common agent and a common patient. In (16b) both *餓* ‘to starve’ and *si* ‘to die’ are intransitive verbs with a common experiencer and a locative *Shaqiugong*.

(16) a. 餓殺其子                   (Lunheng 論衡: 齊世家)

饿 sha qi zi
starve kill 3rd son
‘starved and killed his son’

b. 餓死沙丘宮                  (Shiji 史記: 趙世家)

饿 si Sha-qiu-gong
starve die Name
‘starve to death in Shaqiugong’

In the remainder of this paper, explanations within a grammaticalization framework will be given to illustrate how ambitransitivity might have contributed to the formation of Chinese RVCs throughout history due to the potential ambiguity it generates in many contexts.

### 3.3 Event structures

In studying argument realization, Levin & Hovav (2005) do not look at the event structure of transitive and intransitive verbs in a mutually exclusive manner. On the one hand, an event, with verbs like *sweep* and *wipe* as the predicate, is simple as these verbs only take surface contact and do not entail any result state. On the other hand, an event, with causative change-of-state verbs like *break* and *dry* as the predicate, is treated as complex. In other words, the event structure of a proposition, in which there is an NP following a verb, such as ‘sweep the floor’, still can be represented by a simple event structure similar to that with an intransitive verb. The VP *殺人* in (17a) *sha ren* ‘to kill people’ is hyperbole entailing a situation with a simple event structure in which nobody would die and is, thus, similar to ‘sweep the floor’ without implying a causative change of state. Thus, the notion of transitivity alone cannot fully explain how the Vt+Vi pattern emerged out of the Old Chinese Vt+Vt sequence under the matching condition.
In the next section, we will discuss some factors motivating the creation of the Vt+Vi RVC.

4. Hyperbole, metonymization, metaphorization, and the emergence of RVCs

In the last section, it was noted that ambitransitivity, exemplified by verbs such as sha 杀 ‘to kill’, si 死 ‘to die’, and po 破 ‘to break’, is prevalent. Recall that in Old Chinese there were only Vt+Vt and Vi+Vi sequences that are parallel in nature. The three verbs in the examples given so far are all common occurrences of V2 in an RVC sequence. In this section, it will be shown how the polysemous structure of these verbs allowed them to forge Chinese RVCs as processes of metonymization and metaphorization. As shown by Hopper & Traugott (2003), metonymic and metaphorical inference are complementary, not exclusive, processes. The development of the Chinese RVC is highly context-dependent involving both processes, be it lexicalization or grammaticalization.

Metonymization refers to a process from which a new category, or meaning, arises in context (Brinton & Traugott 2005). It is a kind of semanticization of a new meaning initially induced from a specific context. The historical development of Vt+Vi RVCs is such a case. For instance, sha ‘to kill’, as a V2, originally occurred mostly in the Vt+Vt sequence. However, a new meaning of sha in an otherwise transitive pattern Vt+Vt might have arisen, motivated by hyperbole and subsequent regularization, in a context similar to the one exemplified by the late Old Chinese poem in (17a). As a transitive verb, V1 chou ‘to worry’, with a causer/experiencer structure is a less prototypical transitive verb than V2 sha ‘to kill’ that normally has an agent/patient argument structure. However, in this case, baiyang ‘white willow’, the causer of chou is inanimate. Suppose that the polysemous structure of sha allows either an agent or an inanimate causer as its subject. Then, the verbal sequence, chou and sha 愁杀, satisfies the Old Chinese matching condition as both verbs share two common arguments, even though it does not entail the typical meaning of ‘to kill’ as a non-animate tree is not likely to be a volitional murderer in its normal sense. Obviously a tree that ‘kills’ a person is used as a case of hyperbole highlighting the extent of a dire situation in which a dreadful sadness would affect a person. The significance of this usage is at least twofold. First, whereas the earliest cases of RVCs may not violate the matching condition for Vt+Vt sequences a non-matching Vt+Vi RVC might arise out of the transitive V2. That is, the Vt+Vi resultative meaning is contextually induced, or pragmatically inferred, from this kind of sequence that satisfied the Old Chinese matching condition. Second, the transitive V2, without entailing a loss of life, is a Vt with a simple event structure resembling an intransitive
verb. Thus the derivation of the Vt+Vi went through a transitional stage that is marked by a V2 predicate with a simple event structure.

(17) a. 白楊多悲風，瀟瀟愁殺人 (Gushi shijiu shou 古詩十九首)
    bai yang duo bei feng, xiao-xiao chou sha ren
    white willow much sad wind gentle worry kill person
    ‘White willow with much sorrow, gently worried people to death.’

b. 打殺那要向便門底心 (Zhuzi Yulei 朱子語類 16)
    da-sha na yao xiang bian men de xin
    hit extinguish DEM want toward convenient door REL heart
    ‘Give up on the idea of wanting the door of convenience.’

c. 可殺頭痛 (Zutangji 祖堂集 14)
    ke sha tou tong
    can kill head hurt
    ‘It is a killing headache.’

d. 憂死人 (present-day Standard Chinese)
    chou si ren
    worry die people
    ‘worry to death’

Levin (1999:225-243) and Levin & Hovav (2005) noted that there are two kinds of transitive verbs: change-of-state verbs with a complex event structure (18c) and verbs with a simple event structure the does not entail any result state (18a-b). It is hypothesized that the sequence sha ren in (17a) a simple event structure resembling the English ‘sweep the floor’ as the metaphorical use here signals an event that only touches a person without causing someone to die.

(18) a. Pat swept the floor.
    [x ACT <sweep> y]

b. Pat left.
    [x ACT <leave>]

c. Pat broke the vase.
    [[x ACT <manner>] CAUSE [BECOME [y <BROKEN>]]]

Example (13b), repeated as (17b), is an additional example of this in Early Modern Chinese, in which the sentence indicates a mental activity. The complex structure for (17b) as an RVC can be [[x ACT <打 do>] CAUSE [BECOME [y <殺那…心> NO

639
It then follows that intransitive verbs in simple event structures can easily occur in this slot. The example in (17d) is given to show that, in present-day standard Chinese, *sha* ‘to kill’ is replaced by the intransitive *si* ‘to die’ as a V2 of the RVC. But when it is used as an RVC, *sha ren* indicates an exaggerated resultant state of the situation in (17a-b) somewhat comparable to the English ‘sweep the floor clean’ in which a causative change-of-state is involved. The example in (17c) was taken from Liang (2006) who claims that when *sha* ‘to kill’ is used to indicate an extent (or resultant state) it can even be placed in front of the verb signifying the initiative event, that it modifies in *sha tou tong* ‘killing headache’. Here this phenomenon is taken to reveal *sha*’s ability to indicate a static meaning that has nothing to do with real killing.

Still another feature of the early RVC sequence such as those in (17a-b) is that both V1 and V2 have an experiencer as their subject. ‘The willow tree’ is not an animate subject but a figurative causer. However, the person who is worried, as is signaled by the verb *chou*, is typically a non-volitional experiencer. Note that in the pair of Old Chinese examples cited in (11), *ya-sha* ‘to press and kill’, has a subject *an* ‘bank’ that is in an instrumental case and *ya-si* ‘to press and die’ has a subject *bai yu ren* ‘more than a hundred people’ that is in an experiencer case. Neither is representative of a high transitivity case that should have a deliberate and volitional agent. It is therefore claimed here that the Vt+Vi RVC was derived out of the context of low transitivity. Furthermore, the fundamental function of the RVC is to indicate the resultant state of a non-agent. That is, V2 in this sequence does not imply a change of state. It indicates a change of state only in the V1+V2 sequence, as V2 expresses a state of affairs that bears a cause-and-effect relationship with V1.

Example (19) is an additional piece of supporting evidence from the Modern Shanghai dialect for the intransitive analysis of *sha* ‘kill’ in (17a-b). The cognate of Old Chinese Vt *sha* in the Modern Shanghai dialect is the V2 *saʔ* in (19). It is interestingly ambiguous in the Modern Shanghai dialect as it can imply either a complex event structure, or a simple event structure, given a specific context. For instance, it is a Vt+Vt sequence, if the hearer and the speaker are enemies and if the speaker is violent enough to murder the hearer. However, it is a Vt+Vi sequence if the hearer and the speaker are, for instance, lovers and if what is implied is an event that is exaggerated without implying any killing but a resultant state following the V1 *dă* ‘to hit’.

(19) 打殺儂 (Shanghainese)
   dă saʔ nong
   hit kill/die 2nd
   ‘kill you’ or ‘beat you up’
The derivation of the Chinese Vt+Vi RVC can also be understood as a process of metaphorization that assumes “the outcome of pragmatic extensions of meaning that become widely accepted and eventually semanticized in the context of speaker-hearer interaction.” (Brinton & Traugott 2005:106). In this paper the spread of the Vt+Vi RVC originally triggered by instances exemplified by those in (11) and (17a-b) is then fittingly treated as a process of metaphorization. Note that it was observed in (14) that po ‘to break’ is ambitransitive in Middle Chinese. Whereas the string in (20a) is the Old Chinese pattern for an intransitive V2 following a transitive V1, the string in (20b) is the pattern for a Vt+Vt in which the two verbs share a common subject and a common object. Now we can say that the po as V2 in the string (20b) can then be reanalyzed as a Vi for two good reasons. First, metonymically speaking, it was commonly used either as an intransitive verb or as a transitive verb in Old Chinese. Second, metaphorically speaking, by using the Vt+Vt sequence to convey hyperbole, where V2 has a simple event structure comparable to that of an intransitive verb, the Vt+Vi format systematically emerged making the Old Chinese verb-matching requirements irrelevant. A metaphorical extension is made to enable a Vi, or an adjective, to occur in the V2 position as analogous to the Vt that has a simple event structure.

(20) a. 當打汝口破  (You Ming Lu 幽明錄)
dang da ru kou po
should hit your mouth break
‘(Someone) should break your mouth.’

b. 以梨打破頭  (Bai Yu Jing 百喻經)
yi li da po tou
with pear hit break head
‘(Someone) break open the head with a pear.’

More support for the current hypothesis comes from the so-called verbs of completion as a V2. Mei (1981) and Cao (1986) claim that the present-day Chinese perfective marker -le 了 originally was a verb of completion commonly occurring as a V2. These verbs of completion as the V2 such as chi 註 in V1+N+chi ‘to complete’ (21a), V1+chi (21b), and V1+que (21c), did not appear until Middle Chinese when the Vt+Vi sequence was formed.

4 Other verbs of completion include jing 竟, yi 已, and bi 畢. This group of verbs was substituted by le 了 and became lost in Early Modern Chinese.
(21) a. 読之訖 (Shiji 史記: 太史公自序)
   du zhi qi  
   read 3rd complete  
   ‘to finish reading it’

b. 聽訖雲 (Shishuo Xinyu 世說新語: 賞譽)
   ting qi yun  
   listen finish say  
   ‘to finish listening to the discussion’

c. 迎門卻行。高祖大驚 (Shiji 史記: 高祖本紀)
   ying men que xing gaozu da jing  
   welcome door retreat walk Name great surprise  
   ‘Welcome at the door walking backward, Gaozu was greatly startled.’

d. 設卻百日齋，渾家忘卻你 (Wang Fanzhi 王梵志詩)
   she que bai ri zhai hunjia wang que ni  
   set PERF hundred day feast relatives forget PERF 2nd  
   ‘(Your relatives) will have forgotten you when organizing the 100th celebrating day (of your death?).’

Examples (21a-b) show that the syntactic distributions of the verbs of completion such as qi are consistent with the V2s under investigation such as po. As put forth by Cao (1986), the first Chinese perfective aspect marker is que in (21d), which was used originally as a directional verb meaning ‘to retreat, to go away, etc.’ as is the case in (21c). A directional verb like que was rarely used as a transitive verb in Middle Chinese (Sun 1999). Therefore, the V-que sequence in front of a noun in (21d) arguably was also made possible by the formation of the Vt+Vi sequence and resulted from a process of metaphorization. Its aspectual meanings were substituted by grammatical suffixes such as -le 了 in Early Modern Chinese (Cao 1986, and Sun 1996).

5. A framework of lexicalization and grammaticalization

This section sums up the formation of the Chinese RVC presented so far within a theoretical framework of grammaticalization. Data will be given to show that Chinese RVCs belong to two kinds of processes, lexicalization and grammaticalization. Typologically speaking, the Chinese resultative indicates a change of state of a non-agent, going beyond the notion of a syntactic object or a semantic patient.

Within Brinton & Traugott’s framework (2005:96), lexicalization is defined as “the change whereby in certain linguistic contexts speakers use a syntactic construction
or word formation as a new contentful form with formal and semantic properties that
are not completely derivable or predictable from the constituents of the construction or
the word formation pattern. Over time there may be further loss of internal constituency
and the item may become more lexical.” On the other hand, grammaticalization is defined
as “the change whereby in certain linguistic contexts speakers use parts of a construction
with a grammatical function. Over time the resulting grammatical item may become
more grammatical by acquiring more grammatical functions and expanding its host-
classes” (Brinton & Traugott 2005:99).

Therefore, both grammaticalization and lexicalization are contextually induced and
may involve similar mechanisms of change such as metonymization, metaphorization or
other features of change. They are nevertheless two distinct processes. Lexicalization
typically involves contentful and referential meanings. Grammaticalization is often
characterized by semantic bleaching, decategorization, and linguistic meanings. Chinese
RVCs, as a process of unification (forming a V1+V2 compound word), include both
lexicalization and grammaticalization. The schema in (22) is proposed by Brinton &
Traugott (2005) to account for the variations and similarities of the two processes. It
concerns adopting items into an inventory (traditionally known as a lexicon) and
modifying items within the structure of the inventory with respect to their function,
productivity, fusion, coalescence, compositionality, and degree of contentfulness. The
arrows in (22) signal that the changes are synchronically bidirectional but diachronically
unidirectional.

(22) Diachronic change along clines of lexicality and grammaticality

Nonproductive

L3 L2 L1

<----Semi-productive ---->

G1 G2 G3

Productive

Chinese RVCs roughly fall into three categories, L2, L1 and G1, with L standing for
lexicalization and G for grammaticalization. L2 represents a category of lexicalization
that is less productive, or compositionally more idiosyncratic, than those in L1. Members
of this type of RVCs take account of those in (4), 批評 pi-ping criticize-comment ‘to
criticize’, 改良 gai-liang change-good ‘to improve’, 加强 jiang-qiang add-strong ‘to
strengthen’, 擴大 kuo-da expand-big ‘to expand’, etc., that are fused together, semi-
idiosyncratic and contentful. Formally, the infixal potential markers de and bu, noted in
(4) and repeated in (23), cannot be inserted between the two components.
L1 refers to another category of RVCs that are more predictable and, to varying degrees, more productive than those in L2. It contains most of the present-day Chinese RVCs with a Vt+Vi structure, such as 打破 da-po hit-break ‘to break’, 退出 tui-chu retreat-exit ‘to withdraw’, 打死 da-si beat-die ‘to beat to death’, 喝醉 he-zui drink-drunk ‘to become drunk’, etc. Compared to L2, they are more predictable and less idiosyncratic, as the infixal potential markers de/bu can be inserted between the two components in (24) to form a predicate to signal a resultant state. Another consistent feature of the RVCs in this group is that V2 always retains a clear contentful meaning. However, they are still far from being totally uniform. For example, the internal structure of the Vt+Vi components can vary. For instance, in da-si ‘hit to death’, si ‘die’ is a predicate of the patient of V1, while zui in he-zui ‘drink-drunk’ is a predicate of the experiencer subject of V1 but bears no thematic relationship to the theme jiu of V1.
c. 打得死 打不死
da-de-si da-bu-si
hit-INF-die hit-NINF-die
‘can be killed’ ‘cannot be killed’
d. 喝得醉 喝不醉
he-de-zui he-bu-zui
drink-INF-drunk drink-NINF-drunk
‘can get drunk’ ‘cannot get drunk’

Furthermore, some of the V2 are actually quite productive in forming an RVC with another verb. For example, 死 si ‘to die’ as a V2 is quite productive, as in 罵死 ma-si scold-die ‘scold to death’, 說死 shuo-si say-die ‘say too definitely’, 看死 kan-si look-die ‘have a fixed view’, etc.

G1 in (24) refers to the RVCs with a closed class of V2s including 完 -wan ‘finish’, 好 hao ‘good’, 到 -dao ‘arrive’, etc. that have practically lost all of their contentful meanings, and function to indicate an aspectual meaning that Li & Thompson (1981) define as a phase marker, such as -hao in (25), which has lost its contentful meaning ‘good’ but indicates a resultant state of ‘to be finished’.

(25) 我吃好飯了
wo chi hao fan le
1st eat good rice CRS^5
‘I have eaten.’

In terms of productivity, G1 and L1 RVCs are similarly not as predictable as the non-RVCs V1-G2 sequences such as those with the experiential aspect marker -guo in (26b). The host-class (here referring to the V1s in sequence) that can co-occur with a G2 marker, such as -guo in (26b), is much larger than the V1s that can co-occur with any given V2s of the L1 and G1 types. Whereas a G1 type is essentially a periphrastic V1+V2 construct, V1-G2, such as -guo in (26b) and G3, such as -le in (26c), are morphologically bound, functioning as verbal suffixes.

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^5 CRS stands for currently relevant state and PERF for perfective aspect (See Li & Thompson 1981). Other abbreviations used in this article include G for grammaticalization, L for lexicalization, V for verb, Vt for transitive verb, Vi for intransitive verb, EXP for experiential aspect, ASP for aspect, RVC for resultative verb compound, INF for infix, NINF for negative infix, etc.
(26) a. 他也紅完  
  ta ye  hong-wan  
  3rd also  red-finish
b. 他也紅過  
  ta ye  hong-guo  
  3rd also  red-EXP
   ‘He once was quite popular.’
c. 他也紅了  
  ta ye  hong-le  
  3rd also  red-PERF
   ‘He has been quite popular.’

Therefore, the sequences of V1-G2, or V1-G3 such as 过 -guo and 了 -le in (26c) are not RVCs. Although there are not many G2 or G3 markers in Chinese, and those that exist historically derive from verbs of completion similar to those V2s in G1, a detailed study of them falls outside the scope of the current investigation. They simply are given to illustrate the differences between them and the G1 RVC type.

6. Summary

To summarize it is hypothesized that the present-day RVC sequence with a Vt+Vi structure ultimately grew out of the Middle Chinese parallel Vt+Vt sequence. The change of the V2 in this sequence from Vt to Vi was originally triggered by a processes similar to hyperbole such as chou-sha ren ‘grieve-kill people’ (17a) as sha ‘to kill’ acquires a new function to signal a new meaning without involving a change of state such as ‘to die’. Furthermore, the spread of the RVCs in the language took hundreds of years to develop, leading to cases of lexicalization and grammaticalization.

Many Chinese verbs throughout history have had dual functions like sha ‘to kill/to die’ that could be used transitively or intransitively. It is then further hypothesized that the sha ren ‘kill person’ in the specific context signified by example (17a) is semantically analogous to a possible intransitive meaning that does not involve any death but a certain state of affairs with a simple temporal structure. These early RVCs were mostly cases of lexicalization with perhaps the exception of que 却 in (21d) that has a grammatical meaning related to time. Table 3 illustrates the historical development correlating to the V2’s ability to participate in selecting an argument. The V2 in L1 RVCs still functions like a predicate, even though it is already combined with V1 to form a single predicate. However, unlike the Middle Chinese V1+V2 sequences in which V1 and V2 are a two
contentful verbs functioning as two predicates in selecting two sets of shared arguments, the V1s and V2s in the L1 RVCs are more closely unified into a single predicate. Some of them, such as the V2 zui in he-zui jiu drink-drunk wine ‘to get drunk with wine’ show signs of losing the ability to independently select a complete set of arguments. For example, the theme jiu ‘wine’ immediately following it is not its object but the object of V1-he ‘to drink’. Second, the V2s in L1 are either intransitive verbs or adjectives, correlating with its basic function to indicate a resultant state of a non-agent brought about by V1, thus different from its original parallel Vt+Vt sequence. The V2s, verbs of completion such as hao 好 ‘good’, in the G1 RVCs are no longer a contentful predicate, and thus do not select any argument, but are morphologically more integrated and semantically bleached verbs signaling, instead, a temporal meaning of the unified compound. Some of these V2s are totally grammaticalized into verbal suffixes expressing different temporal meanings with a different degree of high productivity.

<table>
<thead>
<tr>
<th>L2</th>
<th>L1</th>
<th>G1</th>
<th>G2/G3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaning</td>
<td>contentful</td>
<td>contentful</td>
<td>grammatical</td>
</tr>
<tr>
<td>V2</td>
<td>fused with V1</td>
<td>predicate of result</td>
<td>periphrastic</td>
</tr>
</tbody>
</table>

In Middle Chinese the spread of the Vt+Vi sequence in forming the present-day RVCs as a special type of construction is also a process of metaphorization, as cases such as chou-sha ren grieve-kill people (17a) might have served as a model for other occurrences to emulate. Finally, in such a lexicalization/grammaticalization model, on one end of the continuum, there is the L2 type with items that are lexically fused together such as pi-ping criticize-comment ‘to criticize’ that is not analyzable, or unpredictable, without allowing the potential markers de/bu to co-occur with them. On the other end of the RVCs is the G1 type, with the V2 in a periphrastic sequence functioning as a grammaticalized phase marker of the V1+V2 predicate. L1, somewhat similar to G1 in terms of productivity and predictability, is the prototypical Vt+Vi RVC with the V2 as a sign entailing a simple event structure indicating the effect (resultant) state caused by V1. The most grammaticalized G2 and G3 morphemes, though derived from G1 V2s, are not part of an RVC but verbal suffixes.
References


