

A Study into the Prototypicality of Chinese Labile Verbs

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Abstract

Trying to situate Chinese into the typology of labile verbs (verbs that may be used transitively or intransitively), this paper analyzes Chinese labile verbals under the framework of cognitive construction grammar. By exhaustively looking at labile verbals in a small corpus, it is found that as an isolating language in which causative (transitive use) or anticausative (intransitive use) is not morphologically marked, Chinese is particularly rich in labile verbals. After estimating how often several target verbals are used transitively and intransitively, two factors grounded in human cognition are revealed determining verbal lability in Chinese: change of state and spontaneity of the event. Change-of-state events give way to two competing profiling strategies, realized as a transitive construction and an intransitive construction, respectively. The degree and direction (transitive-dominated or intransitive-dominated) of verbal lability are sensitive to the likelihood of spontaneous occurrence of the event.

Keywords

labile verb – Chinese – prototype – change of state

1 Introduction

Labile verbs are verbs that can be used transitively and intransitively without any overt marking, like *break* in English. Two types of verbal lability were identified by Dixon (1994), P-lability, in which only the patient is preserved in

the intransitive use (*I broke the stick/ The stick broke*), and A-lability, in which only the agent is preserved in the intransitive use (*John drinks tea/ John drinks*). Discussion of labile verbs has been extensively laid out in a number of typologically remote languages (cf., Creissels 2014; Kulikov 2003, 2014; Letuchiy 2009, 2015; Mcmillion 2006, among others), but so far, Chinese has been completely absent from the discussion of labile verb typology.

That being said, the phenomena designated by both P-lability and A-lability are not unfamiliar to Chinese linguists. As early as 1987, Lv (1987) noted the following pairs of examples:

- (1) a. 中 国 队 打 胜 了 韩 国 队。
 Zhongguo dui **da-sheng-le** Hanguo dui.
 China team play-win-LE South Korea team
 ‘The Chinese team beat the South Korean team.’
- b. 中 国 队 打 胜 了。
 Zhongguo dui **da-sheng-le**.
 China team play-win-LE
 ‘The Chinese team won.’
- (2) a. 中 国 队 打 败 了 韩 国 队。
 Zhongguo dui **da-bai-le** Hanguo dui.
 China team play-defeat-LE South Korea team
 ‘The Chinese team defeated the South Korean team.’ (The Chinese team won.)
- b. 韩 国 队 打 败 了。
 Hanguo dui **da-bai-le**.
 South Korea team play-defeat-LE
 ‘The South Korean team lost.’

(Examples from Lv 1987)

Compared to (1a), the object is deleted in (1b) without affecting the truth-conditional meaning, showing that the verb compound 打赢 *da-sheng* ‘play-win’ has A-lability. As for the verb compound 打败 *da-bai* ‘play-defeat’ in (2), the object in the transitive use is the subject in the intransitive use, indicating P-lability.

There are also cases of Chinese verbs displaying A-lability or P-lability, depending on the interpretation, cf. the following example first noted by Chao (1959):

- (3) 鸡 不 吃 了。
 Ji bu **chi-le**.
 chick NEG eat-LE

- (a) The chick does not eat (anything).'
 (b) 'The chick will not be eaten.'

(Example from Chao 1959)

The possibility of reading (3a) demonstrates A-lability of the verb 吃 *chi* 'eat', whereas (3b) illustrates P-lability.

Chinese is seemingly quite rich in labile verbs. However, there has not been much research into how far verbal lability goes in Chinese, what subtypes there are, and what the meanings/functions are. Confronted with these questions and with the focus set on P-lability,¹ this study attempts to situate Chinese in the typology of labile verbs, explore the cross-linguistic cognitive basis of verbal lability, and reveal the special characteristics of verbal lability in Chinese. Section 2 introduces the theoretical background with regard to labile verbs, prototype theory, and the framework of cognitive construction grammar. Section 3 introduces the methodology. After investigating the constructional attachment patterns of the labile verbals found in a small corpus, Section 4 lays out the subtypes of labile verbals based on structural complexity and the subtypes of verbal lability based on the forms of the verbal's transitive and intransitive use. Section 5 analyzes two factors determining verbal lability by looking at the faithfulness of verbals to their transitive/intransitive use. Section 6 summarizes the prototype of verbal lability and its extension in Chinese, and Section 7 discusses the cognitive basis of verbal lability, together with the conceptual schemas of the transitive/intransitive labile constructions. Section 8 concludes this study and points out future directions.

2 Theoretical Background

2.1 *Labile Verbs*

Literature review of labile verbs needs to start with causal-noncausal verb pairs (cf., Haspelmath 2014, also referred to as 'inchoative-causative' or 'anticausative-causative' as in Haspelmath 1987, 1993; Nedjalkov and Sil'nickij 1973 [1969]) in which there are a transitive (causal) verb and an intransitive (noncausal/anticausative) verb expressing the same event, typically a change of state. Different causal-noncausal alternation strategies are observed in world languages. Sometimes the transitive verb is derived from the intransitive one, by causative coding (i.e., with an extra marker on the verb), whereas sometimes the intransitive verb is derived from the transitive verb by anticausative coding (i.e., with an extra marker on the noncausal verb). There are

¹ If there is no specification, verbal lability refers only to P-lability in this paper.

also cases where both verbs are derived from the same stem by means of different marking, and two completely unrelated verb roots are used transitively and intransitively respectively. In the case of labile verbs, a language simply uses the same verb form in both the causal and the noncausal sense.

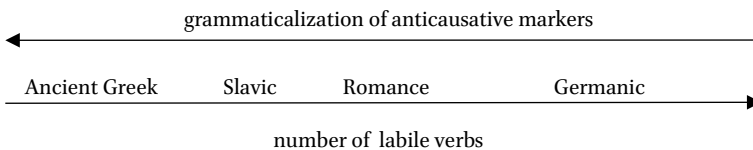
Nedjalkov and Sil'nickij (1973 [1969]) and Haspelmath (1993) studied the employment of causal-noncausal alternation strategies for a number of verb pairs in different languages. A consistent finding is that events that are relatively more likely to occur spontaneously (e.g., *freeze* and *melt*) tend to be causative coded in world languages; whereas events that are relatively less likely to occur spontaneously (e.g., *break* and *close*) tend to be anticausative coded. This finding has been explained by the principle of iconicity (Givon 1991: 106; Haspelmath 1993) as well as the form-frequency correspondence (Haspelmath 2014).

Sensitive to the use of causal-noncausal alternation strategies, the amount and the semantics of labile verbs vary dramatically from language to language. Letuchiy (2009) found that Indo-European languages including Greek, Russian, and German use more anticausative marking than causative marking, whereas Caucasian languages including Georgian and Lezgian are comparatively more developed in causative marking. After examining verbal lability in the major Indo-European and Caucasian languages, she proposed the following contrast:

- (4)
- | | | |
|---------------------------------|-----|--------------------------------|
| <u>Indo-European</u> languages: | Vs. | <u>Caucasian</u> languages: |
| Grammaticalization of | | Grammaticalization of |
| anticausative | | causative |
| “spontaneous” labile verbs | | “non-spontaneous” labile verbs |
| | | (Letuchiy 2009) |

In the Indo-European languages in particular, Letuchiy (2009) found a negative correlation between the degree of grammaticalization of anticausative markers and the number of labile verbs, as shown in example (5).

- (5) Indo-European languages:



(Letuchiy 2009)

Based on these findings, she argued that properties of labile systems depend on areal and grammatical properties. The main grammatical parameter is determined by properties of derivational markers – not only their (non)existence, but also their degree of grammaticalization (Letuchiy 2009). In other words, the occurrence of verbal lability negatively correlates with the degree of grammaticalization of causative/anticausative.

If the hypothesized correlation between labile systems and grammatical properties is correct, then languages with little morphology are presumably rich in verbal lability; and this reasoning has been used to account for “the overwhelming preference for labile verbs” in English (Nichols 1986: 57; see also Haspelmath 1993). However, data from isolating languages in East Asia have never been included in such analyses, despite being necessary to meaningful testing of this hypothesis, according to Haspelmath (1993) himself. Therefore, it is of immediate interest to investigate the scope of labile verbs in Chinese, where there is absolutely no causative or anticausative coding.

2.2 *Prototype Theory and Cognitive Construction Grammar*

In our pragmatic world, there are phenomena that are mutually exclusive and phenomena that only differ in degree. Gonzales-Marquez, Becker, & Cutting (2007) listed *pregnancy* as a phenomenon that must be dichotomized. According to them, a woman can be pregnant or not, but she cannot be a little pregnant. In addition, they also pointed out many other phenomena that are treated as if they were also dichotomous, even though they are actually continuous, such as cooperative/competitive; introverted/extroverted; good/bad (Gonzales-Marquez, Becker, & Cutting, 2007).

In mainstream linguistics, categorizing is largely dichotomizing by drawing borders between phenomena. The potential dangers of this dichotomizing view has caught the attention of quite a few researchers (e.g., Rosch 1975a, b, 1977, 1978; Taylor, 2008; Langacker 2008: 12–13). For example, Langacker pointed out that although the world of discrete units and sharp boundaries is definitely attractive, the basic discreteness commonly assumed by linguistic theorists is largely imposed on it (Langacker 2008: 13). The awareness that (semantic) categories are not always well-delineated but structured around prototypes has thereby been embraced as a hallmark of cognitive linguistics.

Goldberg (1995: 4–6) incorporated prototype theory into her framework of construction grammar. Under the view of construction grammar, the basic units of language are constructions, which represent form and meaning pairings. A distinct construction is defined to exist if one or more of its properties are not strictly predictable from knowledge of other constructions existing in the grammar (Goldberg 1995: 4; 2003). The relationship between constructions

and human conceptualization of the world is also illuminated, i.e., “simple clause constructions are associated directly with semantic structures that reflect scenes basic to human experience (Goldberg 1995: 6)” and “constructions pertaining to basic argument structures are shown to be associated with dynamic scenes: experimentally grounded gestalts (Goldberg 1995: 5)”. Consistent with prototype theory, a construction also has prototypical exemplars and peripheral exemplars, prominently reflected in the interaction between verb meaning and construction meaning. For example, *give* is highly indicative of the ditransitive construction, whereas *leave*, although it can form a ditransitive, occurs in other constructions more frequently (Ellis et al. 2015). Notably, constructions should not be understood as static building blocks of language. Rather, they are speaker-driven and usage-based, arising from the conventionalization of specific attachment patterns, and involving the integration of additional conceptual layers such as agency, embodiment, and argument structure construction (Torres-Martínez 2018a,b,c). Correspondingly, the approach to semantics that is adopted by this theory is one that crucially recognizes the importance of speaker-centered “construals” of situations in the sense of Langacker (1987: 487–488), which is inherited from the theories of frame semantics (Fillmore, 1975, 1985) and an experientially based approach to language (Lakoff, 1977, 1987: 583–584).

Evidently, verbal lability is not an internally homogeneous category with a clear-cut boundary either. It has been shown that in languages such as Agul and Russian some verbs are “more labile” than verbs that have one “main” and one “peripheral” use between transitive and intransitive (cf., Daniel et al. 2012; Letuchiy 2015). Assuming that verbal lability constitutes a radial category with prototypical members and peripheral members in Chinese, this study is set under the framework of cognitive construction grammar, and explores the conceptual schemas underlying the transitive use and intransitive use of labile verbs, revealing the cognitive prototype of labile verbs in Chinese.

3 Methodology

Constructionists believe that language is usage-based. A construction is a conventional linguistic unit – that is, part of the linguistic system, accepted as a convention in the speech community, and entrenched as grammatical knowledge in the speaker’s mind (Ellis 2002; see also Langacker 2008: 21). Accordingly, studies conducted under this framework are typically anchored in real-life language use, through corpus study or experiments (e.g., Ellis et al. 2015; Ellis & O’Donnell 2011; 2012; Chen & Jing-Schmidt 2014; Jing-Schmidt

et al. 2015, among others). In the same vein, this study adopted a bottom-up corpus-based approach to investigate labile verbs in Chinese. Specifically, the investigation followed two steps.

In the first step, a small corpus was searched for all labile verbs, and the form and semantics of labile verbs were thus analyzed. The small corpus used in this step is Wang Shuo's novel *Guo Ba Yin Jiu Si* (《过把瘾就死》 'Die Satisfied'), composed of 59,212 characters. Wang Shuo is a famous author living in Beijing, whose writing style features the "living language" spoken by ordinary people in the street, so his works are frequently used as data for spoken Mandarin. In order to exhaustively extract all labile verbs, I first singled out all agentless theme-initial structures (tokens of the intransitive use of verbs), and then checked the transitive use of the verbs in Cncorpus (语料库在线 *Yuliaoku Zaixian*, maintained by the State Language Work Committee of the P. R. China). Verb compounds were also analyzed in this step because under the usage-based approach, it is impossible to distinguish verb compounds from compound verbs. The term 'compound verbal' is used henceforth to refer to compound verbs and verb compounds, and labile verbals thereby encompass monosyllabic labile verbs, compound labile verbals and other labile verbal structures. In the analysis of the verbal semantics of labile verbals, a main concern is whether a change of state is expressed because Haspelmath (1993, 2014) suggests that causal-noncausal alternation mainly occurs with change-of-state events. Semantic frames of labile verbals are thus identified mainly based on the criterion that whether a change of state is encoded.

The second step looked at the faithfulness of several target verbals to the intransitive construction, i.e., among all occurrence of a target verbal in the corpus, how often it is used intransitively. In this step, eight change-of-state verbal morphemes representing a broad spectrum of spontaneity were searched in Cncorpus. For each target, 500 tokens were randomly selected and coded to identify the transitive use and the intransitive use of the target verbal morpheme. According to the definition of labile verbs, a prototypical labile verb exhibits comparable faithfulness to its transitive and intransitive use, whereas a non-prototypical labile verb has a dominant use and a peripheral use.

4 Subtypes of Chinese Labile Verbals and Verbal Lability

4.1 Chinese Labile Verbals Based on Structural Complexity

A sample of 614 tokens of the intransitive labile construction was collected from *Guo Ba Yin Jiu Si* 'Die Satisfied'. Of these, 260 tokens (42.35%) are structured around monosyllabic labile verbs; 308 tokens (50.15%) are structured around

TABLE 1 Semantic frames of monosyllabic labile verbs in Guo Ba Yin Jiu Si 'Die Satisfied'

Semantic frame	ILC Token frequency	Representative labile verbs
Change of state	101	变 'change'; 动 'move'; 滚 'roll'; 开 'open'; 扭 'twist'; 起 'rise'; 散 'disperse'
Stative (static)	33	如 'be like'; 无 'do not have'; 有 'have'
Change of location	50	出 'go out'; 到 'arrive'; 来 'come'; 去 'go'
Emotion	11	烦 'annoy/annoyed'; 气 'irritate/ irritated'; 吓 'frighten/frightened'
Creation	7	干 'do'; 演 'perform'; 做 'make'
Transfer	11	给 'give'; 还 'return'; 卖 'sell'; 送 'give/send'
Action	36	拔 'pull out'; 吃 'eat'; 打 'hit'; 算 'calculate'
Cognition/ Perception	11	见 'see'; 敬 'respect'; 看 'look'; 要 'want'
Total	260	

Note. All the meanings for verbs displayed in this section are the meanings in the contexts of the collected tokens.

compound labile verbals; 46 tokens (7.5%) are structured around complex verbal structures such as VP, V + PP, V + VP and V + 得 *de* + descriptive complement.

Turning first to the monosyllabic labile verbs, Table 1 presents the major semantic frames, the token frequency of the intransitive labile construction (ILC) formed by verbs of each semantic frame, and the representative verbs of each semantic frame.

When it comes to compound labile verbals, resultative compounds taking the form of 'X – resultant state' claim the lion's share. Out of the 308 tokens structured around compound labile verbals, only 30 tokens do not entail information of the resultant state. The most frequent morphemes that express the resultant state in compound labile verbals include 来 *lai* 'come' (in 40 tokens), 去 *qu* 'go' (in 18 tokens), 出 *chu* 'go out' (in seven tokens), 过 *guo* 'pass' (in six tokens), 入 *ru* 'enter' (in five tokens), 开 *kai* 'open; turn on' (in five tokens), 完 *wan* 'finish' (in four tokens) and 生 *sheng* 'grow; accrue' (in three

tokens). The following examples provide some contexts (with transitive uses of verbals also presented as references):

- (6) a. 青春 期 穿 着 军 装 度 过 。
- Qingchunqi chuan-zhe junzhuang **du-guo**.
puberty wear-ZHE military uniform spend-pass
'(His) puberty was spent wearing military uniforms.'
- b. 他 在 陕 西 农 村 度 过 了 自 己 的 童 年 时 光 。
- Ta zai Shaanxi nongcun **du - guo-le** ziji de tongnian shiguang.
he at Shaanxi village spend-pass-LE self DE childhood time
'He spent his childhood in a village in Shaanxi.'
- (7) a. 他 的 手 也 无 力 地 松 开 。
- Ta de shou ye wu li de **song-kai**.
he DE hand also no power DE looseen-open
'His hands were loosened powerlessly.'
- b. 她 没 把 手 缩 回 去 ， 我 却 松 开 了 手 。
- Ta mei ba shou suo-hui-qu, wo que **song-kai-le** shou.
she not BA hand draw-back-go I though loose-open-LE hand
'She did not draw back her hands, but I loosened my hand.'
- (8) a. 两 瓶 “二 锅 头” 基 本 上 喝 光 了 。
- Liang-ping “Er guo tou” jibenshang **he-guang-le**.
two-bottle “Er guo tou” (a Chinese alcoholic beverage) basically
drink-finish-LE
'Two bottles of Chinese vodka are basically drunk up.'
- b. 一 桌 十 个 人 喝 光 了 五 瓶 曲 酒 。
- Yi zhuo shi-ge ren **he-guang-le** wu-ping qu jiu.
one table ten-CL people drink-finish-LE five-bottle Qu liquor
'Ten people at one table drank up five bottles of Qu liquor.'

Moreover, as illustrated in the above examples, the X elements in the 'X – resultant state' compounds are quite flexible in meaning: both a change of state such as 松 *song* 'loosen' and a simple action such as 喝 *he* 'drink' are acceptable. In our data, the X element in 140 tokens denotes change of state, but is absolutely nonstative in 86 others.²

2 Some Chinese verbs can imply change of state in certain contexts (especially in the perfective aspect), e.g., co-occurring with 了 *le*, creation verbs such as 做 *zuo* 'make' can imply being complete; transfer verbs such as 买 *mai* 'buy' can imply a new location or a new owner. This type of verbs, seen in 52 tokens, does not fall strictly into the category of active or stative.

In addition to monosyllabic labile verbs and compound labile verbals, another 46 intransitive labile tokens are structured around complex verbal structures such as VP, V + PP, V + VP and V + 得 *de* + descriptive complement, as shown in the following examples:

- (9) 事情 办得 非常 顺利。
 Shiqing **ban de feichang shunli.**
 matter deal with DE very smoothly
 ‘The matter is dealt with so well that it runs smoothly.’
- (10) 衣服 蹭得 玉 一块 白 一块。
 Yifu **ceng de yu yi kuai bai yi kuai.**
 clothes rub DE jade one piece white one piece
 ‘The clothes were rubbed and became white in this part, like jade in that part.’
- (11) 啤酒瓶 摆成 一排。
 Pijiu ping **bai cheng yi pai.**
 beer bottle put become one row
 ‘Beer bottles are put into a row.’

It is noteworthy that these verbal structures typically do not take objects directly. Their transitive use needs to be realized by repeating the verb or using the 把 *ba* structure.

- (12) a. *琳琳 摆成 一排啤酒瓶。
 Linlin **bai cheng yi pai pijiu ping.**
 Linlin put become one row beer bottle
 ‘Linlin put the beer bottles into a row.’
- b. 琳琳把 啤酒瓶 摆成 一排。
 Linlin ba pijiu ping **bai-cheng yi pai**
 Linlin BA beer bottle put-become one row
 ‘Linlin put the beer bottles into a row.’
- c. 琳琳 摆啤酒瓶 摆成 一排。
 Linlin bai pijiu ping **bai-cheng yi pai.**
 Linlin put beer bottle put-become one row
 ‘Linlin put the beer bottles into a row.’

4.2 *Verbal Lability Based on the Form of the Transitive/Intransitive Construction*

Based on the form of the transitive and intransitive use of a labile verbal, seven subtypes of verbal lability can be identified in Chinese, as shown in Table 2 below:

TABLE 2 Subtypes of verbal lability in Chinese

Subtype	Transitive use	Intransitive use	Examples
Type 1	A + V + B; B + V + A	B + V	盖 <i>gai</i> 'cover'; 到 <i>lai</i> 'arrive'; 住 <i>zhu</i> 'live'
Type 2	A + V + B; B + V + A	A + coordinating conj. + B+ V	对战 <i>duizhan</i> 'fight'; 见 <i>jian</i> 'meet'
Type 3	A + 把 <i>ba</i> + 自 己 <i>ziji</i> 'self' + VP	A + V	藏在 ... <i>cang-zai</i> ... 'hide at...'
Type 4	A + V + B	B + 自 <i>zi</i> 'self' modifier (互)相 <i>huxiang</i> + V 'mutually' 可以/能/容 易/难/... <i>keyi/neng/ rongyi/nan/...</i> 'can/can/easy/ hard/...'	怨 <i>yuan</i> 'blame'; 爱 <i>ai</i> 'love' 逢 <i>feng</i> 'meet'; 敬 <i>jing</i> 'respect' 撕毁 <i>si-hui</i> 'tear up'; 找 <i>zhao</i> 'find'; 进 <i>jin</i> 'enter'
Type 5	A + V + B	B + V	滚 <i>gun</i> 'roll'; 摇晃 <i>yaohuang</i> 'shake'; 开始 <i>kaishi</i> 'start'
Type 6	A + V + B; A + 把 <i>ba</i> + B + VP	B + V	开 <i>kai</i> 'open'; 哭湿 <i>ku-shi</i> 'cry-wet'; 吃完 <i>chi-wan</i> 'eat-finish'
Type 7	A + 把 <i>ba</i> + B + VP	B + V	洗得干干净净 <i>xi-de-ganganjingjing</i> 'wash clean'; 放在心里 <i>fang-zai xin li</i> 'put into heart'; 堆成一座山 <i>dui-cheng yi-zuo shan</i> 'pile into a mountain'

In subtype 1, two arguments can change position without affecting the meaning, a situation referred to as 'converse lability' (Letuchiy 2009). For example:

- (13) a. 一块布 盖着 尸体。
Yi kuai bu gai-zhe shiti.
one piece cloth cover-ZHE corpse
'A piece of cloth covers the corpse.'

- b. 尸体 盖着 (一块布)。
 Shiti gai-zhe (yi-kuai bu).
 corpse cover-ZHE (one piece cloth)
 'The corpse is covered (by a piece of cloth).'

Subtype 2 corresponds to reciprocal lability in Letuchiy's (2009) system, denoting a non-directional event between two arguments (e.g., *John kissed Mary – Mary and John kissed*). For example:

- (14) a. 我和贾玲 隔三差五 就要 会战一番。
 Wo he Jia Ling gesanchawu jiu yao huizhan yi fan.
 I and Jia Ling every now and then will fight one time
 'Jia Ling and I fight now and then.'
 b. 我 隔三差五 就要会战 贾玲。
 Wo gesanchawu jiu yao huizhan Jia Ling.
 I every now and then will fight Jia Ling
 'I fight with Jia Ling every now and then.'

With the reflexive pronoun 自己 *ziji* 'self' in the transitive construction, subtype 3 represents reflexive lability.

- (15) a. 我就在 院里黑处 藏着。
 Wo jiu zai yuan-li heichu cang-zhe.
 I just at yard-in black side hide-ZHE
 'I was just hidden in the dark side of the yard.'
 b. 我把自己 藏在院里黑处。
 Wo ba ziji cang zai yuan-li heichu
 I BA self hide at yard-in black side
 'I just hid myself in the dark side of the yard.'

In subtype 4, some modifiers grant intransitivity to verbals that are typically used transitively, and thus make them labile. Such modifiers include 自 *zi* 'self', (互)相 (*hu*)*xiang* 'mutually' and 可以/能/要/容易/难 *keyi/neng/yao/rongyi/nan* 'can/can/easy/hard'. Semantically, 自 *zi* 'self' expresses the same meaning as reflexive lability; (互)相 (*hu*)*xiang* 'mutually' expresses the same meaning as reciprocal lability. The intransitive constructions introduced by 可以/能/容易/难 *keyi/neng/rongyi/nan* 'can/can/easy/hard' denotes a generic property, sometimes referred to as the middle construction (Xiong 2013), as shown in the following examples.

- (16) 你 也 要 检 查 一 下 。
- Ni ye yao jiancha yi-xia.
 you also need to examine one-time
 'You also need to be examined briefly.'
- (17) 对 象 可 以 替 代 。
- Duixiang keyi tidai.
 partner can replace
 'The partner can be replaced.'

Subtype 5 represents the most discussed anticausative lability, whereas subtype 6 and subtype 7 can roughly be categorized as passive lability in Letuchiy's (2009) system. The difference between anticausative lability and passive lability relies on the acceptability of the 把 *ba* construction. Verbals of subtype 5 cannot occur in the 把 *ba* construction alone, as shown in (18), and the fact that some verbals cannot take objects directly further distinguishes subtype 7 from subtype 6, as illustrated in (19) and (20).

- (18) a.* 琳琳 把 新 生 活 开 始 了 。
- Linlin ba xin shenghuo kaishi-le.
 Linlin BA new life start-LE
 'Linlin started her new life.'
- b. 琳琳 开 始 了 新 生 活 。
- Linlin kaishi-le xin shenghuo.
 Linlin start-LE new life
 'Linlin started her new life.'
- c. 新 生 活 开 始 了 。
- Xin shenghuo kaishi-le.
 new life start-LE
 'The new life started.'
- (19) a. 琳琳 把 苹 果 吃 完 了 。
- Linlin ba pingguo chi-wan-le.
 Linlin BA apple eat-finish-LE
 'Linlin ate the apples.'
- b. 琳琳 吃 完 了 苹 果 。
- Linlin chi-wan-le pingguo.
 Linlin eat-finish-LE apple
 'Linlin ate the apples.'
- c. 苹 果 吃 完 了 。
- Pingguo chi-wan-le.

- apple eat-finish-LE
 ‘The apples have been eaten up.’
- (20) a.* 琳琳 洗得 干干净净 碗。
 Linlin xi-de-ganganjingjing wan.
 Linlin wash-DE- clean bowl
 ‘Linlin washed the bowls clean.’
- b. 琳琳 把碗 洗得 干干净净。
 Linlin ba wan xi-de-ganganjingjing.
 Linlin BA bowl wash-DE-clean
 ‘Linlin washed the bowls clean.’
- c. 碗 洗得 干干净净。
 Wan xi-de-ganganjingjing.
 bowl wash-DE-clean
 ‘The bowls are washed clean.’

It needs to be noted that the demarcation between subtype 5 and subtype 6 are not always clear-cut. In certain genres including poetry and lyrics, structures like 把头晃 *ba tou huang* ‘BA head shake’ are occasionally seen.

To summarize, this section investigated labile verbals in the novel *Guo Ba Yin Jiu Si ‘Die Satisfied’* and found that based on structural complexity, monosyllabic labile verbs, compound labile verbals, and complex labile verbal structures can be identified. Consistent with Haspelmath’s (1987, 1993, 2014) findings concerning causal-noncausal verb pairs, the semantics of labile verbals predominantly encodes a resultant state. From the perspective of the forms of the transitive and intransitive uses of the verbal, all subtypes of verbal lability that have been previously proposed (cf., Letuchiy 2009), i.e., converse lability, reciprocal lability, reflexive lability, anticausative lability and passive lability, are observed in Chinese. Among these subtypes, Letuchiy (2009) claims that passive lability is extremely rare throughout the world except in Africa, but my data show that a considerable number of compound verbals and complex verbal structures in Chinese have passive lability.

5 Two Factors Determining Verbal Lability in Chinese

5.1 *Change of State*

The discussion of causal-noncausal verb pairs has been mainly limited to change-of-state events (cf., Haspelmath 1987, 1993; Nedjalkov and Sil’nickij

1973[1969]). Haspelmath (1993) extrapolated that three large classes of situations are excluded from the inchoative/causative alternation:

- (21) First, a state cannot be the inchoative member of an inchoative/causative alternation. Second, an action that does not express a change of state (e.g. ‘help’, ‘invite’, ‘cite’, ‘criticize’, ‘read’) cannot be the causative member of such an alternation. Third, agentive intransitive verbs like ‘talk’, ‘dance’, ‘work’, etc. cannot be the inchoative member of an inchoative/causative pair because they are not conceived of as occurring spontaneously. This still leaves us with a large class of transitive verbs such as ‘wash’, ‘build’, ‘cut’, ‘dig’, ‘paint’, etc., which do express a change of state.

(Haspelmath 1993)

Haspelmath’s (1993) above-cited opinion coincides with the causal approach to lexical semantics (cf., Croft 1991: 297–298; Levin and Rappaport Hovav 2005: 117–125), which was introduced to account for transitivity alternation in English. According to Levin and Rappaport Hovav (2005: 117), the causal approach to lexical semantics “takes the facets of verb meaning relevant to argument realization to involve the causal structure of the events denoted”. Tsunoda’s (1981, 1985) simplified hierarchy, which originally organized the semantic classes of two-place verbs according to the likelihood of their members’ transitivity, was adopted by Levin (2009) in the following form:

- (22) Change of state > Surface contact > Perception/cognition

Examples are as follows:

- (23) Change-of-state verbs: break, open, close, warm, dim, cool, flatten, ...
 Surface-contact verbs: hit, kick, shoot, slap, beat, wipe, rub, scratch, sweep, ...
 Perception/cognition verbs: hear, see, smell, know, enjoy, fear, hate, ...

(Adapted from Levin 2009)

Change-of-state verbs (including change-of-location verbs) are perceived as inherently causative. Citing Croft (1991: 297–298, 1994: 37), DeLancey (1984), Langacker (1987: 118, 184, 214–222), and Talmy (1976), Levin (2009) concluded that “one instantiation of the causal approach models events in terms of individuals acting on individuals, thus involving causal chains, consisting of a series of segments (or ‘atomic events’), each relating two participants in the

event” and that “a single participant may be involved in more than one segment”. The transitive form of ‘break’ has been used as an example to illustrate the causal chain, as follows:

(24) *Harry broke the vase*. Modelled with a three-segment causal chain:

- (i) Harry acts on the vase
- (ii) the vase changes state
- (iii) the vase is in a result state (i.e., broken)

(Croft 1994: 38)

Complex event structures can be observed for this kind of verbs.

(25) break: [[x ACT] CAUSE [BECOME [y <BROKEN>]]]

(Levin and Rappaport Hovav 2005: 113)

In Old Chinese, about 80% of words were monosyllabic (Baxter & Sagart 1998). Accordingly, change-of-state events were predominantly expressed by monosyllabic verbs. As Chinese has evolved, the lexicon has undergone a massive process of disyllabification (Arcodia 2007). Compounding is one of the most common ways of disyllabifying Chinese verbs (cf., Arcodia 2007; Shi 2002: 71), in which the original monosyllabic words function as morphemes in compounds. In the meantime, the meaning of single morphemes has become increasingly atomic. For a complex event structure of change of state, there is an increasing tendency to use compound verbals. This trend is demonstrated in the following examples:

(26) a. 命 百 官 收 斂， 完 堤 防。

Ming bai guan shou-lian, wan di fang.

ask hundred official gather-gather complete dike dam

‘(It is necessary to) ask officials to gather (grains) and complete dikes and dams (by building them).’

(Pre-Qin· *Lüshi Chunqiu*)

b. 琳琳 *(做) 完 了 作 业。

Linlin *(zuo-)wan-le zuoye.

Linlin make-complete-LE homework

‘Linlin completed the homework.’

(Modern Mandarin)

(27) a. 土 地 四 削， 魏 国 从 此 衰 矣。

Tu di si xue, Wei guo cong ci shuai yi.

territory four cut down the State of Wei from then decline SFP
 ‘With territory cut down at four sides, the Wei Kingdom declined after that.’

(Pre-Qin· *Lüshi Chunqiu*)

b. 传 统 的 身 份 限 制 削 *(弱) 了。

Chuantong de shenfen xianzhi xue *(-ruo) -le.

traditional DE status restriction cut down-weak-le

‘The traditional restriction on status has been weakened.’

(Modern Mandarin)

(26) demonstrates a case where the stative sense takes hold: 完 *wan* can no longer indicate the action on the object itself in modern Mandarin. Rather, 完 *wan* merely denotes the resultative state, following another transitive verb to express the complex event structure. (27) represents a different case in which the stative sense is lost: preceding the resultant state 弱 *ruo* ‘weak’, 削 *xue* ‘cut down’ in (27b) virtually only expresses the action of cutting on something.

5.2 Spontaneity

A problem remains with regard to the role of spontaneity in verbal lability. As previously mentioned, in languages with causative or anticausative coding, the employment of causal-noncausal alternation strategies is sensitive to the event’s likelihood of spontaneous occurrence: events that are more likely to occur spontaneously (e.g., *freeze* and *melt*) tend to be causative coded in world languages, whereas events that are less likely to occur spontaneously (e.g., *break* and *close*) tend to be anticausative coded (cf., Nedjalkov and Sil’nickij 1973 [1969]; Haspelmath 1993; 2014). Haspelmath has used the principle of iconicity (Haspelmath 1993) and the form-frequency correspondence (Haspelmath 2014) to explain this finding, i.e., the less frequent member of a causal-noncausal verb pair tends to be cognitively marked, and thus structurally marked. For a language in which neither causative nor anticausative is marked, like Chinese, the only way to explore the role of spontaneity is through the transitive/intransitive distribution of the verb: how often the verb is used transitively or intransitively.

I selected as targets six change-of-state verbal morphemes in Chinese, i.e., 醒 *xing* ‘wake’, 停 *ting* ‘stop’, 完 *wan* ‘finish’, 丢 *diu* ‘lose/be lost’, 开 *kai* ‘open’ and 破 *po* ‘break’. Additionally, in consideration of the fact that resultant states in Modern Mandarin can also be implied by the aspect marker 了 *le* being added to some action verbs, 买 *mai* ‘buy’ and 吃 *chi* ‘eat’ were also

TABLE 3 Faithfulness to the intransitive labile construction of verbals differing in spontaneity

Verbal morpheme	Token frequency	ILC Type frequency	Faithfulness to ILC
醒 <i>xing</i> 'wake'	256	211	82.42%
停 <i>ting</i> 'stop'	385	277	71.95%
完 <i>wan</i> 'finish'	433	180	41.57%
开 <i>kai</i> 'open'	469	148	31.56%
破 <i>po</i> 'break'	210	65	30.95%
丢 <i>diu</i> 'lose/be lost'	410	114	27.80%
吃 <i>chi</i> 'eat'	422	39	9.24%
买 <i>mai</i> 'buy'	320	23	7.19%

Note. Data presented in the table include tokens in which target morphemes play various roles in the predicates (i.e., independently as the predicate or as an element of a compound verbal).

included, as representatives of change-of-state events that absolutely cannot occur spontaneously.

These eight targets were searched for in Cncorpus. Since the number of tokens for each target was immense, 500 tokens of each target were randomly selected for coding to identify the morpheme's role in the predicate (independently as the predicate/an element of the compound verbal) and its transitive/intransitive use. Tokens in which the target morpheme occurs in the subject/object position (including cases in which the morpheme occurs in a modifier or in a relative clause) were excluded from the token-frequency analysis.

For each target (functioning independently as the predicate or as an element of a compound verbal), the type frequency of the intransitive labile construction (ILC) is presented in Table 3, with its estimated faithfulness shown as a percentage.

The faithfulness of target verbal morphemes to the intransitive labile construction can be graphed as Figure 1.

It can clearly be observed from Figure 1 that, as the spontaneity of the event increases, faithfulness to the intransitive labile construction also increases (i.e., the verbal is used intransitively more often than it is used transitively), suggesting a relation between the spontaneity of a change-of-state event and the lability of the verbal that denotes it. 完 *Wan* 'finish' is the most labile among this group of targets – its transitive use is generally as frequent

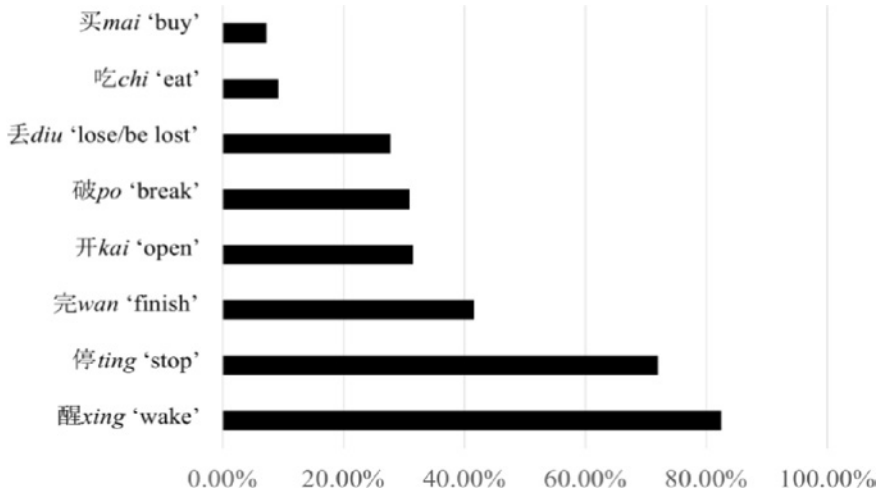
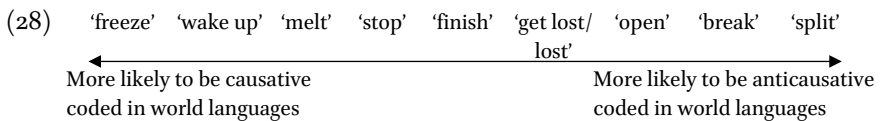


FIGURE 1 Faithfulness to the intransitive labile construction of events differing in spontaneity

as its intransitive use. Centered around 完 *wan* 'finish', the data show 停 *ting* 'stop' and 醒 *xing* 'wake' occurring more frequently in intransitive use, whereas 开 *kai* 'open', 破 *po* 'break' and 丢 *diu* 'lose/be lost' are more frequently used transitively. The ranking of these targets coincides with Haspelmath's (1993) finding to a striking degree. Haspelmath (1993) studied the employment of causal-noncausal coding strategy on 31 verb pairs in 21 languages. By contrasting the number of languages using anticausative coding to the number of languages using causative coding for each verb pair, a cline is drawn to show the transition from events that are more likely to be anticausative coded to events that are more likely to be causative coded in world languages, simplified as below:



(Haspelmath 1993)

In another cross-linguistic investigation, Letuchij's (2004) study also found that phase verbs are labile more often than other groups of verbs.

Taking my findings together with Haspelmath's (1993, 2014) findings, an interim conclusion regarding spontaneity can be drawn that:

- (29) a. Events that are more likely to occur spontaneously (e.g., *wake up* and *melt*) are expressed by intransitive constructions more frequently and tend to be causative coded in world languages.
- b. Events that are less likely to occur spontaneously (e.g., *break* and *split*) are expressed by transitive constructions more frequently and tend to be anticausative coded in world languages.

This interim conclusion combines the principle of iconicity (Givon 1991: 106) with the theory of form-frequency correspondence (Haspelmath 2014), and also incorporates Chinese into the discussion of causal-noncausal verb alternation.

5.3 *The Interaction of Two Factors*

In the previous two sections, we have seen that the lability of verbals is sensitive to two factors: the involvement of change/non-change of state in, and the likelihood of spontaneous occurrence of, the events they describe. Based on these two factors, events can be categorized into four types: (i) change of state, spontaneous; (ii) change of state, caused by external force; (iii) non-change of state, but affected by external force; (iv) non-change of state, but spontaneous. Surface-contact verbs (including exertion-of-force verbs) and perception/cognition verbs express events that are affected by external force, but do not involve change of state. States and agentive intransitive verbs are also non-change-of-state, but can be considered spontaneous (since they are definitely not affected by external forces). They are excluded from the category of labile verbs by the change-of-state factor. The transitive/intransitive distribution of change-of-state events in Chinese is largely related to their likelihood of spontaneous occurrence: the more likely an event is to occur spontaneously, the more dominant its intransitive use will be, and vice versa. Inasmuch as the factor of spontaneity in verbal semantics is not dichotomous but scalar, and some Chinese action verbs can imply change of state in certain contexts, the abovementioned four types of events are not mutually exclusive, and thus Figure 2 includes a shaded area presenting the prototype of labile verbs. The darker the shade, the more labile the verb is. The percentage in parentheses shows how often the verb is used intransitively in corpus data.

6 The Prototype of Verbal Lability and Extension in Chinese

Assuming that there is no clear-cut border between transitive verbals and intransitive verbals, and that labile verbals constitute a radial category, its central and peripheral members in Modern Mandarin can be identified as Figure 2:

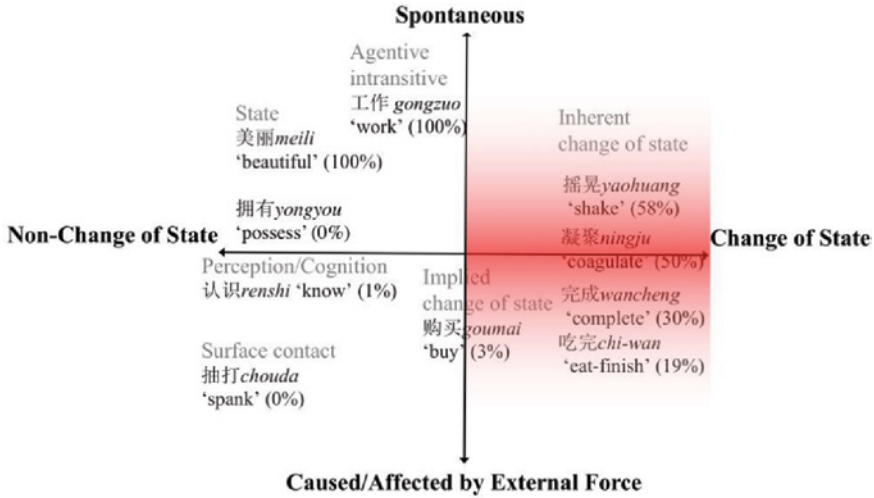


FIGURE 2 Four types of events based on two factors

6.1 *Prototypical Labile Verbals*

Prototypical labile verbals inherently denote change-of-state events that can commonly occur spontaneously or are caused by outside forces. Representative semantic frames include:

- (30) a. Phase verbals (change of state in the temporal domain):
 开始 *kaishi* 'start', 完成 *wancheng* 'complete', 结束 *jieshu* 'finish', 终结 *zhongjie* 'end', etc.
- b. Motion verbals (change of state in the spatial domain):
 动 *dong* 'move', 抖 *dou* 'tremble', 摇 *yao* 'swing', 晃 *huang* 'shake', 摆 *bai* 'sway', 升 *sheng* 'ascend', 降 *jiang* 'descend', 停 *ting* 'stop', 聚 *ju* 'accumulate', 散 *san* 'disperse', 转 *zhuan* 'turn' and compound verbals formed by them that do not contain agent-oriented meaning components.

Prototypical labile verbals in Chinese feature comparable levels of faithfulness to the transitive use (including in the BA structures and cases of object deletion) and the intransitive use. Verbs denoting these types of events are also the most likely to be labile in other languages (cf. Letuchij 2004; Mcmillion 2006).

6.2 *Transitive-dominated Labile Verbals*

In comparison with prototypical labile verbals, some labile verbals are more frequently used transitively than intransitively. Verbs denoting change-of-state events that are typically caused by outside forces, and actions that bring about

change of state, belong to this group – which in Modern Mandarin is often expressed by resultative compounds. Some common semantic frames are as follows:

(31) a. Verbals of breaking:

毁 *hui* ‘ruin’, 灭 *mie* ‘extinguish’, 破坏 *pohuai* ‘destroy’, 毁灭 *huimie* ‘destroy’, etc.

Resultative compounds 打碎 *da-sui* ‘break’, 打破 *da-po* ‘break’, 弄坏 *nong-huai* ‘break’, etc.

b. Verbals of creation:

做 *zuo* ‘make’, 制 *zhi* ‘make’, 造 *zao* ‘produce’, 写 *xie* ‘write’, 作 *zuo* ‘make’, 画 *hua* ‘draw’, 唱 *chang* ‘sing’, 建 *jian* ‘build’, etc.

Resultative compounds 做完 *zuo-wan* ‘do-finish’, 画好 *hua-hao* ‘draw-complete’, 创作完成 *chuangzuo-wancheng* ‘create-complete’, 唱错 *chang-cuo* ‘sing-wrong’, etc.

V + VP, V + PP and other complex verbal structures 写成论文 *xie-cheng lunwen* ‘write up as a paper’, 写得精彩 *xie-de jingcai* ‘is written wonderfully’, 建在市中心 *jian-zai shizhongxin* ‘be built at downtown area’, etc.

c. Verbals of transfer:

买 *mai* ‘buy’, 卖 *mai* ‘sell’, 给 *gei* ‘give’, 送 *song* ‘deliver’, 传 *chuan* ‘pass’, 放 *fang* ‘put’, 运 *yun* ‘carry’, etc.

Resultative compounds 买来 *mai-lai* ‘buy-come’, 卖完 *mai-wan* ‘sell-finish’, 卖掉 *mai-diao* ‘sell-out’, 送还 *song-huan* ‘deliver-return’, 放下 *fang-xia* ‘put-down’, etc.

VP, V + VP, V + PP and other complex verbal structures 授予琳琳 *shouyu Linlin* ‘award/be awarded to Linlin’, 送给琳琳 *song-gei Linlin* ‘give to Linlin’, 放在桌子上 *fang-zai zhuozi-shang* ‘put on the table’, etc.

In this direction on the periphery of the category lie verbals denoting change-of-state actions in which the theme and the agent are the same in terms of animacy, especially when both are human beings. These include compound verbals structured around 打 *da* ‘hit’, 骂 *ma* ‘scold’, 杀 *sha* ‘kill’, 表扬 *biaoyang* ‘praise’, 批评 *piping* ‘criticize’, 邀请 *yaoqing* ‘invite’ and 帮助 *bangzhu* ‘help’. Although resultant state can be expressed by compounding, sentences are usually ambiguous when these verbals are used intransitively. Readings of object deletion and of transitivity alternation are both allowed, as shown in the famous example repeated below:

- (32) 鸡 不 吃了。
 Ji bu **chi-le**.
 chick NEG eat-LE
 (a) ‘The chick does not eat (anything).’
 (b) ‘The chick will not be eaten.’

(Example from Chao 1959)

Compared to other lability-attested languages, Chinese has an exceptionally rich repertoire of transitive-dominated labile verbals. In languages that are more morphologically developed, the intransitive use of transfer verbs, creation verbs and other action verbs tends to be marked as anticausative or passive, even if a change of state is expressed.

6.3 *Intransitive-dominated Labile Verbals*

Some Chinese labile verbals tend to be used intransitively more often than transitively. This group of verbals indicates change-of-state events that typically happen spontaneously. Intransitive-dominated labile verbals do not often take prototypical themes since spontaneity is related to agentivity (Cysouw 2008). Specifically, if an event only involves one participant, its being spontaneous means the participant acts volitionally, in the sense that it deliberately instigates the action and has control over it, which makes it an agent (cf., O’Grady 2013: 46). It is also known that agentive intransitives such as 工作 *gongzuo* ‘work’ are never used transitively in Modern Mandarin, so the subjects of intransitive-dominated labile verbals when used intransitively are neither prototypical agents nor prototypical themes. The following are some common semantic frames:

- (33) a. Uncontrolled process:
 沉 *chen* ‘sink’, 熔 *rong* ‘melt’, 化 *hua* ‘melt’, 醒 *xing* ‘wake up’, 干 *gan* ‘dry’, etc., and compounds formed by them that do not involve agent-oriented meaning components, e.g., 化开 *hua-kai* ‘melt-open = dissolve’, 沉没 *chen-mo* ‘sink-submerge = sink’, 溶解 *rongjie* ‘dissolve’, etc.
- b. Change of location (controlled):
 来 *lai* ‘come’, 到 *dao* ‘arrive’, 去 *qu* ‘go’ and 回 *hui* ‘return’

Along this direction of intransitive dominance, the peripheral labile verbals include 坐 *zuo* ‘sit’, 站 *zhan* ‘stand’ and 躺 *tang* ‘lie’. On the one hand, they denote volitional actions, but on the other, they can also express modes of

existence, which are stative. Their transitive use is normally referred to as locative inversion, but apparently, locative inversion is not a prototypical transitive structure in Chinese either.

- (34) a. 床 上 坐 着 一 个 人 。
- Chuang-shang zuo-zhe yi-ge ren.
bed above sit-ZHE one-CL person
'There is a person sitting on the bed.'
- b. 一 个 人 坐 着 。
- Yi-ge ren zuo-zhe.
One-CL person sit-ZHE
'There sits a person.'

7 The Cognitive Basis of Verbal Lability

If a state is defined as the way something exists in human construal, the following three characteristics can be formulated for this concept:

- (35) I. 'State' is a relational notion. It cannot be conceived of without reference to something (either tangible or intangible).
- II. A state is objective, because the thing(s) that a state is in relation to must exist in some fashion (in the spatial domain, the temporal domain, or the cognitive domain).
- III. A state is subjective to human construal, and human construal of the same thing may vary from person to person and from time to time.

Accordingly, a change of state means that something exists in a different way than it did before, entailing an initial state and a final state. A change of state can occur spontaneously or result from external force, and in human languages is typically expressed by verbs (the term 'verb' is used in cognitive linguistics for any expression that profiles a process: e.g., Langacker 2008: 354). So, change-of-state verbs inherently feature complex event structures, as represented in Figure 3 below ('AG' signifies the agent, and 'TH', the theme):



FIGURE 3

The complex event structure of change-of-state verbs

This complex event structure automatically gives way to two competing strategies of profiling³ in human construal: agent orientation and theme orientation. According to Langacker (2008: 355), since it is difficult to attend to a complex occurrence in a global and wholly neutral fashion, attention, as a limited resource, has to be allocated. As a matter of focal prominence, trajector and landmark are the primary and secondary focal participants in a profiled relationship, and subject/object relations are grammatical manifestations of trajector/landmark alignment (Langacker 2008: 355). A subject is a nominal that codes the trajector of a profiled relationship, and an object is one that codes the landmark. It should be noted, however, that (i) different allocations are possible for a given structure, and (ii) the choice of trajector is a pivotal factor in canonical alignment. The key difference between the two major profiling strategies is that one aligns the trajector with the agent, and the other aligns it with the theme.

- (36) Agent and theme attract focal prominence because each has a kind of cognitive salience that sets it apart from other semantic roles in its experiential realm. Agents belong to the “active” realm – that of action, change, and force, of mobile creatures acting on the world. Here a willful human actor stands out as a paragon with respect to other active roles (like instrument, experiencer, or natural force). On the other hand, themes belong to the “passive” realm of settings, locations, and stable situations, where objects with particular properties are arranged in certain ways. The world thus constituted defines our circumstances, presents both problems and opportunities, and serves as the platform for human activity.

(Langacker 2008: 370)

In the complex event structure of a change of state, both participants have a chance of being profiled as the trajector, which means that each of them can be the subject of a clause: lability arises. In this sense, lability inherently hinges on change-of-state events.

Correspondingly, in a state or in an agentive intransitive event, because only one participant is involved, no alternative method of profiling is available. Meanwhile, in an event depicted by a surface-contact verb or a perception/cognition verb (without any complement), the theme does not undergo any change – and sometimes is not even affected – so the focal prominence

3 In cognitive linguistics, the profile is the part of the conceptual base designated by an expression (Langacker 1987: 118). A clause (or a verb) profiles a temporal relation.

is naturally assigned to the agent, which starts this process. The possibility of compounding makes the situation more complicated in Chinese. By compounding with other elements oriented at the theme, typically the resultant state, some surface-contact verbs and perception/cognition verbs can be endowed with lability: those theme-oriented elements increase the chance of the theme being profiled as the trajector.

This also sheds additional light on the factor of spontaneity. If a change of state is likely to occur spontaneously, the chance of the agent being profiled as the trajector will be low, and thus it is more likely to be expressed by an intransitive structure. Conversely, if a change of state is more likely to be caused by an external force, there is a greater chance for the agent to be profiled as the trajector. This explains the fact that as the spontaneity of a change-of-state event increases, the faithfulness of verbs to the intransitive labile construction also increases (cf. Section 5.2).

8 Conclusion and Discussion

By looking at the labile verbals in a small corpus, this paper has identified an extremely large group of labile verbals in Chinese. In terms of the form, labile verbals can be monosyllabic, compounds or complex verbal structures. In terms of their semantics, change of state claims the lion's share. All subtypes of verbal lability found in other languages are also seen in Chinese. Passive lability, a subtype that is claimed to be rare in world languages (Letuchiy, 2009), is not unusual in Chinese. This finding supports the hypothesis that languages not rich in morphology are presumably rich in verbal lability (e.g., Nichols 1986; Haspelmath 1993) and that causal-noncausal verb pairs primarily denote change of state (Haspelmath 1987, 1993).

The study of verbals' faithfulness to the intransitive construction reveals that although Chinese is rich in labile verbals, the labile verbals are not all equally labile: some are more labile than others. The factor determining the degree of verbal lability is the likelihood of spontaneous occurrence. Prototypical labile verbals, such as phase verbs 开始 *kaishi* 'start' and 完成 *wancheng* 'complete', feature comparable faithfulness to the transitive construction and the intransitive construction. Centered around prototypical labile verbals, change-of-state events that are more likely to occur spontaneously, e.g., 醒 *xing* 'wake up' and 沉 *chen* 'sink', constitute intransitive-dominated labile verbals; whereas change-of-state events that are more likely to be caused by external forces, e.g., 开 *kai* 'open' and 破坏 *pohuai* 'break', are transitive-dominated labile verbals.

This finding can be accounted for by the principle of iconicity as well as the form–frequency correspondence.

To summarize, verbal lability is related to two factors in Chinese: change of state and spontaneity of the event. Of these two factors, change of state is the fundamental one, as the complex event structure it represents gives way to two competing strategies of profiling in human construal, agent orientation and theme orientation, which in turn lead to the transitive and intransitive use of a verbal, respectively. The lability of verbs essentially substantiates the alternative profiling strategies of change-of-state events. Built upon the change-of-state factor, the degree and direction (transitive-dominated or intransitive-dominated) of verbal lability is sensitive to the likelihood of spontaneous occurrence of the events. Grounded in some general characteristics of human conceptualization, this finding connects verbal lability in Chinese with other world languages, and sheds light on the triad of form, function, and agency (Torres-Martínez, 2018a).

Nevertheless, this study is merely a preliminary investigation of labile verbs in Chinese. There still remain many questions regarding verbal lability. In the first place, Chinese is not the only isolating language in East Asia; data from other isolating languages such as Vietnamese are called for to further test current conclusions. Secondly, Chinese is not a static, internally homogeneous system itself. In fact, as mentioned in Section 5.1, in Old Chinese, about 80% of words were monosyllabic, and a monosyllabic verb could have a broader meaning than today. It would also be of interest to examine verbal lability in Chinese dialects and Old Chinese, and the mechanism of development from monosyllabic labile verbs to compound labile verbals. Moreover, I found that passive lability is quite common in Chinese, but in Chinese, there is another commonly recognized passive marker, 被 *bei*. A question arises with regard to the relationship between the intransitive labile construction and the 被 *bei* construction. In addition, previous studies focusing on other languages have distinguished direct objects from indirect/oblique objects in the transitive use of labile verbs (e.g., Letuchiy 2017; Verhoeven 2010), but this study did not make this distinction. This is another direction to further look at the subtypes of verbal lability in Chinese. Last but not least, more research is called for in the field of applied linguistics, e.g., language acquisition, instruction and processing. As mentioned in the beginning of this paper, because of the coexistence of P-lability and A-lability in Chinese, sentences with only one argument can be ambiguous. How do native speakers disambiguate these types of sentences? How are they processed during online processing? How are they taught in Chinese classrooms and acquired by learners? These questions are all worthy of exploration.

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