Viable Verbs and Adjectives for Mandarin Reduplication

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Abstract

In Chen Wang's 2021 paper, the verb *mingbai* is used as an example to prove his claim that for an AB word that could "be used potentially as either a verb or an adjective, its ABAB form tends to be verbal while its AABB form tends to be adjectival," a claim that is also substantiated in Huang et. al (2009). As far as *mingbai* goes, this trend appears to be true, but does it apply to adjectives such as *xuxin* as well? This brief paper tests whether the claim about Chinese reduplication patterns holds for other AB phrases, and looks at potential explanations for why AB phrases may fit into certain reduplication categories if they can be reduplicated at all.

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1: Intro

Crucial to understanding wordhood in Mandarin is the acknowledgment of disyllabification as a process. Most characters in Mandarin are monosyllabic, but words are not always monosyllabic; in fact, about 70% of words in Mandarin are disyllabic (Chow and Zhou 2018). Packard, in his discussion of Chinese wordhood, differentiates between the *zi*, or "character," and the *ci,* or "phrase." Unlike in English, where words are intuited to be anything separated by spaces, Chinese characters cannot be held to be the definition of a word, as the sociological word is not bound by spaces, but grouped in endocentric or exocentric semantic units which may consist of more than one character, in a way that reduplication explicates. The change from a disyllabic word to a four-syllable reduplicated word emphasizes the structure of the original disyllabic unit. This poses interesting questions for word recognition in Mandarin, as the groupings of words are often determined by a native speaker familiar with typical phrases, but among the patterns observed in the reduplicative process, there are always exceptions to the rule. Even when programming in Python, word-recognition algorithms for English words run into problems as soon as non-word-denoting spaces in between morphemes and punctuation are introduced, and such algorithms do not recognize the way morphemes and units of meaning are structured in Chinese. Therefore, the criteria for wordhood may not be as clear-cut as imagined when it applies to Chinese, although some observations and anomalies in the literature already established on Mandarin reduplication can be pointed out.

Reduplication, by its very name, posits a base form of some sort to be reduplicated, yet not all reduplications have a base form. This paper, which is limited to full or partial reduplication of disyllabic verbs and adjectives, contends that there are rules governing the existence of AB bases and that some presupposed bases are easier exceptions to derivational

reduplication patterns. As stated by Lakoff and Johnson in 1980, "linguistic expressions are containers, and their meaning is the *content* of those containers": this paper attempts to relate a research question about exocentrism, a formal feature of adjectival reduplication, to the containers of adjectives, nouns, and verbs more generally. Disyllabic AB reduplication base forms are related to their corresponding reduplicated forms, as will be explained, and how their meaning is preserved in the process is investigated.

Reduplication is not limited to the patterns observed in Chinese, where it indicates "frequency of action, repetition of action, continuity, intensification, plurality, distribution, tonality" (Xu 2012: 43), for it is common in English as well (Jackendoff 2004). Reduplication enhances the contrastive, onomatopoetic, and figurative qualities of disyllabic words, and may be effective enough to render the original word obsolete. There is some doubt whether a disyllabic form is necessary for reduplication at all, as the existence of reduplicated words without base forms attests. The repetitive effect created by reduplication can be used to suggest the passage of time, such as in the expression *tian tian* to mean "daily." In the sentence, "*Wo men tian tian qu na men shang dian,"* or, "We go to that store every day," it can be contextually inferred that the store is open 24/7. Due to the rich semantic content reduplication provides, sometimes reduplicated expressions can have a pejorative meaning, such as *niuniu nienie*, which means, "wishy-washy," although there are plenty of reduplicated forms with positive connotations as well (Chao 1968: 210).

1.1: What is an AB Word?

A disyllabic AB word is one consisting of two characters such as 痛苦 (*tongku*). In this paper, "AB" is used to describe a compound word made of two different characters. As stated

previously, the vast majority of words in Chinese are disyllabic, although characters are monosyllabic. One characteristic observed of many compound, but not necessarily reduplicated, phrases is that they contain synonyms. Sometimes compound phrases are composed of words that have the same meaning, as in *congming*. Both *cong* and *ming* mean "clear of hearing" and "clear of sight," so together they denote intelligence. On the other hand, compound phrases can utilize a strategy of neutralization of opposites, abstracting the general category to which they belong. Take *maodun* ("sword-shield") as an example of this, meaning "contradiction." There are plenty of examples from which one might extrapolate this pattern, such as *shanshui* ("mountains water") to mean landscape generally. The figurative strategies of synonymity, contrast, and neutralization help solidify disyllabic words as a single semantic unit, allowing them to be transformed into reduplicated patterns. These reduplication patterns are further differentiated among AB verbs and adjectives; reduplicable adjectives tend to be exocentric and reduplicable verbs tend to be atelic.

Reduplication is highly expressive and can enhance the onomatopoetic qualities of adjectives. In partial reduplication, the doubling may occur on the initial or final character, or concentrate on the verbs (Schuessler 2007:24). Reduplication can be used to imitate birdsong, the sounds of animals, and intensify the meaning of adjectives. The expressivity of adjectives is mentioned by Huang in "Property Theory," which gives several examples of simple adjectives such as *hong*, or "red," as in *hong fangzi,* or "red house," and *zang*, or "dirty," as in *zang shui*, or "dirty water," both of which can be reduplicated as *hong hong de,* "quite red" and *zang zang de*, "rather dirty," which shows how reduplication can have a diluting effect on adjectives. In these examples, the character *de* is not used as a possessive but is part of the syntactic structure of the adjective, so that the reduplicated form could express a "somewhat red house," for instance.

Huang has two other examples of exocentric adjectives, *piao liang* and *gao dang*, to describe a car and clothes, respectively, which can be reduplicated. Both of the characters constituting these disyllabic adjectives have roughly the same meaning.

In further exploring the relationship between the exocentricity and endocentricity of adjectives and their reduplicative potential, as well as their figurative content, here are some original examples. In the adjective *bingleng*, the characters comprising the AB word are synonyms that both mean "cold," particularly "ice cold."

(1)

你的手怎么冰冷的?

ni de shou zenme bingleng de?

you DE hands why icecold DE

"Why are your hands so cold?"

In the above sentence, *bingleng* by itself functions as a normal simple adjective, according to Huang's "Property Theory." Since *bing* and *leng* are both adjectives standing alone, *bingleng* is an easily reduplicable AB word, as shown below:

(2)

他的手感觉冰冰冷冷的。

ta de shou ganjue bingbinglengleng de

he DE hands feel ice ice cold cold DE

"His hands feel really cold."

In sentence (2), the reduplicated form of *bingleng* is shown. As an AABB reduplication, *bingleng* has about the same meaning as its AB form. Another common AB adjective is *ganjing*, which means "clean." When reduplicated, it means "thoroughly clean."

(3)

(1)房间看起**来**很干**净**。

    (a) fangjian kanqilai hen ganjing

    (b) The house room looks up very (intensifier) clean immaculate

    (c) The room looks very clean.

Ganjing encounters a few difficulties with reduplication, as shown below. It works similarly to *jiandan*, "simple," another AABB reduplication candidate.

(4)

(1)房子打**扫**地干干**净净**的。

    (a) fangzi dasao de gangan jinjing de.

    (b) house hit sweep (adverb) clean-clean immaculate-immaculate

    (c) The house has been cleaned until it is spotless.

However, not all AB adjectives can be reduplicated. Although *gan* and *jing* may not have the same literal meaning as *ganjing* taken as a whole, the individual characters are still essentially adjectives. Meanwhile, a word such as *xuxin*, which means "humble, especially as a learner," has AB form and is an adjective, but not all of the parts are adjectives, and it is not considered reduplicable because words such as *xuxu xinxin* and *xu xin xu xin* are rare or nonexistent**.**

(5)

(1) **她**在**虚心学**习。

    (a) ta zai xuxin xuexi.

    (b)She is diligently heart learning**.**

    (c) She is learning diligently.

(2) 他是一位**虚**心的**学**生。

      (a) ta shi yi wei xuxin de xuesheng.

      (b) He is a diligent heart DE student.

      (c) He is a diligent student.

(3) ***她**在**虚虚**心心地**学**习。／***她**在**虚**心**虚**心地**学**习。

      (a) ta zai xuxu xinxin de xuexi.

      (b) He is diligently diligently heart-heart learning.

      (c) *She is learning diligently.

(4) ***他**是一位**虚虚**心心的**学**生。／***他**是一位**虚**心**虚**心的**学**生。

      (a) ta shi yi wei xuxu xinxin de xue sheng.

      (b) He is a diligent diligent heart heart DE student.

      (c) *He is a diligent student.

The sentences above show *xuxin* functioning as an AB word by itself, as well as attempted unacceptable reduplications. The main difference here may be that *xuxin* contains a noun, which makes it difficult to reduplicate. *Xu* in the base form phrase is already describing the noun, *xin*, and reduplicating them might make the relationship between the lexical categories unclear; however, taken together, *xuxin* is an adjective. As described in Chapter 3 of *The Morphology of Chinese* by Jerome Packard, the headedness principle validates righthand nominal constituents in disyllabic words (Packard 2000: 39). It is the case that some adjectives contain subordinate characters, in that one of the "words" in the compound modifies the head. *Xuxin* is an example of one of these adjectives with a modified head, since *xu*, which means "diligent," modifies the noun, *xin*, or "heart." As a result of this complex relationship, *xuxin*

cannot rightly be termed as reduplication. This suggests that a parallel relationship in the lexical categories of characters in a phrase is important to make it possible to reduplicate.

Based on the *xuxin* example, it would seem that exocentrism is a requirement for reduplication since *xuxin* is endocentric and the reduplication is ungrammatical. Since *xuxin* cannot be reduplicated at all, it will not be considered for further refinement of criteria for the most common reduplication patterns. However, the adjective *kaixin*, which has the same endocentric structure as *xuxin*, can be reduplicated, as will be shown in a subsequent section. Thus it can be shown that endocentrism and exocentrism are not the only, nor the main, criteria for reduplication, although their characteristics—such as headedness—may point to why AABB patterns in which the order of characters is preserved are preferred for some words over ABAB patterns which separate the characters and thus place more emphasis on semantic relationships.

2: Verbs

2.1: Mingbai as a Telic Verb

While endocentricity and exocentricity are the main criteria for adjectival reduplication, verbal reduplication involves verb type, tense, and whether the verb is telic or atelic. This paper hypothesizes that continuous, atelic verbs are more reduplicable than definite, telic ones. Telicity has to do with whether a verb has a fixed endpoint and if it is a continuous process. To investigate this, one might start with the verb, *mingbai*, which means "to understand." As a verb that indicates a shift in cognition, it is not descriptive of an instantaneous moment in time. Thus, there is a continual component to understanding that would make it possible for one to understand "a little," or "a lot." This fits into the schema for most reduplicable verbs that express a delimitative aspect. *Mingbai* has two possible full reduplications: *mingmingbaibai*, an adjective

that means "very clear," or less literally, "understandable," and *mingbaimingbai*, a verb that means "to understand, with a gradual or back-and-forth quality" added by the reduplication. The success of *mingbai* as a reduplicated word suggests that telicity is a factor in reduplication.

In Wang's 2021 paper, the verb *mingbai* is used as an example to prove his claim that for an AB word that could "be used potentially as either a verb or an adjective, its ABAB form tends to be verbal while its AABB form tends to be adjectival," a claim that is also substantiated by Huang et. al in 2009. It is true that *mingmingbaibai* matches the AB form *mingbai* and is an adjective. Wang's claim is supported by the table devised below, accompanied by the previously mentioned adjective *xuxin*:

AB word	ABAB word	AABB word
mingbai (明白)	mingbaimingbai (明白明白)	mingmingbaibai (明明白白)
xuxin (虚心)	*xuxinxuxin (虚心虚心)	*xuxuxinxin (虚虚心心)

(Table 1.)

As shown by the table, *mingbai* in AB form is a verb but it has both noun and verb reduplicated forms. In ABAB form, *mingbai* is a verb and in AABB form it is an adjective, whereas *xuxin* cannot be reduplicated at all. The sentences below show how the reduplicated form of *mingbai* fits into these lexical categories by situating it in the syntax of a sentence.

(6)

(1) 他必须明白这个道理。

(a) ta bixu mingbai zhe ge daoli.

(b) He must clear white this reason.

(c) He must understand this reason.

(2) **明明白白**的道理他**还**是不明白.

(a) mingmingbaibai de daoli ta hai shi bu mingbai.

(b) clear clear white white DE reason he still does not clear white.

(c) Even with the reason being so clear and simple, he still doesn't understand [it].

(3) *他必**须明白明白**这个道理.

(a) ta bixu mingbaimingbai zhe ge daoli.

(b) *He must clear white this reason.

(c) *He must understand this reason.

In sentences (2) and (3) in the above examples, the reduplicated form of *mingbai* is shown. As the syntactic structure of sentence 2 makes clear, *mingmingbaibai* functions as an adjective. Meanwhile, in sentence 3, *mingbaimingbai* is used as a verb in much the same way as *mingbai* in sentence 1. However, as most native Chinese speakers will attest, it sounds ungrammatical.

Another typical AB verb is *tiaowu*, which means "dance," which could be useful for examining whether most AB verbs can exist as both reduplicated verbs and adjectives. Of course, it would be impossible to test against all verbs in the lexicon, but one may determine whether *mingbai* is idiosyncratic in its versatility.

(7)

(4) 我**们爱**跳舞。

(a) wo men ai tiao wu.

(b) We love dance.

(c) We like to dance.

(5) *我们爱跳舞跳舞。

(a) wo men ai tiao wu tiao wu.

(b) *We love to jump dance jump dance.

(c) *We like to dance.

(6) *我们爱跳跳舞舞。

(a) wo men ai tiaotiao wuwu.

(b) *We love jump jump dance dance.

(c) *We like to dance.

In these examples, *tiaowu*, which is an AB verb, functions as neither an AABB reduplicated phrase nor an ABAB reduplicated phrase. By the ungrammaticality of sentences (5) and (6), it is shown that *tiaowu*, originally a verb, does not become an adjective by reduplication. Furthermore, it seems it cannot be fully reduplicated at all. However, *tiaowu* can be partially reduplicated, which poses an interesting problem.

(7) (cont.)

(a) 跳跳舞吧！

(b) tiao tiao wu ba!

(c) jump jump dance!

(d) Dance a little!

In the above sentence, the AAB form of *tiaowu* does seem to be grammatical. This may have to do with how the verb *tiaowu* is constructed, and how the first word *tiao* relates to *wu* in

the phrase. *Tiao* is a verb, and *wu* is a noun that means dance. Since reduplication applies to the radical element of the disyllabic word, *tiao* is reduplicated. It is uncertain whether there is a rule governing the preference for partial reduplication on *tiaowu*, or whether common usage has solidified its privileged status in parlance. Regardless, *tiaowu* provides a contrast to *mingbai* in the effects of full reduplication.

2.2: Delimitative Aspect

The previous reduplicated example of *tiaowu* means to dance "a little." Although scholars differ on what to call it, the sense that verbal reduplication means doing "a little" of something, or the repetition of an event across multiple occasions, is pretty well agreed upon and is generally referred to as a delimitative aspect, and is also a central assumption in the first section of Wang's paper. The idea that reduplicated verbs express a delimitative aspect is supported by the lack of "achievement verbs" in the ABAB pattern. Citing Vendler's 1967 analysis, Saeed claimed that four main types of verbs describe (1) states, (2) activities, (3) accomplishments, and (4) achievements, as seen in the figure reproduced below (Saeed 2011: 125).

Situations	Static	Durative	Telic
States	[+]	[+]	n.a.
Activity	[-]	[+]	[-]
Accomplishment	[-]	[+]	[+]
Semelfactive	[-]	[-]	[-]

Achievement	[-]	[-]	[+]

(Table 2.)

If verbal reduplication is associated with the delimitative aspect, which means to do an action "a little bit" and seems to indicate brief duration, it would make sense that telic verbs with a one-time occurrence, such as achievement verbs, may not be able to undergo reduplication (Li and Thomson 1981). The aforementioned *mingbai*, "to understand," is incompatible with the ABAB model, and in the earlier discussion, it has been mentioned that *mingbai* acts similarly to an achievement verb. Meanwhile, other achievement verbs in Chinese, such as *daoda*, "to reach," and *wancheng*, "to complete," are verified one-point events that are incompatible with ABAB. From the comparison of the reduplicative potential of *mingbai* to *daoda* and *wancheng*, the correlation between a verb type that "encodes a process" and a reduplicated form with a delimitative aspect is apparent (Vendler 1967). Wang writes in his summary of ABAB verb behavior that they always have an AB base and shifts the responsibility to "an aspect-related functional head" for reduplicatability. Further evidence that ABAB verbs contain a delimitative aspect is shown in how progressive, experiential, perfective, and durative aspect markers in Mandarin, such as *zhengzai*, *guo*, *le*, *you*/*meiyou*, and *zhe* rarely occur with ABAB verbs.

C.S. Smith built on Vendler's system in 1991 by adding a semelfactive situation for verbs, which are distinguished from achievement verbs in that they do not result in a new state (Saeed 2011: 124). *Mingbai* would not qualify as semelfactive because it results in a new state of awareness for the subject. Like adjectives, reduplicated phrases can be two characters long or contain four characters; thus they can be of an AA, AABB, or ABAB pattern (Xie 2020). As an example of AA verbal reduplication, there is the example of *ting ting*, sometimes also *ting yi*

ting, or to "listen to a little bit." However, verbal reduplication has an additional reduplication pattern, which is ABAB, such as *feng bu feng bu*, or "to mend and sew a little bit."

3: Patterns

3.1: The Conundrum of the Base

As noted in the introductory material, some reduplications do not have an AB word to match. This has been observed by other scholars, and in 2015 Zhang proposed that anomalies in reduplicative derivation "emerge from bound bases which do not stand alone in non-reduplication contexts." Wang also observes that ABAB verbs never violate this rule and always have "an AB base legitimate for independent use." This puzzle of constraints on the base, simply defined, is how reduplicated phrases exist in ABAB, AABB, ABB, or AAB form that nonetheless do not have a grammatical corresponding AB phrase. This poses a problem for the direct relationship between the AB phrase and reduplicated phrase in the derivational pathway, as illustrated by the below examples.

(8)

1. 他看起来笑眯眯的。

     a. ta kanqilai xiao mimi de.

     b. He looks up laughs smile-smile DE.

     c. He looks smiley.

2. 他看起来笑笑眯眯的。

     a. ta kan qi lai xiaoxiao mimi de.

     b. He looks up laugh-laugh smile-smile DE.

     c. He looks smiley.

3. *他在笑眯.

    a. ta zai xiaomi.

    b. He is laugh-smiling.

    c. *He is smiling.

4. 他在笑。

    a. ta zai xiao.

    b. He is smiling.

    c. He is laughing.

5. *他在眯.

    a. ta zai mi.

    b. He is smiling.

    c. *He is smiling (?).

In example (8), two valid reduplicated forms of *xiaomi* are shown, in both ABB and

AABB forms. However, while these reduplicated forms function as adjectives, *xiaomi* itself does

not function as a verb. Only *xiao* alone, the strongest component of the phrase *xiaomi*, can act as

a verb alone in a sentence.

(9)

    (8) 她老是哭哭啼啼的。

      (a) She's always weepy.

      (b) ta laoshi kuku titi de.

      (c) She old is cry cry sound sound DE.

  (9) *他正在哭啼。

(a) *He is crying right now.

(b) ta zhengzai kuti.

(c) He currently is cry sound.

(10) 她哭了。

(a) She cried.

(b) ta ku le.

(c) She cried.

(11) *她啼了.

(a) *She cried.

(b) ta ti le.

(c) *She sounded.

In example (9), a valid reduplicated adjective in AABB form, *kukutiti*, or "weepy," is shown to describe a person's state of mind. However, *kuti* by itself doesn't mean anything as a verb, though it is the suggested AB base form for *kukutiti*. *Ku* by itself functions as a valid intransitive verb and an action the subject of a sentence could take, as in "She is crying." *Ti* does not function by itself in this way as any lexical item.

The constraints on the base forms of reduplication are the third puzzle identified by Wang in his 2021 paper. It is described as a "particularly challenging" puzzle because if the intuitive AB base is not available in the lexicon, "it will be unclear what undergoes the reduplication." The conundrum of the base is not extremely widespread across all reduplication data, as the problem "cannot be extended to ABAB verbs, which always have an AB base legitimate for independent use." This leads to the insight that the literal definition of reduplication must be

taken with a grain of salt, as it is subservient to the verified existence of reduplicated words without a corresponding AB word.

Zhang proposes that anomalies in reduplicative derivation "emerge from bound bases which do not stand alone in non-reduplication contexts," and Wang also observes that ABAB verbs never violate this rule and always have "an AB base legitimate for independent use." In all this muck of exceptions and violations to the apparent rule of reduplicated phrases always having a traceable base form, Wang admits that all conjecture and testing relies on a potentially faulty hypothesis: that "we continue to assume that such a bound base is the original form before reduplication." The challenge in Wang's paper is to identify why ABAB verbs can have a traceable, individually functioning AB base, while AABB verbs and adjectives are not subject to such a rule.

As examples of apparently "free agent" AABB verbs that do not have a base, Wang cites *zouzou tingting* and *feifei yangyang* as examples. These two reduplicated verbs suggest *zouting* and *feiyang* as base forms, respectively, but in fact, they do not exist in AB form in the lexicon. Furthermore, he notes that, proceeding to assume that if *zouting* and *feiyang* were the original AB phrases pre-reduplication, ABAB reduplications would not be acceptable, as marked in the ungrammaticality of the following examples:

(10)

    (1) 走停走停

        (a) *zoutingzouting*

    (2) 飞扬飞扬

        (a) *feiyangfeiyang*

3.2: Comparisons to English

In English, Latin roots often make morphological relationships between verbs, adjectives, and nouns readily apparent. For instance, verbs can become nouns as gerunds. Take the sentences below, for instance.

(11)

1. John proves that the theorem is true.

2. John's proving that the theorem is true.

3. John's proof that the theorem is true.

These English examples from Xie's 2020 paper show a verb becoming a gerund and then a noun of the same root. Complex adjectives can also undergo a similar process during reduplication, preserving the root. This makes sense as reduplication is a kind of affixation. As shown through the example of *mingbai*, it is common to see verbs become adjectives through reduplication, and changing words from one lexical category to another while still preserving the original meaning is common in many languages, yet there isn't always a direct relationship. After all, linguistic processes are historical and impacted by time and cultural transmissions, and there are plenty of examples of English nouns that seem to contain a verb, without the two words being analogous. Is a "professor" merely one who "professes"? The idea that one should not expect word-formation processes to occur in a vacuum could be applied to Mandarin reduplication as well, since conceptually all reduplications would have a base form, hence reducing frustration over the lack of some corresponding AB words. Reduplication, like many other processes of word formation, is not instantaneous.

Another application of English on this topic has to do with loanwords and the carryover of non-compositional meaning. AB phrases have, at times, two meanings: a non-figurative,

"compositional" meaning comprised of the individual characters, and a less literal meaning that arises from the phrase taken as a whole. Wang posits that only certain reduplications allow the non-compositional meaning to be preserved, namely, the ABAB form, giving the AB word *qiaoda* as an example. The compositional meaning is taken from its parts, *qiao* and *da*, which give the meaning "knock-beat." However, the non-compositional meaning is "to warn," which is only preserved in the ABAB reduplicated form. Meanwhile, the AABB verb has the compositional meaning of the AB phrase, "to repeatedly knock-beat," as seen in Wang's Example 19. Although both reduplicated forms for the verb are valid, only one of them, the ABAB form, inherits all the semantic meaning. Wang gives a couple more examples of this phenomenon, citing *laiwang*, "to come and go," and *jianao*, "to grill and boil," as verbs with this limitation on the transfer of non-compositional meaning.

In ABAB reduplication, the original order of the AB phrase is preserved, which may be crucial in the derivation of reduplicated English loanwords. English loanwords are often merely phonetic reproductions of English words and so order-switching through AABB reduplication would imply deeper structures in the disyllabic word than exist. Wang goes into a derivation of verbs where "A and B are separately copied before they are combined," making the issue of "whether A and B can form a verb capable of standing alone" an irrelevant one. The ability to separate A and B in the process of reduplication is important, as it relates to monomorphemic loanwords which must be treated as having a continuous meaning. He gives examples of "clone" and "copy" as English words whose Chinese transliterations can be reduplicated into an ABAB form but which are "nonsensical in the AABB form." As shown in Example 44 in Wang's paper, the Mandarin loanword for "copy" is *kaobei*, which can be reduplicated into *kaobei kaobei* as an ABAB form, but it makes less sense in the AABB form.

(12) *kaokao beibei* ("copy," AABB)

  These are all just clues to the question of "what is it that gets reduplicated" when one refers to reduplication. Wang goes into a detailed exploration of potential syntactic solutions, which are not elaborated on in-depth in this paper. However, an understanding of the concept of wordhood in Chinese, especially how it differs from English, is necessary to at least understand the problem itself.

4: Conclusion

The notion of Chinese wordhood remains controversial in contemporary linguistics because it was adapted from natural language and the West. According to Arcodia and Basciano, "The introduction of word classes in the Western philosophical and grammatical tradition is usually attributed to Dionysius Thrax, in his grammar of the Greek language *Téchnē Grammatikḗ* (end of the second century BC)," as stated in their chapter on word classes in *An Introduction to Chinese Linguistics*. Some linguists have concluded that the definitions for noun and verb lexical classes are stable and found in every language, whereas the distinction between adjectives and other classes is not clear (Croft 2000; Croft 2003; Evans and Osada 2005; cited in Basciano). However, one should question the universality of how parts of speech are characterized within Greek and Latin grammatical traditions, which may not account for "the wide range of variation in the way lexical items behave in the languages of the world" (Basciano 2022), especially when these characterizations may not apply to the Chinese philological tradition.

  The topic of reduplication intersects with that of wordhood in many different ways. There has been proof of the existence of several reduplicated phrases that cannot be traced back to a base form. Furthermore, there are strongly suggested patterns of reduplication in verbs and

adjectives. In verbs, the validity of reduplication forms seems to be associated with whether the verb can express a delimitative aspect. In adjectives, the reduplicative potential of a word seems to be strongly associated with the lack of a constituent that does not fall into the adjectival category; in other words, good adjectival candidates for reduplication do not contain characters that could stand alone as a noun or adjective, for example. Patterns of reduplication (AABB, ABAB) can be favored depending on the importance of keeping the original phrase together as one unit. For this reason, English loanwords tend to be reduplicated into an ABAB pattern, where the original word is not separated into its characters. This paper discusses some trends of four-syllable reduplication, which tends to focus on disyllabic words as the object of reduplication, with the aforementioned exceptions. The possibilities of reduplicable base forms being rearranged into an array of patterns, and the constraints on these patterns, pose interesting questions for the definition of words in Chinese, particularly since the written language is composed of characters that are all one syllable.

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