

## Two Types of Verb Reduplications in Mandarin Chinese

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### Abstract

This paper analyzes verb reduplication in Mandarin Chinese under a lexicalist framework. By adopting the Lexicalist Hypothesis proposed by Chomsky (1970), a distinction has been made between syntactic and morphological verb reduplications by means of five tests: productivity, *le* insertion, categorial stability, transitivity, and input/output constraints. It is found that the AA and ABAB patterns of verb reduplication have relatively high productivity and regular syntactic behaviors, whereas the AABB pattern of verb reduplication shows extremely low productivity and syntactic idiosyncrasy. Given these observations, this paper proposes that the AA and ABAB patterns should be syntactic verb reduplications derived at the syntactic level, whereas the AABB pattern should be morphological verb reduplication formed in the lexicon. The two types of verb reduplications have different generative mechanisms.

### Keywords

verb reduplication, Lexicalist Hypothesis, lexicon, productivity

## 1 Introduction

Verb reduplication, as an important linguistic phenomenon in Chinese and many other languages, is manifested in its own fashion in phonology, syntax, semantics, and pragmatics. Li and Thompson (1981) claim that verb reduplication represents the delimitative aspect, meaning doing an action “a little bit”. Yip and Rimmington (2004) propose that verb reduplication is a means to indicate brief duration, as shown in (1).

- (1) a. AA pattern
- |             |   |                       |
|-------------|---|-----------------------|
| <i>Ting</i> | → | <i>ting-ting</i>      |
| listen      |   | listen-listen         |
| ‘listen’    |   | ‘listen a little bit’ |
- b. ABAB pattern
- |                |   |                         |
|----------------|---|-------------------------|
| <i>Zhengli</i> | → | <i>zhengli-zhengli</i>  |
| clear.up       |   | clear.up-clear.up       |
| ‘clear up’     |   | ‘clear up a little bit’ |
- c. AABB pattern
- |                |   |                           |
|----------------|---|---------------------------|
| <i>Fengbu</i>  | → | <i>feng-feng-bu-bu</i>    |
| sew.mend       |   | sew-sew-mend-mend         |
| ‘sew and mend’ |   | ‘sew and mend repeatedly’ |

The syntax of verb reduplication is an issue that has aroused much controversy. Some scholars hold that verb reduplication in the Chinese language belongs to the lexical category. As Zhu (1982) proposes, reduplication is a process of word formation. Fan (1964) and Lü (1982), among many others, believe that verb reduplication falls into the syntactic category. For instance, Zheng (1988) analyzes this construction from both syntactic and semantic perspectives and proposes that verb reduplication is not a structure between word and phrase, but a syntactic combination equivalent to the verbal classifier construction.<sup>1</sup> Tang (1992) and Chu (2018) claim that reduplication in Chinese may create either words or phrases, therefore leading to the distinction between syntactic and morphological reduplications. Considering this debate, this paper adopts a lexicalist approach (Chomsky 1970) and proposes that whether verb reduplication is a constituent in the lexicon or at the syntactic level remains an empirical issue.

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1 According to Chao (1968), a verbal classifier refers to “measure for verbs”, which is used to indicate the number of times that an action takes place and is commonly divided into three groups: typical classifier, body classifier, and instrumental classifier. A typical classifier includes frequency expressions, such as *ci*次, *hui*回, *xia*下 ‘time(s)’, and also the reduplicant in the A-(*yi*)-A pattern; a body classifier includes the body part that performs an action, such as *shou* ‘hand’, *jiao* ‘foot’, *bazhang* ‘palm’, *yan* ‘eye’, *quan* ‘fist’, and *kou* ‘mouth’; an instrumental classifier includes the instrument with which an action is performed, such as *dao* ‘knife’, *qiang* ‘pistol’, *jian* ‘arrow’, *bian* ‘whip’, and *zhen* ‘needle’, among others.

Regardless of other variants like *A-yi-A*, *A-le-A*, *A-le-yi-A*, *AAB*, *A-le-AB*, and *A-yi-AB* (Lu and Yu 1954; He 1962; Wang 1963; Chao 1968; Henne et al. 1977; Zhu 1982; Dai 1989), this paper will focus on *AA*, *ABAB*, and *AABB* patterns for the following reasons. Firstly, the simpler a reduplicated pattern is, the closer it is to the typical form of verb reduplication; the more complex a reduplicated pattern is, the more peripheralized it is. In this respect, the standard full reduplications of both monosyllabic and disyllabic verbs, i.e., *AA* and *ABAB* patterns, fall naturally into our research scope. Secondly, verb reduplication inserted by the perfective aspect marker *-le*, as in *A-le-A*, *A-le-AB*, is regarded as a combination of verb reduplication and a perfective aspect, indicating the completion of an action denoted by the verb. Thirdly, while reduplication creates new constituents by prefixation or suffixation in most cases, the Chinese language presents a rare case of reduplication that does not fit into this category, namely, the *AABB* pattern of reduplication. In *AABB* reduplication, the constituents *AA* and *BB* are not independent morphemes as *AB* in *ABAB* reduplication. In this case, it is difficult to identify which part of *AABB* is the base or the reduplicant due to the discontinuity of the morphemes (Feng 2002). Therefore, the *AABB* pattern is also worth exploring due to its unique features distinct from the *AA* and *ABAB* patterns.

This paper zooms into the generative puzzle of verb reduplication in Mandarin Chinese, and the most significant part of this study is the adoption of a lexicalist approach (Chomsky 1970), which can better reflect the inherent properties of verb reduplication at the syntax-morphology interface. The whole article is organized as follows. Section 2 introduces two fundamental positions in dealing with morphosyntactic constituents: transformational position and lexicalist position (Chomsky 1970: 188). Section 3 elaborates on the differences among the *AA*, *ABAB*, and *AABB* patterns through a series of tests and further proposes that there should be a distinction between syntactic and morphological verb reduplications. Section 4 summarizes the major findings of this study.

## 2 Lexicalist Hypothesis of Chomsky (1970)

The Lexicalist Hypothesis (Chomsky 1970) is a fundamental hypothesis adopted in numerous approaches, such as Head-Driven Phrase Structure Grammar and the Principles-and-Parameters approach, among many others, and its basic tenet is that “the combinatorial system that produces words is supposed to use different principles from the system that produces phrases” (Bruening 2018).

The purpose of the Lexicalist Hypothesis stems from the debate on nominalization in English. The observation that nominals show similarities to their corresponding propositions leads to the question of whether nominals are derived from their underlying propositions, as shown in (2) and (3), where both gerundive nominal *punishing* and derived nominal *revolution* share the same agents and patients (labeled by Noun Phrase [NP]) with their corresponding propositions.

- (2) a. Mary punished Jack.  $\text{NP}_{\text{agent}} - \text{X} - \text{NP}_{\text{patient}}$   
 b. Mary's punishing Jack (surprised me).  $\text{NP}_{\text{agent}} - \text{X} - \text{NP}_{\text{patient}}$
- (3) a. The workers revolted.  $\text{NP}_{\text{agent}} - \text{X}$   
 b. The workers' revolution (surprised me).  $\text{NP}_{\text{agent}} - \text{X}$

Different from the transformationalist proposal that all nominal compounds are generated by transformations from deep sentence structures, Chomsky suggests that derived nominals are better explained by lexical rules than as transformations, i.e., derived complex words are listed as such in the lexicon, an unordered list of lexical entries, with each entry specifying a range of information necessary for the proper use of the lexical item. More specifically, gerundive nominals are desentential, whereas derived nominals should be listed as such in the lexicon instead of being derived by syntactic operations. Three arguments are proposed to support the lexicalist position, which are termed Productivity Argument, Idiosyncrasy Argument, and Internal Structure Argument.<sup>2</sup>

## 2.1 Productivity Argument

The Productivity Argument refers to whether nominals can be derived freely from the underlying propositions in a subject-predicate form. The gerundive nominal can replace the verb or adjective in the propositions quite freely without changing the proposition's original meaning, while the derived nominal is much more restricted in this regard. As shown below, sentential structures can transform to the corresponding gerundive nominals, but not derived nominals.

- (4) a. John is easy to please.  
 b. John's being easy to please  
 c. \*John's easiness to please  
 (Chomsky 1970: 188)
- (5) a. John is certain to win the prize.  
 b. John's being certain to win the prize  
 c. \*John's certainty to win the prize  
 (Chomsky 1970: 188)
- (6) a. John amused the children with his stories.  
 b. John's amusing the children with his stories  
 c. \*John's amusement the children with his stories  
 (Chomsky 1970: 188)

To explain such discrepancies between gerundive and derived nominals, scholars in a transformationalist position would say that the nominalization transformation

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2 The three arguments in "Remarks on nominalization" are very important for the formulation of tests on syntactic and morphological verb reduplications in this paper. So, I think it is necessary to give illustrations for these.

is marked to exclude derived nominalizations, while the lexicalist position would agree that lexical items come with subcategorization features encoding whether there is a derived nominal or not. Consider the lexical entries “eager” and “easy”; both of them can appear in the context A [\_ Tense Phrase (TP)] when they function as adjectives. However, only “eager” is introduced into the lexicon with a subcategorization feature (eager, N [\_ TP]), indicating that it can appear in the context “John’s eagerness to please”, and “easy” is not accommodated in the lexicon with such a subcategorization feature and thus is not allowed to appear in a context like “\*John’s easiness to please”. The productivity of gerundive nominals is the result of a productive nominalization transformation, for which the restrictions mentioned above are inapplicable. Therefore, the productivity of gerundive nominals is much higher than that of derived nominals.

## 2.2 Idiosyncrasy Argument

The Idiosyncrasy Argument focuses on the generality of relations between nominals and associated propositions or verbs. The relation between gerundive nominals and their propositions or verbs is quite regular, while the relation between derived nominals and their associated propositions or verbs shows variety and idiosyncrasy. On the one hand, not every derived nominal has a corresponding proposition or verb. For example, the noun “professor” and the adjective “tangible” have no corresponding verbs such as “\*profess” or “\*tange”. A transformational account would have to create an abstract verb whose function is to undergo the nominalization transformation. In order to derive the noun “professor” or “profession”, for instance, an abstract verb “\*profess”, meaning ‘declare openly’, would be invented. On the other hand, the semantics of derived nominals may not coincide with that of their propositions or verbs. Consider the following contrasts between “prove”, “believe”, and “ignore” on the one hand and the derived nominals “proof”, “belief”, and “ignorance” on the other hand.<sup>3</sup>

- (7) a. John proved the theorem.  
 b. John’s proving the theorem  
 c. John’s proof of the theorem
- (8) a. Mary believes that Jack is a good man.  
 b. Mary’s believing that Jack is a good man  
 c. Mary’s belief that Jack is a good man
- (9) a. Jack ignored the problem.  
 b. Jack’s ignoring the problem  
 c. Jack’s ignorance of the problem

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3 The verb “prove” means ‘to show that something is true’, whereas the derived nominal “proof” means ‘information or documents showing that something is true’; the verb “believe” means ‘to feel certain that something is true’, whereas “belief” means ‘a strong feeling that something or somebody exists or is true’; the verb “ignore” means ‘pay no attention to’, whereas “ignorance” means ‘a lack of knowledge or information’.

It can be seen clearly that (7a–9a) are semantically close to the meaning of the gerundive nominals in (7b–9b) in comparison with the derived nominals in (7c–9c). In this respect, the transformationalist hypothesis proposes that some syntactic structures are interpreted idiomatically, whereas Chomsky suggests that nominalization transformation does not affect meanings and the idiosyncratic meanings denoted by the derived nominals are lexically listed. The noun *refusal* and the verb *refuse*, for instance, share a neutral lexical entry *refuse* that leads to the respective noun and verb branches, with each taking its distinct senses. In this way, both regular and irregular relations between *refusal* and *refuse* could be captured in a natural manner. The relation between verbs and derived nominals is thus more irregular compared with that between verbs and gerundive nominals.

### 2.3 Internal Structure Argument

Internal Structure Argument, as the term indicates, concerns how the nominal's internal structure influences its syntactic distribution. More specifically, it focuses on whether the structures in which the nominals occur resemble the noun phrase. Derived and gerundive nominals show different syntactic behaviors on the basis of their distinct internal structures. Gerundive nominals can co-occur with a negative marker, an adverb, and an aspect marker, but cannot be pluralized, preceded by an adjective, or followed by a prepositional phrase, whose distribution shows the properties of a verb (see [10a–14a]). Derived nominals, on the contrary, allow pluralization, prenominal adjective, and prepositional phrase, but not negative marker, adverb, or aspect marker, whose distribution resembles a noun phrase in every way (see [10b–14b]).

- (10) Pluralization
  - a. \*John's three provings the theorem
  - b. John's three proofs of the theorem
- (11) Prenominal adjective
  - a. \*John's unmotivated criticizing the book
  - b. John's unmotivated criticism of the book
- (12) Negation
  - a. John's not refusing the offer
  - b. \*John's not refusal of the offer
- (13) Adverb
  - a. John's refusing stupidly the offer
  - b. \*John's refusal stupidly the offer
- (14) Aspect
  - a. John's having criticized the book
  - b. \*John's having criticised the book

A transformationalist analysis argues that there should be two sets of transformation, one for gerundive nominalization and another for derived

nominalization. This treatment, however, would have to set ad hoc conditions on the nominalization transformation in order that the underlying structures end up with the same surface noun phrase structures. A lexicalist analysis predicts that derived nominals are inserted as such in the deep structure, with their part of speech being always the noun, and that the transformation rule only applies to gerundive nominals. Hence, the syntactic behaviors of derived nominals overlap greatly with nouns, while gerundive nominals still show the syntactic properties of verbs.

To conclude, gerundive nominals show high productivity, regular relations with corresponding propositions or verbs, and have no internal structure of noun phrase, whereas derived nominals display low productivity, idiosyncratic relations with corresponding propositions or verbs, and have the internal structure of a noun phrase. These facts give strong empirical support to the proposal of the Lexicalist Hypothesis, but no support to the opposite transformationalist hypothesis. Therefore, Chomsky concludes that gerundive nominals should be syntactically derived, whereas the irregularities of derived nominals support the base solution. In short, the Lexicalist Hypothesis attempts to extend the base rules to accommodate derived nominals directly, thereby simplifying the transformational apparatus, instead of extending the transformation rules and simplifying the lexicon as in the framework of transformationalism.

### 3 Two types of verb reduplications in Mandarin Chinese

From a lexicalist perspective, this section aims to draw a line between syntactic and morphological verb reduplications by arguing that syntactic verb reduplication should show high productivity and its syntactic distribution should be quite regular; morphological verb reduplication, on the contrary, is expected to show extremely low productivity, and its syntactic distribution should be irregular and idiosyncratic. Five tests are formulated to make this distinction: (i) productivity; (ii) *le* insertion; (iii) categorial stability; (iv) transitivity; and (v) input and output constraints.

#### 3.1 Test 1: Productivity

As mentioned in Section 2.1, the Lexicalist Hypothesis holds that constituents in the lexicon and those generated by syntactic operations show different productivity levels, i.e., the productivity of the former is extremely low, while that of the latter is relatively high. For this reason, this paper analyzes the acceptability of different patterns of verb reduplication, i.e., the AA pattern of the monosyllabic verb, and the ABAB and AABB patterns of the disyllabic verb. The results show that their acceptability is different from one pattern to another. On the basis of this contrast, the first test is formulated:

##### (15) Productivity

The productivity of syntactic verb reduplication should be relatively high, whereas that of morphological verb reduplication should be extremely low.

The productivity emphasizes whether a verb can be reduplicated freely and interpreted acceptably into a specific reduplicated pattern. The transformation that generates verb reduplication out of the lexicon applies quite freely. There are, however, many constraints on the formation of verb reduplication in the lexicon.

In order to check the productivity of different reduplicated patterns, this paper examines thoroughly the reduplication of verbs in *The Dictionary of Chinese Verb Usage* (Meng et al. 1999), which lists 1328 verbs selected from *The Contemporary Chinese Dictionary*, and the fundamental functions of each verb, i.e., whether it allows noun object, verb object, clausal object, reduplication, or verb classifier, are indicated.<sup>4</sup> By checking, it is found that there are 548 monosyllabic verbs and 777 disyllabic verbs in this dictionary.<sup>5</sup> The reduplicated pattern of a verb is classified and labeled with number “0” or “1” based on two aspects: (i) whether the verb is monosyllabic or disyllabic; and (ii) whether it can be reduplicated into a specific pattern (see Appendix). Here, the number “0” indicates that a verb fails to be reduplicated into a pattern; the number “1”, on the contrary, indicates that a verb can enter this pattern successfully. Take monosyllabic verbs *ai* ‘suffer’ and *you* ‘have’ as illustrations.

- (16) a. Rang ta ai e ta jiu zhidao aixi  
 let him suffer hunger he *jiu* know cherish  
 liangshi le.  
 grain SFP<sup>6</sup>  
 ‘Let him suffer from hunger, then he will get to cherish the grain.’
- b. Rang ta ai-ai e ta jiu zhidao aixi liangshi le.<sup>7</sup>  
 let him suffer-suffer hunger he *jiu* know cherish grain SFP  
 ‘Let him suffer from hunger for a while, then he will get to cherish the grain.’  
 (Meng et al. 1999)

4 In Meng et al. 1999, reduplicable verbs are exemplified and verbs not exemplified are considered unreduplicable. Nevertheless, all terms are rechecked by means of the corpus. The verb *ai* ‘love’, for instance, is not exemplified and is considered unreduplicable in the dictionary. However, its reduplication *ai-ai* can be found in the corpus, as in the example given by an anonymous reviewer below. In this case, the verb *ai* is considered reduplicable and is labeled as 1 in the lexical labeling.

(i) Chen ni hai huo-zhe duo ai-ai ziji duo ai-ai jieren.  
 while you still alive more love-love self more love-love family  
 ‘While you are still alive, love yourself and your family more.’

5 Note that this paper focuses only on monosyllabic and disyllabic verbs. Therefore, verbs with more than two syllables in the dictionary, e.g., *biaozhi-zhe* ‘mark’ and *yiwei-zhe* ‘mean’, are excluded from our investigation.

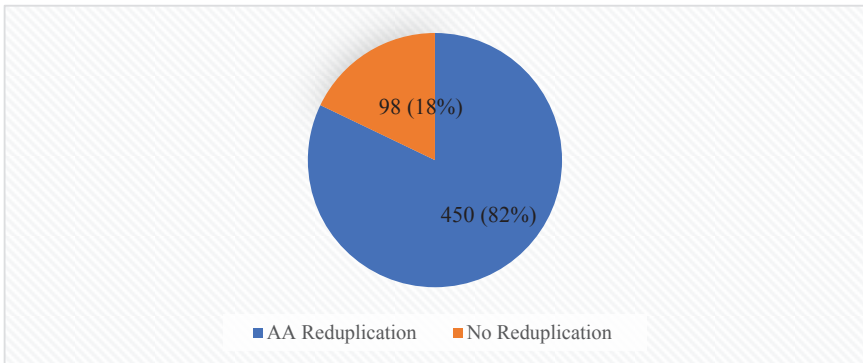
6 The italic elements stand for Chinese particles that do not have corresponding English counterparts. “SFP” is the abbreviation of “Sentence Final Particle”.

7 The issue of whether *ai e* is a verb-object compound or construction has been much discussed in the literature (Chao 1968; Li and Thompson 1981; Huang 1984; Chi 1985; Packard 2000). By adopting the Lexical Integrity Hypothesis, which states that “syntax does not have access to word-internal information” (cf. Packard 2000), this paper treats *ai e* as a verb-object construction and *ai-ai e* is therefore derived by reduplicating the monosyllabic verb *ai* ‘suffer’ at the syntactic level.

- (17) a. Ta      you            liang-ben      waiwen      xiaoshuo  
          he      have            two-CL        foreign      novel<sup>8</sup>  
          ‘He has two foreign novels.’  
          (Meng et al. 1999)
- b. \*Ta      you-you        liang-ben      waiwen      xiaoshuo  
          he      have-have      two-CL        foreign      novel  
          ‘He owns two foreign novels for a while.’

Whereas the AA pattern of verb *ai* ‘suffer’ in (16b) is acceptable, that of the verb *you* ‘have’ in (17b) is ill-formed. Thus, the AA patterns of *ai* and *you* are marked as numbers “1” and “0”, respectively. Here, a factor that affects the reduplication of base verbs is their verb class (or semantic features). Generally speaking, verb reduplication is impossible with accomplishments, achievements, and state verbs (He 1962; Wang 1963; Fan 1964; Liu 1983; Wang 1988; Ma 1988; Li 1996; Tsao 2004). As pointed by Li and Thompson (1981), only dynamic and volitional verbs with features [+dynamic], [+controlled], and [+durative] can undergo reduplication. The verb *you* in (17a) is an existential verb without the [+dynamic] feature and thus cannot be reduplicated into *you-you* in (17b).

In terms of the reduplication of monosyllabic verbs, the foregoing observations are summarized in Figure 1, which shows that 82% of monosyllabic verbs (450 out of 548) in the dictionary can be reduplicated in the AA pattern, and 18% of them (98 out of 548) cannot undergo reduplication due to semantic constraints on the verbs themselves (Xiao and McEnergy 2004).



**Figure 1** Reduplication of monosyllabic verbs in *The Dictionary of Chinese Verb Usage*

<sup>8</sup> “CL” is the abbreviation of “classifier”.

Different from monosyllabic verbs with only one standard reduplicated pattern, i.e., AA, reduplication among disyllabic predicates can be in either the ABAB or the AABB pattern. The base verb in ABAB reduplication is reduplicated as a whole, while each syllable seems to be reduplicated by itself in AABB reduplication. By checking all disyllabic verbs in *The Dictionary of Chinese Verb Usage*, it is found that they show different acceptability toward ABAB and AABB patterns. The disyllabic verb *laiwang*, for instance, can be reduplicated into both patterns.<sup>9</sup>

- (18) a. Ta-men        lia        jingchang    laiwang.  
          he-PL        two        often        contact<sup>10</sup>  
          ‘They have contacts with each other very often.’
- b. Yao        duo        gen        bieren        laiwang-laiwang.  
          should    more    with       other.people    contact-contact  
          ‘Contact with other people more often.’
- c. Jie-shang    de        xingren    lai-lai-wang-wang.  
          street.on    *de*        pedestrian    come-come-go-go  
          ‘Pedestrians on the street come and go in great numbers.’

It is worth noticing that *lai-lai* and *wang-wang* are not independent morphemes, and hence, it is difficult to identify which part of the word *laiwang* is the base, whereas its ABAB reduplication, *laiwang-laiwang*, is structured as the standard full reduplication. However, not all disyllabic verbs have both ABAB and AABB patterns of reduplication. For example, the verb *aihao* has neither ABAB nor AABB pattern, whereas *aixi* has only the ABAB pattern of reduplication, yielding the sharp contrast below.

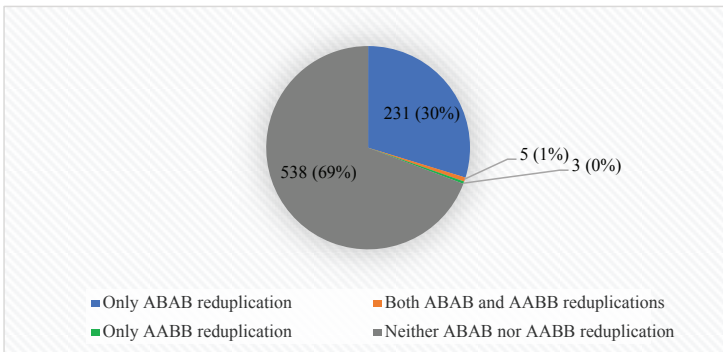
- (19) a. Zhe-ge    qiudui    de    nansheng    dou    aihao    da    lanqiu.  
          this-CL    team    *de*    boys        all    like    play    basketball  
          ‘All the boys in this team like playing basketball.’
- b. \*Zhe-ge    qiudui    de    nansheng    dou    aihao-aihao    da    lanqiu.  
          this-CL    team    *de*    boy        all    enjoy-enjoy    play    basketball  
          ‘All the boys in this team like playing basketball for a while.’
- c. \*Zhe-ge    qiudui    de    nansheng    dou    ai-ai-hao-hao    da    lanqiu.  
          this-CL    team    *de*    boys        all    love-love-like-like    play    basketball  
          ‘All the boys in this team like playing basketball for a while.’

9 As an anonymous reviewer observed, the interpretations of *laiwang* in *lai-lai-wang-wang* and *laiwang-laiwang* correspond respectively to its two meanings in *The Contemporary Chinese Dictionary*: one is “come and go” and the other is “have contacts with”. Such correspondence is in support of our proposal that ABAB and AABB are two types of reduplication and are derived syntactically in different ways. More details on the correlation between form and meaning in reduplication are given in Section 4. In terms of the data, all verbs are labeled based on the verbs themselves rather than their meanings. Therefore, *laiwang* is considered a disyllabic verb with both ABAB and AABB patterns in this paper.

10 “PL” stands for “plural marker”.

- (20) a. Aixi      ni-ziji      de      shenti      ba.  
 cherish    yourself    *de*    body      SFP  
 ‘Take good care of your health.’
- b. Aixi-aixi              ni-ziji              de              shenti              ba.  
 cherish-cherish      yourself      *de*      body      SFP  
 ‘Take good care of your health a bit.’
- c. \*Ai-ai-xi-xi                      ni-ziji              de      shenti      ba.  
 love-love-cherish-cherish    yourself    *de*    body      SFP  
 ‘Take good care of your health a bit.’

The overall data concerning the reduplication of disyllabic verbs in *The Dictionary of Chinese Verb Usage* is given in Figure 2. The statistics show that 69% of all disyllabic verbs (538 out of 777) cannot be reduplicated into either the ABAB or the AABB patterns; about 30% of them (231 out of 777) have only the ABAB pattern; only 3 out of the 777 disyllabic verbs have merely the AABB pattern and only 5 can undergo both ABAB and AABB patterns of reduplication. Taken as a whole, disyllabic verbs that can be reduplicated into the ABAB pattern account for 30% approximately; disyllabic verbs that can be reduplicated into the AABB pattern account for only 1% (8 out of 777).<sup>11</sup>



**Figure 2** Reduplication of disyllabic verbs in *The Dictionary of Chinese Verb Usage*

<sup>11</sup> An anonymous reviewer asked whether the stress pattern of a disyllabic verb would constrain its reduplication. He/she indicates that the second syllable in the disyllabic verb *cankao* ‘consult’, which can enter the ABAB pattern, can be pronounced as a neutral tone, whereas the second syllable in the unreduplicable disyllabic verb *boxue* ‘exploit’ cannot. This is, however, not the case, since some disyllabic verbs whose second syllables cannot be weakened into a neutral tone can still be reduplicated, e.g., *bijiao* ‘compare’, *biaoxian* ‘perform’, and *taolun* ‘discuss’. As pointed by Wang (2008), a disyllabic verb with or without a neutral tone would not be affected in terms of its ability of reduplication but would be affected in terms of its rate of utilization. This paper holds that the reason why *cankao* can be reduplicated but *boxue* cannot is due to the register (Feng 2017). The verb *boxue* is commonly used in a formal style and is difficult to enter verb reduplication, which is a colloquial expression compatible more with informal or neutral verbs.

Eight disyllabic verbs that can undergo AABB reduplication are *duanzheng* ‘correct and straight’, *duocang* ‘evade and hide’, *hunmi* ‘fall in coma’, *laiwang* ‘come and go’, *mingbai* ‘understand’, *mohu* ‘blur’, *yaohuang* ‘shook and shake’, *zhidian* ‘guide’, which indicates that constituents of AABB reduplications are mainly coordinate verbs in a relation of logical coordination, synonyms, or antonyms.

To summarize, by examining verbs in *The Dictionary of Verb Usage*, it is found that AA, AABB, and ABAB patterns of reduplication show various productivity levels. For monosyllabic verbs, the AA pattern shows the highest productivity (around 82%); for disyllabic verbs, the productivity of the ABAB pattern is relatively high, reaching approximately 30%, but the productivity of the AABB pattern accounts for only 1%.

### 3.2 Test 2: *Le* insertion

In addition to the productivity of different verb reduplication patterns, this study is particularly interested in exploring their syntactic behaviors. Thus, the second way to distinguish syntactic verb reduplication from morphological verb reduplication is using the perfective aspect marker *-le*, which “indicates that an event is being viewed in its entirety or as a whole” (Li and Thompson 1981). The perfective aspect marker *-le* must be placed between the base and the reduplicant, as in *ting-le-ting* ‘listened a bit’. How this test works is illustrated by considering whether this aspectual morpheme can be inserted freely into different types of reduplications. This rationale is mainly motivated by the separability of verbal complexes obtained via several reduplicated forms, which challenges the alleged lexical integrity of words (Lapointe 1980, Lapointe 1981). Thus, the second test is formulated as follows:

#### (21) *Le* insertion

The perfective aspect marker *-le* can be inserted freely into syntactic verb reduplication, but not into morphological verb reduplication.

Considering the assumption that the aspect marker *-le* can be inserted only in syntactically derived verb reduplication, consider the following contrasts. The perfective aspect marker *-le* can be placed between the base and the reduplicant of the monosyllabic verb reduplication *kan-kan*, indicating that the transitory event of *kan* is actualized, as shown in (22b), whereas both ABAB and AABB patterns cannot be interrupted by the intervening morpheme *-le*. However, it is worth pointing out that the AB-*le* AB pattern in (23b) and (24b), different from the AA-*le*-BB pattern in (23c) and (24c) – which is unacceptable both syntactically and prosodically, is syntactically acceptable but prosodically unacceptable.<sup>12</sup>

<sup>12</sup> Whether AB-*le* AB is acceptable is a controversial issue in the literature (Xiao and McEnery 2004; Basciano and Melloni 2017; Sui and Hu 2016; Yang and Wei 2017). I will not discuss the debate in

- (22) a. Wo kan-kan zhe-ben shu.  
I look-look this-CL book  
'I read this book for a while.'
- b. Wo kan-le-kan zhe-ben shu.  
I look-Aspect (ASP)-read this-CL book  
'I read this book for a while.'
- (23) a. Yaohuang-yaohuang jiu ba chulai le.  
shake.sway-shake.sway jiu pull out SFP  
'Shake it for a while and it will be pulled out.'
- b. \*Yaohuang-le yaohuang jiu ba chulai le.  
shake.sway-ASP shake.sway jiu pull out SFP  
'Someone shook it for a while and pulled it out.'
- c. \*Yao-yao-le huang-huang jiu ba chulai le.  
shake-shake-ASP sway-sway jiu pull out SFP  
'Someone shook it for a while and pulled it out.'
- (24) a. Nainai yao ba zhe-tiao kuzi fengbu-fengbu.  
grandma will ba this-CL trousers sew.mend-sew.mend  
'Grandma will sew and mend a bit this pair of trousers.'
- b. \*Nainai fengbu-le fengbu zhe-tiao kuzi.  
grandma sew.mend-ASP sew.mend this-CL trousers  
'Grandma sewed and mended a bit this pair of trousers.'
- c. \*Nainai feng-feng-le bu-bu zhe-tiao kuzi.  
grandma sew-sew-ASP mend-mend this-CL trousers  
'Grandmother sewed and mended a bit this pair of trousers.'

The answer given by the contrasts above is that the AABB pattern of reduplication is different from the AA and ABAB patterns in terms of its internal properties. The internal structure of the AABB reduplication is defined by the close linking of the constituents to each other so that no other constituent can be easily inserted, while the inner structure of the AA and ABAB reduplications is relatively loose, within which the grammatical aspect marker *-le* can be insert-fixed, even though the latter form is constrained by prosodic factors.

### 3.3 Test 3: Categorical stability

Packard (2000) proposes that categorial change takes place more easily in the lexicon. If a specific verb reduplication is morphologically formed, there is a possibility of it changing its primitive category into another or showing the property of another category. If we further assume that only morphologically formed verb

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this paper, since this test is concerned mainly with the correlation between the marker *-le* and the inseparability or limited separability of verb reduplication. This paper suggests that the insertion of *-le* does not affect the syntactic acceptability of AB-*le* AB. Therefore, AB-*le* AB is syntactically acceptable, and its inseparability or limited separability is motivated by its excessive length, in terms of the number of syllables (Zhang 2000; Wang 2008).

reduplication shows this possibility of categorial change, the categorial stability test is established to distinguish morphological verb reduplication from syntactic verb reduplication.

## (25) Categorial stability

The category of a verb remains stable if its reduplication takes place as a syntactic operation; otherwise, it takes place in the lexicon.

The reduplicated patterns among disyllabic predicate words corroborate with the verb-adjective distinction established on the basis of semantics and syntactic behaviors. According to Zhu (1956, 1982), a state adjective is quantitatively increasing and semantically descriptive. In terms of syntactic functions, a state adjective cannot serve as a predicate (followed by an object) but can serve as an adverbial, attribute, or complement freely. On this basis, the following contrasts are drawn between the ABAB and AABB patterns.

## (26) Adverbial

- a. Dianche      yao-yao-huang-huang      kai      zou...  
 electric.car    shake-shake-sway-sway    drive    away  
 ‘The electric car... drove away jiggly...’  
 (*The Troubleshooters*, Wang Shuo)
- b. \*Dianche      yaohuang-yaohuang      kai      zou...  
 electric.car    shake-shake                  drive    away  
 ‘The electric car... drove away jiggly...’

## (27) Attribute

- a. ...zuo      zai      yao-yao-huang-huang      de      che-shang  
 sit      zai      shake-shake-sway-sway      de      on.the.car  
 ‘...sit on the jiggling car’  
 (*An Unforgettable Song*, Ye Xin)
- b. \*...zuo      zai      yaohuang-yaohuang      de      che-shang  
 sit      zai      shake-shake                  de      on.the.car  
 ‘...sit on the jiggling car’

## (28) Complement

- a. Cai.tiao      zhi      deng      bei      dian-fengshan      chui      de  
 colorful.bar    paper    lamp    bei      electric-fan      blow    de  
 yao-yao-huang-huang.  
 shake-shake-sway-sway  
 ‘The colorful striped lights blown by the electric fan keeps shaking.’  
 (*Sunday*, Wang Zengqi)
- b. \*Cai.tiao      zhi      deng      bei      dian-fengshan      chui      de  
 colorful.bar    paper    lamp    bei      electric-fan      blow    de  
 yaohuang-yaohuang.  
 shake-shake  
 ‘The colorful striped lights blown by the electric fan keeps shaking.’

It can be seen that *yao-yao-huang-huang* can serve as adverbial, attribute, and verbal complement in (26a–28a), showing adjective-related distributions, whereas *yaohuang-yaohuang* retains the properties of the original verb and serves as none of these syntactic functions above. Therefore, it seems to be a fact that ABAB reduplication retains the properties of the base verb, while AABB reduplication loses part of its properties as a verb and is equipped with the semantic and structural characteristics of adjectives. This conclusion fits well into the prediction that AABB reduplication, unlike AA or ABAB reduplication with stable categorial features, is more likely to be formed by morphological rules, in which process the base verb may categorially change or show the properties of another category.

### 3.4 Test 4: Transitivity

Verb reduplication, specifically, the AABB reduplication pattern, is correlated with the lack of a postverbal object (Huang et al. 2009), even though the reduplication does not show the property of adjectives, as indicated in Section 3.3. In (29a) and (30a), for instance, the direct objects *lanqiu* ‘basketball’ and *xin tongshi* ‘new colleagues’ follow, respectively, the transitive verbs *da* ‘play’ and *zhidian* ‘guide’, and they can remain present after the verbs are reduplicated into the AA and ABAB patterns, as observed in (29b) and (30b). However, when *zhidian* undergoes the AABB pattern of reduplication, the resulting construction *zhi-zhi-dian-dian* followed by an object is ungrammatical, as shown in (30c). Similarly, ABAB reduplication *qiaoda-qiaoda* allows the presence of a postverbal object in (31b), but the postverbal position is not legitimate for the NP object *ganjing* when the base verb is reduplicated into *qiao-qiao-da-da* in (31c).

- (29) a. Jintian wo xiang da lanqiu.  
 today I want play basketball  
 ‘I want to play basketball today.’  
 (Cheng 2014: 67)
- b. Jintian wo xiang da-da lanqiu.  
 today I want play-play basketball  
 ‘I want to play some/a little bit of basketball today.’  
 (Cheng 2014: 67)
- (30) a. Zuowei lao yuangong ni yao duo zhidian  
 as senior employee you should more guide  
 xin tongshi.  
 new colleague  
 ‘As a senior employee, you should guide new colleagues more.’
- b. Zuowei lao yuangong ni yao duo zhidian-zhidian  
 as senior employee you should more guide-guide  
 xin tongshi.  
 new colleague  
 ‘As a senior employee, you should guide new colleagues a bit.’

- c. \*Zuowei lao yuangong ni yao duo  
 as senior employee you should more  
 zhi-zhi-dian-dian xin tongshi.  
 point-point-hint-hint new colleague  
 ‘As a senior employee, you should make more commons on new colleagues.’
- (31) a. Qiaoda ganjing shi huanjie ganqi de hao banfa.  
 knock.beat liver.meridian *shi* defuse liver.qi *de* good way  
 ‘Beating liver meridian is a good way to defuse the stagnation of liver *qi*.’
- b. Qiaoda-qiaoda ganjing shi huanjie ganqi  
 knock.beat-knock.beat liver.meridian *shi* defuse liver.qi  
 de hao banfa.  
*de* good way  
 ‘Beating liver meridian a bit is a good way to defuse the stagnation of liver *qi*.’
- c. \*Qiao-qiao-da-da ganjing shi huanjie ganqi  
 knock-knock-beat-beat liver.meridian *shi* defuse liver.qi  
 de hao banfa.  
*de* good way  
 ‘Beating liver meridian is a good way to defuse the stagnation of liver *qi*.’

In terms of the transitivity, the verb retains its transitive property when its output is in the AA and ABAB patterns, but it may lose the transitive property when reduplicated into the AABB pattern. In other words, AABB pattern may change the transitive property of the input verb.

### 3.5 Test 5: Input and output constraints

The fifth test concerns the input and output of verb reduplication. As mentioned in Section 3.1, there are semantic constraints on the verb that can enter the reduplication construction (Smith 1991, Smith 1997). Apart from this, AABB reduplication has additional constraints on the input verb. A disyllabic verb can be reduplicated into the AABB pattern only when it is a coordinated complex verb whose constituents are either synonyms or antonyms or are in a relation of logical coordination (Arcodia et al. 2014). In (32a), the verbs *duo* and *shan* are in a synonymous relation, both meaning ‘dodge’; in (32b), the verbs *shuo* ‘talk’ and *xiao* ‘laugh’ are in a coordinate relation; in (32c), the verbs *jin* ‘enter’ and *chu* ‘exit’ are in an antonymic relation.

- (32) a. *duo-shan* → *duo-duo-shan-shan*  
 ‘hide and dodge’ → ‘hide and dodge repeatedly’
- b. *shuo-xiao* → *shuo-shuo-xiao-xiao*  
 ‘talk and laugh’ → ‘talk and laugh continuously’
- c. *jin-chu* → *jin-jin-chu-chu*  
 ‘enter and exit’ → ‘go in and out repeatedly’

As far as the output of reduplication is concerned, each example of verb reduplication on the right side of the arrow lacks a structural or semantic head due to the synonymous, antonymous, or coordinate relation between its constituents. What's more, AABB reduplication conventionally delivers an increasing meaning instead of a delimitative meaning as do the AA and ABAB reduplications, which can be tested by the degree adverbials *shaowei* 'a little/a bit/a while' and *zongshi* 'always'. The former attenuates the action denoted by a verb, while the latter increases the frequency of an action.

- (33) a. Shaowei fengbu-fengbu zhe-jian dayi hai neng chuan.  
a bit sew.mend-sew.mend this-CL coat *hai* can wear  
'If you sew and mend this coat a bit, it can still be worn.'
- b. \*Zongshi fengbu-fengbu zhe-jian dayi yijing bu-neng  
always sew.mend-sew.mend this-CL coat yet cannot  
chuan le.  
wear SFP  
'This coat has been sewn and mended repeatedly and cannot be worn.'
- c. \*Shaowei feng-feng-bu-bu zhe-jian dayi hai neng chuan.  
a bit sew-sew-mend-mend this-CL coat *hai* can wear  
'If you sew and mend this coat a bit, it can still be worn.'
- d. Zongshi feng-feng-bu-bu zhe-jian dayi yijing  
always sew-sew-mend-mend this-CL coat yet  
bu-neng chuan le.<sup>13</sup>  
cannot wear SFP  
'This coat has been sewn and mended repeatedly and cannot be worn.'
- (34) a. Nainai shaowei laodao-laodao ta jiu bu naifan.  
grandma a.bit nag-nag he *jiu* not patient  
'As long as his grandmother nags a bit, he becomes impatient.'
- b. \*Nainai zongshi laodao-laodao ta hen bu naifan.  
grandma always nag-nag he very not patient  
'His grandmother is always nagging, which makes him quite impatient.'
- c. \*Nainai shaowei lao-lao-dao-dao ta jiu bu naifan.  
grandma a.bit chatter-chatter-rattle-rattle he *jiu* not patient  
'As long as his grandmother nags a bit, he becomes impatient.'
- d. Nainai zongshi lao-lao-dao-dao ta hen bu naifan.  
grandma always chatter-chatter-rattle-rattle he very not patient  
'His grandmother is always nagging, which makes him quite impatient.'

In the examples above, ABAB reduplications, like *fengbu-fengbu* and *laodao-laodao*, fail to be modified by the frequency adverbial *zongshi*, which denotes high

<sup>13</sup>An anonymous review indicates that this sentence may not be totally acceptable, but three native speakers of Mandarin Chinese have confirmed its acceptability. Therefore, I will not call it into question.

frequency. Therefore, this provides evidence for the claim that ABAB reduplication is compatible with the degree adverbial *shaowei*, but not with the frequency adverbial *zongshi*. On the contrary, AABB reduplications, like *feng-feng-bu-bu* and *lao-lao-dao-dao*, are compatible with the frequency adverbial *zongshi*, but not the degree adverbial *shaowei*.<sup>14</sup> This test coincides with the argument that ABAB reduplication expresses a diminishing meaning that conforms to the degree adverbial *shaowei*, while AABB reduplication expresses an increasing meaning that conforms to the frequency adverbial *zongshi*. A clearer comparison among the AA, ABAB, and AABB patterns is summarized in Table 1.

**Table 1** A comparison among the AA, ABAB, and AABB patterns

Pattern	Productivity	<i>Le</i> insertion	Categorial stability	Transitivity	Input constraints	Output
AA	√	√	√	√	Semantic	Diminish
ABAB	√	×	√	√	Semantic	Diminish
AABB	×	×	×	×	Logical	Increase

It is acknowledged that semantic properties are syntactically encoded; therefore, the semantic constraints described earlier on the base verb are unexpected if the AA and ABAB patterns are treated as a strictly morphological phenomenon. In addition, the AA and ABAB patterns lack the morphological constraints represented by the AABB pattern, which requires coordinate-compound base verbs. Accordingly, this paper proposes that AA and ABAB reduplications belong to the syntactic verb reduplication category, while AABB reduplication belongs to the morphological verb reduplication category. It is necessary to draw such a distinction so as to further analyze the generative mechanism of different kinds

<sup>14</sup>An anonymous reviewer points out that the oddness of (34b) and (34c) is due to some other factors and he/she gives the following examples, where *zongshi* and *shaowei* can co-occur, respectively, with ABAB and AABB reduplications.

- (i) Nainai zongshi yi jiandao wo jiu laodao-laodao bao  
 grandma always as.soon.as see I jiu nag-nag carry  
 zeng-sunzi de shiqing.  
 great-grandson de thing  
 'Each time when grandma sees me, she will nag that she wants a great-grandson.'
- (ii) Nainai shaowei youdian lao-lao-dao-dao.  
 grandma a.bit a.little chatter-chatter-rattle-rattle  
 'Grandma is a little bit garrulous.'

The adverbial *zongshi* in (34b) is used to modify the action conveyed by the base verb. In (i), however, *zongshi* is used to indicate the frequency of the event that grandma sees me and nags a bit about wanting a great-grandson, instead of the frequency or degree of nagging. Therefore, *zongshi* poses no problem to the presence of *laodao-laodao*, which conveys a delimitative interpretation. As far as example (ii) is concerned, three native speakers think its acceptability is doubtful. Therefore, I will not consider it as a counterexample.

of verb reduplications. Due to space limitation, this paper will not go into details about the derivation of this construction.<sup>15</sup>

#### 4 Conclusion

The present study gives an empirical investigation of verb reduplication on the basis of a new classification of syntactic and morphological verb reduplications. From the perspective of the Lexicalist Hypothesis, this study makes an assumption that verb reduplication derived at the syntactic level should be more productive and regular syntactically, whereas verb reduplication in the lexicon should be less productive and idiosyncratic syntactically. Five tests are formulated to draw a distinction among the AA, ABAB, and AABB patterns of verb reduplication: productivity, *-le* insertion, categorial stability, transitivity, and input/output constraints. It is found that the AA and ABAB patterns have relatively high productivity, reaching about 82% and 30% of monosyllabic and disyllabic verbs in *The Dictionary of Chinese Verb Usage*, respectively; the AABB pattern, however, shows extremely low productivity, accounting for only 1% of all disyllabic verbs. In addition, the AA and ABAB patterns are categorially stable and compatible with the perfective aspect marker *-le* and the postverbal object, whereas the AABB pattern is categorially unstable and incompatible with the perfective aspect marker *-le* and the postverbal object. As to the input constraints, the AABB pattern, unlike the AA and ABAB patterns that are only sensitive to the aspectual properties of base verbs, has additional constraints on the morphological structures of the input verbs. As to the output constraints, it is found that the AA and ABAB patterns have a diminishing interpretation, whereas the ABAB pattern has an increasing reading. Given these observations, this paper proposes that the AA and ABAB reduplications should be syntactic verb reduplications generated at the syntactic level, whereas the AABB reduplication should be a morphological verb reduplication formed in the lexicon.

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15 Different from the analysis by Sui and Hu (2016), who treat verb reduplication as an Aspect Phrase (AspP) with features [+Mood] / [+Modal], this paper proposes that syntactic verb reduplication, namely, the AA and ABAB patterns, is the accomplishment of a functional projection AspQ (Q for quantification) located above the Verb Phrase (VP), and the quantification force from the [+quantification] feature of AspQ gives rise to various pragmatic meanings like tentativeness or delimitativeness; morphological verb reduplication, i.e., the AABB pattern, is derived by means of either coordination or infixation ([[AA][BB]] or [A[AB]B]). This explains the correspondence between meaning and form in verb reduplication. Taking *laiwang-laiwang* and *lai-lai-wang-wang* for illustration, the former is the syntactic verb reduplication derived on the basis of *laiwang* as a whole, whereas the latter is formed by coordinating *lai* and *wangwang*. Therefore, *laiwang-laiwang* conveys the abstract/idiomatic meaning of *laiwang*, i.e., contact, whereas *lai-lai-wang-wang* conveys the meaning of both *lai* 'come' and *wang* 'go'.

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## Appendix

Tables A1 and A2 are, respectively, the labeling of monosyllabic verbs and disyllabic verbs in *The Dictionary of Chinese Verb Usage* (Meng et al. 1999), which is discussed in Section 2.1.

**Table A1** Reduplication of monosyllabic verbs in *The Dictionary of Chinese Verb Usage*

A	AA	A	AA	A	AA	A	AA	A	AA
挨	1	編	1	抄	1	闖	1	滴	0
愛	1	變	1	朝	0	吹	1	遞	1
安	0	標	0	炒	1	湊	1	點	1
熬	1	病	1	吵	1	催	1	墊	1
拔	1	撥	1	扯	1	存	1	惦	0
掰	1	補	1	撤	1	搓	1	調	1
擺	1	擦	1	沉	1	搭	1	掉	1
搬	1	猜	1	稱	1	打	1	釣	1
辦	1	裁	1	成	0	逮	0	跌	0
拌	1	採	1	盛	1	帶	1	疊	1
幫	1	踩	1	乘	1	戴	1	叮	0

*Continued*

Table A1 Continued.

A	AA	A	AA	A	AA	A	AA	A	AA
綁	1	藏	1	吃	1	揮	1	盯	1
包	1	測	1	衝	1	當 <sub>1</sub>	1	釘 <sub>1</sub>	1
剝	1	插	1	抽	1	擋	1	頂	1
抱	1	查	1	愁	0	當 <sub>2</sub>	0	定	1
背	1	差	0	出	1	倒 <sub>1</sub>	1	訂	1
奔	1	拆	1	除	1	到	0	釘 <sub>2</sub>	1
蹦	1	攙	1	鋤	1	倒 <sub>2</sub>	1	丟	1
逼	0	纏	1	穿	1	得 <sub>1</sub>	0	懂	0
比	1	鏟	1	傳	1	得 <sub>2</sub>	0	動	1
閉	1	嘗	1	喘	1	登	1	凍	1
避	1	唱	1	串	1	等	1	鬥	1
逗	1	趕	1	恨	1	降	1	考	1
讀	1	敢	0	哄	1	交	1	烤	1
堵	1	幹	1	糊	1	澆	1	靠	1
端	1	搞	1	花	0	教	1	磕	1
斷	0	割	1	劃 <sub>1</sub>	1	嚼	1	渴	0
堆	0	擱	1	化	1	攪	1	啃	1
對	1	給	0	劃 <sub>2</sub>	1	繳	0	摳	1
蹲	1	跟	1	畫	1	叫	1	扣	0
多	0	耕	1	還	1	接	1	哭	1
奪	0	供	1	換	1	揭	1	誇	1
躲	1	夠	1	回	1	解	1	捆	1
剝	1	僱	0	會	1	戒	0	拉	1
餓	1	刮	1	混	1	借	1	落 <sub>1</sub>	0
發	1	掛	1	和 <sub>1</sub>	1	緊	1	來	1
罰	1	拐	1	活	0	盡	1	攔	1
翻	1	怪	0	和 <sub>2</sub>	1	進	0	撈	1
犯	0	關	1	擠	1	敬	0	離	0
防	1	管	1	寄	1	救	1	理	1

Continued

Table A1 Continued.

A	AA	A	AA	A	AA	A	AA	A	AA
放	1	逛	1	記	1	舉	1	立	1
飛	0	跪	1	加	1	鋸	1	練	1
費	1	滾	1	夾	1	卷	1	煉	1
分	1	裹	1	煎	1	掘	0	量	1
縫	1	過	1	撿	1	開	1	晾	1
扶	1	害	0	減	1	看 <sub>1</sub>	1	裂	0
該	0	喊	1	剪	1	砍	1	淋	1
改	1	喝	1	見	1	看 <sub>2</sub>	1	留	1
蓋	1	合	1	講	1	扛	1	流	1
摟	1	念	1	漂	1	去	1	傷	1
漏	0	捏	1	飄	0	勸	1	賞	1
落 <sub>2</sub>	0	擰	1	拼	1	缺	0	上	1
抹 <sub>1</sub>	1	扭	1	評	1	染	1	捎	0
罵	1	弄	1	憑	0	嚷	1	燒	1
埋	1	挪	1	泼	1	讓	1	少	0
買	1	趴	0	破	1	繞	1	賒	0
邁	1	爬	1	撲	0	惹	1	射	1
賣	1	怕	0	鋪	1	熱	1	伸	1
瞞	0	拍	1	沏	1	忍	1	審	1
冒	1	排	1	騎	1	認	1	滲	0
沒	0	派	1	起	1	扔	1	升	1
迷	0	盼	1	氣	1	揉	1	生	1
描	1	磅	1	砌	1	入	0	省	1
減	0	拋	1	招	1	撒 <sub>1</sub>	1	勝	0
摸	1	跑	1	牽	1	灑	1	剩	0
磨 <sub>1</sub>	1	泡	1	簽	1	撒 <sub>2</sub>	1	捨	0
抹 <sub>2</sub>	1	陪	1	欠	1	塞	1	使	1
抹 <sub>3</sub>	1	賠	1	搶	0	賽	1	試	1
磨 <sub>2</sub>	1	配	1	敲	1	散	0	是	0

Continued

Table A1 Continued.

A	AA	A	AA	A	AA	A	AA	A	AA
拿	1	噴	1	撓	1	掃	1	收	1
撓	1	捧	1	切	1	殺	0	守	1
鬧	1	碰	1	親	1	篩	1	受	1
能	0	批	1	晴	0	曬	1	梳	1
捻	1	披	1	請	1	刪	1	輸	1
碾	1	劈	1	求	1	扇	1	數	1
攆	1	騙	1	取	1	閃	1	刷	1
摔	1	討	1	退	1	掀	0	嚙	1
栓	0	套	1	褪 <sub>1</sub>	0	嫌	0	養	1
涮	1	疼	1	吞	1	獻	1	搖	1
睡	1	騰	1	褪 <sub>2</sub>	1	想	1	咬	1
順	1	剔	1	脫	1	響	0	耍	1
說	1	踢	1	拖	1	向	0	噎	0
撕	1	提	1	托	1	象	0	陰	0
死	0	剃	1	馱	1	笑	1	印	1
松	1	替	1	挖	1	歇	1	贏	1
送	1	添	1	彎	1	寫	1	用	1
算	1	填	1	完	0	卸	1	游	1
縮	1	舔	1	玩	1	謝	1	郵	0
鎖	1	挑 <sub>1</sub>	1	往	0	信	0	有	0
塌	0	調	1	忘	0	醒	1	遇	0
踏	1	挑 <sub>2</sub>	1	望	1	姓	0	怨	0
抬	1	跳	1	圍	1	修	1	暈	0
貪	0	貼	1	餵	1	鏞	0	運	1
攤	1	聽	1	聞	1	繡	1	扎 <sub>1</sub>	1
談	1	停	1	吻	1	選	1	砸	1
彈	1	通	1	問	1	學	1	栽	1
歎	1	捅	1	握	1	訓	1	宰	1
探	1	偷	0	捂	1	壓	1	在	0

Continued

**Table A1** Continued.

A	AA	A	AA	A	AA	A	AA	A	AA
躺	1	投	1	吸	1	啞	0	鑿	1
燙	1	透	1	洗	1	軋	1	造	1
掏	1	塗	1	瞎	0	淹	0	扎 <sub>2</sub>	1
逃	1	吐	1	下	1	醃	1	鋤	0
淘	1	推	1	嚇	1	演	1	炸	1
摘	1	找	1	種	1	賺	1	租	1
沾	1	照	1	煮	1	裝	1	鑽	1
蘸	1	蒸	1	住	1	撞	1	醉	0
站	1	織	1	抓	1	追	1	坐	1
長	1	指	1	轉 <sub>1</sub>	1	捉	1	作	1
招	1	治	1	轉 <sub>2</sub>	1	走	1	做	1
著	1	腫	0	搗	1				

**Table A2** Reduplication of disyllabic verbs in *The Dictionary of Chinese Verb Usage*

AB	ABAB	AABB	AB	ABAB	AABB	AB	ABAB	AABB
愛好	0	0	報復	1	0	補充	1	0
愛護	0	0	報告	1	0	補助	0	0
愛惜	1	0	報銷	0	0	佈置	1	0
安插	0	0	抱歉	0	0	採購	0	0
安排	1	0	抱怨	0	0	採集	0	0
安慰	1	0	暴露	0	0	採納	0	0
安置	0	0	爆發	0	0	採取	0	0
巴結	1	0	奔跑	0	0	採用	0	0
把握	0	0	奔走	0	0	參觀	1	0
霸佔	0	0	比較	1	0	參加	1	0
擺弄	1	0	比賽	0	0	參考	1	0
擺脫	0	0	畢業	0	0	操心	1	0
辦理	0	0	閉幕	0	0	操縱	0	0
幫忙	0	0	避免	0	0	測量	1	0

Continued

Table A2 Continued.

AB	ABAB	AABB	AB	ABAB	AABB	AB	ABAB	AABB
幫助	1	0	變化	1	0	測驗	1	0
包含	0	0	辯論	1	0	拆除	0	0
包括	0	0	表達	0	0	產生	0	0
包圍	0	0	表決	0	0	償還	0	0
保持	0	0	表示	1	0	抄寫	0	0
保存	0	0	表現	1	0	超過	0	0
保護	0	0	表演	1	0	撤銷	0	0
保留	0	0	表揚	1	0	陳述	0	0
保衛	0	0	剝削	0	0	稱贊	0	0
保證	0	0	駁斥	0	0	成立	0	0
成為	0	0	答應	0	0	登記	0	0
呈現	0	0	答復	0	0	等待	0	0
承擔	1	0	達到	0	0	等候	0	0
承認	0	0	打扮	1	0	等於	0	0
衝突	0	0	打倒	0	0	抵抗	0	0
充滿	0	0	打擊	0	0	顛倒	0	0
重複	0	0	打破	0	0	惦記	0	0
抽查	0	0	打算	0	0	調查	1	0
籌備	1	0	打聽	1	0	調動	1	0
出版	0	0	代表	0	0	動彈	1	0
出差	0	0	代理	0	0	動員	1	0
出發	0	0	代替	0	0	鬥爭	0	0
出來	0	0	逮捕	0	0	督促	1	0
出去	0	0	擔任	0	0	端正	1	1
出現	0	0	擔心	0	0	斷絕	0	0
處罰	0	0	耽誤	0	0	鍛煉	1	0
處分	0	0	當心	0	0	對待	0	0
處理	1	0	當做	0	0	對抗	0	0
傳達	1	0	搗亂	0	0	兌換	0	0

Continued

Table A2 Continued.

AB	ABAB	AABB	AB	ABAB	AABB	AB	ABAB	AABB
傳染	0	0	到達	0	0	奪取	0	0
創造	0	0	到來	0	0	躲避	0	0
刺激	1	0	倒退	0	0	躲藏	0	1
促進	0	0	道歉	0	0	發表	1	0
促使	0	0	得到	0	0	發愁	0	0
發動	1	0	分析	1	0	干涉	0	0
發揮	1	0	粉碎	0	0	敢於	0	0
發明	0	0	奮鬥	0	0	感到	0	0
發生	0	0	豐富	0	0	感動	0	0
發現	0	0	諷刺	1	0	感謝	1	0
發行	0	0	奉承	1	0	告別	0	0
發揚	1	0	否認	0	0	告訴	0	0
發展	0	0	服從	0	0	給以	0	0
翻譯	1	0	服務	0	0	跟隨	0	0
反對	0	0	俘虜	0	0	工作	0	0
反抗	0	0	符合	0	0	公佈	0	0
反省	0	0	撫養	0	0	攻擊	0	0
反映	1	0	輔導	1	0	鞏固	1	0
方便	1	0	負擔	0	0	貢獻	0	0
防備	0	0	負責	0	0	勾結	0	0
防守	0	0	復員	0	0	勾引	0	0
防止	0	0	改變	1	0	估計	1	0
訪問	0	0	改革	1	0	鼓動	1	0
放棄	0	0	改進	1	0	鼓勵	1	0
放鬆	1	0	改良	0	0	關心	1	0
放心	0	0	改善	1	0	觀察	1	0
分別	0	0	改造	1	0	管理	1	0
分裂	0	0	改正	0	0	貫徹	1	0
分配	1	0	干擾	1	0	廣播	1	0

Continued

Table A2 Continued.

AB	ABAB	AABB	AB	ABAB	AABB	AB	ABAB	AABB
規定	0	0	集合	0	0	減少	0	0
害怕	0	0	集中	1	0	建立	0	0
害羞	0	0	計較	0	0	建設	0	0
號召	1	0	計算	1	0	建議	0	0
核對	1	0	記得	0	0	建築	0	0
合作	1	0	記錄	0	0	健全	0	0
轟動	0	0	忌妒	0	0	鑒別	0	0
後悔	0	0	紀念	1	0	獎勵	1	0
呼吸	1	0	繼承	0	0	講究	1	0
忽視	0	0	繼續	0	0	降低	1	0
互助	0	0	寄存	0	0	降落	0	0
護理	0	0	寄託	0	0	交代	1	0
化裝	0	0	加強	0	0	交換	1	0
懷念	0	0	加入	0	0	交際	0	0
懷疑	0	0	加以	0	0	交流	1	0
歡迎	0	0	假裝	0	0	交涉	1	0
恢復	1	0	駕駛	0	0	校對	1	0
回答	1	0	監督	0	0	教訓	1	0
回憶	1	0	堅持	1	0	教育	1	0
匯報	1	0	監視	0	0	接待	0	0
昏迷	0	1	兼任	0	0	接見	0	0
活動	1	0	檢查	1	0	接近	1	0
獲得	0	0	檢討	1	0	接洽	1	0
積累	1	0	檢驗	0	0	接收	0	0
接受	0	0	具備	0	0	扣留	0	0
揭發	0	0	具有	0	0	誇大	0	0
揭露	0	0	據說	0	0	誇獎	1	0
節約	1	0	決定	0	0	擴充	1	0
結合	0	0	覺得	0	0	擴大	1	0

Continued

Table A2 Continued.

AB	ABAB	AABB	AB	ABAB	AABB	AB	ABAB	AABB
結婚	0	0	覺悟	0	0	來往	1	1
約束	0	0	開除	0	0	懶得	0	0
解放	1	0	開動	1	0	朗讀	0	0
解決	1	0	開幕	0	0	浪費	0	0
解散	0	0	開闢	0	0	勞動	1	0
解釋	1	0	開始	0	0	離婚	0	0
介紹	1	0	開展	0	0	離開	0	0
進攻	0	0	看見	0	0	理解	1	0
進行	0	0	抗議	0	0	利用	0	0
禁止	0	0	考慮	1	0	連累	0	0
經過	0	0	考試	0	0	聯合	1	0
經受	0	0	考驗	1	0	聯絡	1	0
警告	1	0	靠近	0	0	聯繫	1	0
警惕	0	0	咳嗽	1	0	戀愛	0	0
糾正	1	0	可以	0	0	練習	1	0
救濟	1	0	克服	1	0	瞭解	1	0
鞠躬	0	0	恐嚇	0	0	領導	1	0
舉行	0	0	控訴	0	0	領取	0	0
拒絕	0	0	控制	1	0	流傳	0	0
流動	0	0	抹殺	0	0	賠償	0	0
流露	0	0	沒收	0	0	配合	1	0
流行	0	0	謀害	0	0	佩帶	0	0
留神	0	0	難免	0	0	佩服	0	0
留心	0	0	能夠	0	0	碰見	0	0
旅行	0	0	擬定	0	0	批發	0	0
埋沒	0	0	念叨	1	0	批改	1	0
埋葬	0	0	捏造	0	0	批判	0	0
賣弄	0	0	扭轉	0	0	批評	1	0
埋怨	0	0	虐待	0	0	批准	0	0

Continued

Table A2 Continued.

AB	ABAB	AABB	AB	ABAB	AABB	AB	ABAB	AABB
滿足	0	0	挪用	0	0	譬如	0	0
冒充	0	0	嘔吐	0	0	便宜	0	0
沒有	0	0	排除	0	0	剽竊	0	0
蒙蔽	0	0	排擠	0	0	飄揚	0	0
彌補	0	0	排練	1	0	品嚐	1	0
迷信	0	0	排列	0	0	聘請	0	0
密切	0	0	派遣	0	0	評論	1	0
描寫	1	0	盤問	1	0	迫害	0	0
滅亡	0	0	盤算	1	0	破壞	0	0
明白	1	1	判斷	1	0	破裂	0	0
明確	1	0	叛變	0	0	普及	0	0
命令	0	0	盼望	0	0	期待	0	0
模仿	1	0	拋棄	0	0	期望	0	0
模糊	0	1	培養	1	0	欺負	0	0
欺騙	0	0	情願	0	0	散步	0	0
欺壓	0	0	請教	1	0	散發	1	0
歧視	0	0	請求	0	0	喪失	0	0
乞求	0	0	請示	1	0	商量	1	0
啓發	1	0	慶祝	1	0	傷心	0	0
企圖	0	0	區別	0	0	捨得	0	0
起來	0	0	驅逐	0	0	設計	1	0
牽扯	0	0	屈服	0	0	申請	0	0
牽連	0	0	取得	0	0	深入	0	0
遷就	1	0	取消	0	0	審查	1	0
遷移	0	0	勸解	1	0	審問	1	0
謙讓	1	0	缺乏	0	0	聲明	0	0
簽訂	0	0	確定	0	0	生產	0	0
前進	0	0	擾亂	0	0	生活	0	0
強調	1	0	熱愛	0	0	生氣	0	0

Continued

Table A2 Continued.

AB	ABAB	AABB	AB	ABAB	AABB	AB	ABAB	AABB
搶劫	0	0	忍耐	0	0	生長	0	0
強迫	0	0	忍受	0	0	省得	0	0
敲詐	0	0	忍心	0	0	失敗	0	0
切除	0	0	認得	0	0	失去	0	0
侵略	0	0	認識	1	0	失望	0	0
侵佔	0	0	認為	0	0	實踐	0	0
清理	1	0	任憑	0	0	實現	0	0
輕視	0	0	容納	0	0	實行	0	0
清洗	1	0	散佈	0	0	拾掇	1	0
使得	0	0	縮小	0	0	調劑	1	0
使喚	1	0	抬舉	0	0	調解	1	0
使用	0	0	貪圖	0	0	調整	1	0
侍候	1	0	貪污	0	0	挑撥	1	0
試驗	1	0	談論	1	0	挑戰	0	0
適合	0	0	坦白	0	0	聽從	0	0
適應	1	0	探望	1	0	聽見	0	0
收穫	0	0	逃避	0	0	聽取	1	0
收集	1	0	逃走	0	0	聽說	0	0
收拾	1	0	淘汰	0	0	停頓	0	0
熟悉	1	0	討論	1	0	停留	0	0
屬於	0	0	討厭	0	0	停止	0	0
樹立	0	0	提拔	1	0	通過	0	0
衰亡	0	0	提倡	1	0	通知	0	0
率領	0	0	提高	1	0	同情	1	0
順從	0	0	提供	0	0	同意	0	0
說服	0	0	提醒	1	0	統一	0	0
說明	0	0	提議	0	0	投入	1	0
思考	1	0	體會	1	0	投降	0	0
搜查	1	0	體諒	1	0	透露	1	0

Continued

Table A2 Continued.

AB	ABAB	AABB	AB	ABAB	AABB	AB	ABAB	AABB
搜集	1	0	體貼	1	0	突出	0	0
算計	1	0	體現	0	0	突擊	1	0
損害	0	0	替換	0	0	團結	0	0
損失	0	0	挑選	1	0	推測	1	0
推動	0	0	犧牲	0	0	消失	0	0
推翻	0	0	吸收	0	0	曉得	0	0
推廣	0	0	吸引	0	0	小心	0	0
推薦	1	0	希望	0	0	孝敬	1	0
退還	0	0	襲擊	0	0	笑話	0	0
脫離	0	0	喜歡	0	0	協商	0	0
拖延	0	0	洗澡	0	0	協助	0	0
妥協	1	0	下降	0	0	洩露	0	0
挖苦	1	0	下來	0	0	謝謝	0	0
完畢	0	0	下去	0	0	心疼	1	0
完成	0	0	嚇唬	1	0	欣賞	1	0
挽救	0	0	顯得	0	0	信任	0	0
忘記	0	0	限制	0	0	形成	0	0
威脅	1	0	羨慕	0	0	醒悟	0	0
違背	0	0	陷害	0	0	修改	1	0
違反	0	0	相等	0	0	修理	1	0
維持	0	0	相同	0	0	休息	1	0
維護	1	0	相信	0	0	休養	1	0
委託	0	0	享受	1	0	需要	0	0
慰問	1	0	想念	0	0	敘述	1	0
穩定	1	0	響應	0	0	宣佈	0	0
侮辱	0	0	消除	0	0	宣傳	1	0
誤會	0	0	消化	1	0	旋轉	0	0
誤解	0	0	消滅	0	0	選舉	0	0
選擇	0	0	引誘	0	0	醞釀	1	0

Continued

Table A2 Continued.

AB	ABAB	AABB	AB	ABAB	AABB	AB	ABAB	AABB
削弱	0	0	隱藏	0	0	贊成	0	0
學習	1	0	隱瞞	0	0	贊美	0	0
尋找	0	0	贏得	0	0	糟蹋	0	0
訓練	1	0	迎接	0	0	責備	0	0
壓迫	0	0	影響	0	0	增產	0	0
壓制	0	0	應付	1	0	增加	0	0
研究	1	0	應用	0	0	增長	0	0
延長	0	0	擁抱	0	0	展開	0	0
掩蓋	0	0	擁護	0	0	佔領	0	0
掩護	0	0	優待	1	0	佔有	0	0
掩飾	0	0	遊行	0	0	戰鬥	0	0
養成	0	0	游泳	0	0	張望	0	0
養活	0	0	遇到	0	0	掌握	0	0
要求	1	0	遇見	0	0	招待	1	0
邀請	1	0	預備	1	0	招呼	1	0
搖晃	1	1	預防	0	0	著急	0	0
依靠	0	0	預料	0	0	召集	0	0
依賴	0	0	原諒	1	0	召開	0	0
遺留	0	0	願意	0	0	照顧	1	0
移動	1	0	閱讀	0	0	照料	0	0
以為	0	0	允許	0	0	折騰	1	0
議論	1	0	運輸	0	0	折磨	0	0
引起	0	0	運用	0	0	震動	0	0
鎮壓	0	0	指定	0	0	準備	1	0
徵求	1	0	指揮	1	0	准許	0	0
爭吵	0	0	指教	1	0	著手	0	0
爭奪	0	0	指望	0	0	著想	0	0
爭論	0	0	指責	0	0	著眼	0	0
爭取	0	0	治療	0	0	自習	0	0

Continued

Table A2 Continued.

<b>AB</b>	<b>ABAB</b>	<b>AABB</b>	<b>AB</b>	<b>ABAB</b>	<b>AABB</b>	<b>AB</b>	<b>ABAB</b>	<b>AABB</b>
掙扎	0	0	制定	0	0	綜合	0	0
整頓	1	0	製造	0	0	總計	0	0
整理	1	0	制止	0	0	總結	1	0
證明	0	0	重視	0	0	阻擋	0	0
支持	1	0	主持	0	0	阻止	0	0
支配	0	0	主張	0	0	組成	0	0
支使	0	0	囑咐	1	0	組織	1	0
支援	0	0	註解	0	0	尊敬	0	0
知道	1	0	注意	0	0	尊重	0	0
值得	0	0	祝賀	0	0	遵守	0	0
執行	0	0	轉變	1	0	遵照	0	0
指導	1	0	轉移	1	0	琢磨	1	0
指點	1	1	追求	0	0	作為	0	0

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## 漢語普通話的兩種動詞重疊

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### 提要

本文主要從詞彙主義的角度對漢語普通話中的動詞重疊進行分析。基於 Chomsky (1970) 提出的詞彙主義假說，本文認為漢語普通話中的動詞重疊結構也應具有句法和形態層面的重疊之分。通過能產性、“了”插入、範疇穩定性、及物性和輸入 / 輸出限制五種測試手段，本文發現 AA 式和 ABAB 式動詞重疊的能產性相對較高，且句法表現具有一定的規律性，而 AABB 式動詞重疊的能產性極低，且句法表現具有不規律性和特異性。基於以上分析，本文提出 AA 式和 ABAB 式是通過句法上的操作生成的重疊，AABB 式是在詞庫內通過形態規則構成的重疊，兩類動詞重疊有其各自的句法生成機制。

### 關鍵詞

動詞重疊，詞彙主義假說，詞庫，能產性