

Reduplication of adjectives in Chinese: a default state

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Abstract Chinese reduplicated adjectives denote a perceptible state realized from the property denoted by the adjectival base. The ‘degree’ conveyed by reduplicated adjectives is the by-product of state realization and can be interpreted as the positive degree. A gradable adjective denoting a property that is more perceptible to human sense is more amenable to reduplication, and the rhetorical style of parallelism can make the property denoted by adjectives more perceptible. The gradability requirement on adjectives amenable to reduplication results from the perceptibility requirement on the state denoted by reduplicated adjectives. Depending on the means by which the property denoted by their adjectival base is realized as a state, reduplicated adjectives can be divided into two types.

Keywords Default state · Gradability · Perceptibility · Positive degree · Reduplication · Rhetorical style · Self-controllability · State realization

1 Introduction

According to Xiandai Hanyu Xuci Lishi (1982), Sybesma (1999), and Liu (2010), a Chinese gradable adjective in its bare form (i.e., without further marking) is interpreted as the comparative degree, not the positive degree.

- (1) Zhangsan gao.
 Zhangsan tall
 ‘Zhangsan is taller (than someone mentioned in the preceding discourse
 or known to the speaker and the hearer).’

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However, a bare adjective with the positive degree, as Liu (2010) argues, is possible when the bare adjective occurs in a predicate-accessible operator_[-wh] domain, for example a *ma* particle question or a *bu* ‘not’ negation sentence. This is illustrated by (2a, b), respectively (cf. Zhu 1980, pp. 26–27; Liu et al. 2004, pp. 196–197).¹

- (2) a. Zhangsan gao ma?
 Zhangsan tall SFP
 ‘Is Zhangsan tall?’
 b. Zhangsan bu gao.
 Zhangsan not tall
 ‘Zhangsan is not tall.’

In the absence of senses like question or negation, the positive degree can only be expressed by having the unstressed degree adverb *hen* ‘HEN’ (i.e., the overt counterpart of the positive morpheme) precede the bare adjective (cf. Liu 2010).

- (3) Zhangsan hen gao.
 Zhangsan HEN tall
 ‘Zhangsan is tall.’

With this description of Chinese adjectives as the starting point, I would like to concentrate in this article on the study of the syntax and semantics of Chinese reduplicated adjectives in the XX, XXYY and X-YY reduplicated pattern. The reason for this is twofold: first, reduplicated adjectives cannot be simply interpreted as the comparative degree or the positive degree reading, as shown by (4a–c). (Here the subscript REDUPL is used to note the semantics associated with the reduplication morphology.)

- (4) a. Zhangsan gaogaode.
 Zhangsan tall-tall
 ‘Zhangsan is tall_{REDUPL}.’
 b. Zhangsan huanghuangzhangzhangde.
 Zhangsan agitated-agitated
 ‘Zhangsan is agitated_{REDUPL}.’
 c. Shou leng-bingbing(de).
 Hand cold.ice-ice
 ‘The hands are icy-cold_{REDUPL}.’

¹ Abbreviations used in this paper include: ASP: aspect marker, BA: disposal marker, CL: classifier, DE: marker for modifying phrases like genitive phrases, relative clauses, and noun complement clauses in Chinese, HEN: overt positive morpheme, and SFP: sentence final particle.

Second, these three types of reduplicated adjectives are particularly common in the variety of Chinese spoken by the author, Taiwanese Mandarin.²

The main themes that I eventually advance are as follows: Chinese reduplicated adjectives denote a life-like state realized from the property denoted by the adjectival base plus the positive degree. The state denoted must be perceptible to human senses. The gradability requirement on adjectives amenable to reduplication results from the perceptibility requirement on the state denoted by reduplicated adjectives. Reduplicated adjectives, depending on the manner by which the property denoted by their adjectival base is realized as a state, can be divided into two types: one includes reduplicated adjectives in the XX and XXYY pattern; the other includes those in the X-YY pattern.

The organization of the paper is as follows: Sect. 2 begins with a panoramic view of the properties shown by reduplicated adjectives, and ends by making clear the questions raised by them. Section 3 proposes a default state-denoting analysis and includes discussion of some empirical and theoretical consequences. Section 4 is the conclusion.

2 The panorama of reduplicated adjectives

To provide a panoramic view of the characteristics exhibited by reduplicated adjectives, I first begin with a discussion of the restrictions on adjectival reduplication, followed by a discussion of the syntactic properties and the semantics of reduplicated adjectives. Finally, I point out the empirical and theoretical questions that any studies on Chinese reduplicated adjectives have to address.

2.1 The restrictions on adjectival reduplication

In Chinese, the replicability of adjectives is mainly determined by the interactions between the following factors: the gradability of the adjectives, the perceptibility of properties, the commendatory versus derogatory distinction in meaning, the internal structure of compound adjectives, and the rhetorical style (i.e., repetition or parallelism).

2.1.1 Gradability

According to Zhu (1956/1980), Chao (1968), Lü et al. (1980), Tang (1988), and Zhu (2003), adjectives accessible to reduplication are always gradable ones with a context-dependent standard; non-gradable adjectives (e.g., *zhen* 'genuine', *dui* 'correct' or *cuo*

² Thus, to avoid any digression from the main theme, the scope of this study will not cover reduplicated adjectives in the XX-Y pattern (e.g., *bengbeng-sui* 'fragile_{REDUPL}'), the X-YZ pattern (e.g., *xiu-buda* 'bashful_{REDUPL}'), the XYXY pattern (e.g., *xuebaixuebai* 'snow-white_{REDUPL}'), the XYXZ pattern (e.g., *damingdabai* 'obvious_{REDUPL}'), the XZYZ pattern (e.g., *qichabacha* 'disordered_{REDUPL}'), the A-XYZ pattern (e.g., *suan-buliugiu* 'sour_{REDUPL}') and the X-li-XY pattern (e.g., *hu-li-hutu* 'muddled_{REDUPL}') (cf. Chao 1968, pp. 198–210; Lü et al. 1980, pp. 637–657).

‘wrong’) as well as adjectives with an extreme degree such as *liaokuo* ‘expansive,’ *shuoda* ‘gigantic,’ or *shenyuan* ‘far-reaching’ are less amenable to reduplication, as illustrated by the contrast between (5a–c) and (6a–c)–(7a–c).^{3,4}

- (5) a. hong honghongde
 red red-red
 ‘red’ ‘red_{REDUPL}’
 b. da dadade
 big big-big
 ‘big’ ‘big_{REDUPL}’

³ A well-known property of gradable adjectives with a context-dependent standard like *expensive*, as Kennedy and McNally (2005) suggest, is the fact that what counts as expensive may vary from context to context. For example, in a conversation about the cost of various missions to outer space, the comparison class for *expensive* might include many things that are quite a bit more expensive than the Mars Pathfinder mission (one of the successes of the Pathfinder mission was that its cost was low relative to comparable NASA projects).

(i) The Mars Pathfinder mission was expensive.

If the standard of comparison is set correspondingly high, then (i) is false. In contrast, in a discussion about things with the name ‘Pathfinder,’ the comparison class might include compasses, mountain bikes, and sport utility vehicles, as well as missions to Mars. The standard of comparison should therefore be quite a bit lower, and (i) would be true. On the other hand, gradable adjectives with an absolute standard like *full* in (ii) do not introduce a context-dependent standard, but their arguments are required to possess a maximal degree of the property in question.

(ii) The glass is full.

Namely, example (ii) typically means that the glass is completely full, not that its contents fall above some context-dependent standard of fullness.

⁴ As one anonymous reviewer points out to me, the adjective *dui* ‘correct’ in (i) is gradable but non-reduplicable.

- (i) Ta shuo-de hen dui.
 S/He say-DE very correct
 ‘What s/he says is very reasonable.’
 (ii) *Ta shuo-de duiduide.
 S/He say-DE reasonable-reasonable
 ‘What s/he says is reasonable_{REDUPL}.’

However, as the interpretation of (i) shows, *dui* ‘reasonable’ in (i) actually means ‘reasonable’ rather than ‘correct’. With this meaning, *dui* ‘reasonable’ in (i) is a gradable adjective. Example (ii) containing the reduplicated adjective *duiduide* ‘reasonable-reasonable’ is ungrammatical because, compared with the adjective *heli* ‘reasonable’, the adjective *dui* with the meaning ‘reasonable’ is seldom used in the colloquial and informal speech. Please see Sect. 2.1.2, especially the paragraphs below example (12a–b), for further discussion. In addition, not all XXY reduplicated adjectives have a corresponding simple counterpart, as shown by examples below (cf. Paul 2004, 2006).

- (iii) popomama *poma
 ‘fussy_{REDUPL}’ ‘fussy’
 (iv) huahualulu *hualu
 ‘colorful_{REDUPL}’ ‘colorful’

- c. qingchu qingqingchuchude
 clear clear-clear
 ‘clear’ ‘clear_{REDUPL}’
- (6) a. liaokuo *liaoliaokuokuode
 expansive expansive-expansive
 b. shuoda *shuoshuodadade
 gigantic gigantic-gigantic
 c. shenyuan *shenshenyuanyuande
 far.reaching far-far.reaching-reaching
- (7) a. zhen *zhenzhende
 genuine genuine-genuine
 b. jia *jiajiade
 fake fake-fake
 c. dui *duiduide
 correct correct-correct

Although gradable adjectives that describe properties with maximal and minimal values (e.g., the adjective *man* ‘full’ in (8a) or the adjective *zhi* ‘straight’ in (8b)) can be considered as adjectives with an extreme degree, this type of adjective, as (9a, b) illustrate, is, in fact, amenable to reduplication.

- (8) a. Yaoshi jiu bei man dehua, jiu mei wenti.
 If liquor glass full SFP then not problem
 ‘If the glass is full, then it will not have any problem.’
 b. Yaoshi lu zhi dehua, jiu hao le.
 If road straight SFP then fine SFP
 ‘If the road is straight, then it will be fine.’
- (9) a. man manmande
 full full-full
 ‘full’ ‘full_{REDUPL}’
 b. zhi zhizhide
 straight straight-straight
 ‘straight’ ‘straight_{REDUPL}’

For instance, (8a) typically means that the glass is completely full, not that its contents fall above some context-dependent standard of fullness; however, most speakers I have consulted feel that the adjective *man* ‘full’ requires its argument only to fall near the maximal value on the scale, pointing to examples like (10a), which does not sound contradictory.

- (10) a. Mingming jiu hai mei man, ni hai shuo tai man.
 Obviously then still not full you still say too full
 ‘Obviously, it is not full. But, you still say it is too full.’
- b. Mingming jiu shi wan de, ni hai shuo tai zhi.
 Obviously then is bent DE you still say too straight
 ‘Obviously, it is bent. But, you still say it is too straight.’

Similarly, (10b) can be used to describe a situation where the rod is not required to be completely straight. In other words, the speaker can subjectively change a gradable adjective with an absolute standard into a gradable adjective with a context-dependent standard (cf. Unger 1975; Lasersohn 1999). So, adjectives describing properties with maximal and minimal values like *man* ‘full’ and *zhi* ‘straight’ are amenable to reduplication.

2.1.2 Perceptibility

According to Tang (1988) and Zhu (2003), adjectives amenable to reduplication, in addition to being gradable, always denote a property easily perceived by the human senses of sight, taste, smell, touch, and hearing, while those denoting properties not easily perceived by these senses are less so.

- (11) a. pang pangpangde
 fat fat-fat
 ‘fat’ ‘fat_{REDUPL}’
- b. tian tiantiande
 sweet sweet-sweet
 ‘sweet’ ‘sweet_{REDUPL}’
- c. xiang xiangxiangde
 fragrant fragrant-fragrant
 ‘fragrant’ ‘fragrant_{REDUPL}’
- d. ruan ruanruande
 soft soft-soft
 ‘soft’ ‘soft_{REDUPL}’
- e. di didide
 low.pitched low.pitched-low.pitched
 ‘low-pitched’ ‘low-pitched_{REDUPL}’
- (12) a. tan *tantande
 greedy greedy-greedy
- b. nan *nannande
 difficult difficult-difficult

The constraint on the perceptibility of the property denoted by the adjectival base has as consequences the following two empirical facts: first, as Tang (1988) points out, adjectives denoting concrete properties (e.g., *pang* ‘fat,’ *tian* ‘sweet,’ *xiang*

‘fragrant,’ *ruan* ‘soft,’ *di* ‘low-pitched,’ *chedi* ‘thorough,’ or *maomi* ‘dense’) are more amenable to reduplication than those denoting abstract properties (e.g., *gui* ‘expensive,’ *miao* ‘wonderful,’ *qiang* ‘strong,’ *changsheng* ‘prosperous,’ *chonggao* ‘esteemed,’ *chuse* ‘excellent,’ *fuyou* ‘rich,’ *gaochao* ‘superb,’ *gaoming* ‘brilliant,’ or *maosheng* ‘exuberant’); second, adjectives used in colloquial and informal speech (e.g., *kuaile* ‘happy,’ *laoshi* ‘honest,’ or *piaoliang* ‘beautiful’) are more accessible to reduplication than those used in literary or formal speech (e.g., *yukuai* ‘happy,’ *chengshi* ‘honest,’ or *meili* ‘beautiful’) because the former is always higher than the latter in perceptibility (cf. Tang 1988).⁵

2.1.3 The commendatory versus derogatory distinction

Although adjectives with a commendatory meaning are more accessible to reduplication than those with a derogatory one, as the contrast between (13a, b) and (14a, b) shows, derogatory adjectives, as Zhu (1956/1980), Chao (1968), and Tang (1988) point out, can still have a reduplicated form (e.g., *huaihuaide* ‘bad-bad’ in (15a) and *zangzangde* ‘dirty-dirty’ in (15b)), but their accessibility to reduplication is weaker and their scope is limited (cf. Zhu 1956/1980; Chao 1968).

- (13) a. *laoshi* *laolaoshishide*
 honest honest-honest
 ‘honest’ ‘honest_{REDUPL}’
 b. *zhengqi* *zhengzhengqiqide*
 ordered ordered-ordered
 ‘ordered’ ‘ordered_{REDUPL}’
- (14) a. *jiaohua* **jiaojiaohuahuade*
 crafty crafty-crafty
 ‘crafty’ ‘crafty_{REDUPL}’
 b. *zaluán* **zazaluánluande*
 disorderly disorderly-disorderly
 ‘disorderly’ ‘disorderly_{REDUPL}’

⁵ As expected, transliterated adjectives and monomorphemic disyllabic adjectives that always denote an abstract and less perceptible property, or a property unfamiliar to most native speakers, are less amenable to reduplication, as shown below.

- (i) *modeng* **momodengdeng*
 modern modern-modern
 (ii) *yaotiao* **yaoyaotiaotiao*
 young.demure young.demure-young.demure

However, if an initially monomorphemic disyllabic adjective has been reanalyzed as consisting of two morphemes (i.e., backformation) and the property denoted has become familiar to most native speakers, reduplication becomes possible for it, as (iii)–(iv) illustrate (cf. Lu 1975; Tang 1988, pp. 55–56).

- (iii) *hutu* *huhututude*
 ‘muddled’ ‘muddled_{REDUPL}’
 (iv) *langman* *langlangmanmande*
 ‘romantic’ ‘romantic_{REDUPL}’

- (15) a. Huaihuaide shi-le ge zhuyi.
 Bad-bad use-ASP CL idea
 ‘mischievously_{REDUPL} used a ruse.
- b. Ba lian nong-de zangzangde.
 BA face make DE dirty-dirty
 ‘purposely made her face dirty_{REDUPL}’

Further developing Chao’s (1968, p. 207) idea that the subject in (15a, b) has the state described by the reduplicated adjective as intended, Zhu (2003) argues that examples like (15a, b) are felicitous only when the subject is understood as one who purposely conditions the progress of the event denoted by the main verbal predicate (i.e., *shi* ‘use’ in (15a) and *nong* ‘make’ in (15b)) by the ‘manner’ or the ‘result’ provided by the reduplicated ‘adjective’ (i.e., *huaihuaide* ‘mischievously_{REDUPL}’ in (15a) and *zangzangde* ‘dirty_{REDUPL}’ in (15b)). So, a derogatory adjective, as he suggests, might become accessible to reduplication if the reduplicated adjective can provide a ‘manner’ or a ‘result’ through which the subject can purposely condition the progress of the event denoted by the main verbal predicate.⁶

The assumption that the subject’s specific intentions might make a derogatory adjective involved become amenable to reduplication further explains why example (16a), as Chao (1968, pp. 209–210) points out, is felicitous only if the speaker subjectively approves the skirts (cf. Zhu 1956/1980; Ding et al. 1979; Lü et al. 1980; Li and Thompson 1981; Karl 1993; Liu et al. 2004).

⁶ Similarly, examples like (i), as Zhu (2003) argues, are felicitous only when the subject has already constructed a plan about which type of circle s/he wants to draw by having the state denoted by the reduplicated adjective *yuanyuande* ‘round-round’ function as that ‘plan’ (or an adverbial manner modifier).

- (i) Yuanyuande hua-le yi-ge quan.
 Round-round draw-ASP one-CL circle
 ‘Draw a circle according to the plan of drawing a round_{REDUPL} circle.’

So, the progress of the circle-drawing event in (i) is purposely conditioned by the subject through the manner ‘provided’ by the adverbial modifier *yuanyuande* ‘round-round.’ Thus, Zhu (2003, p. 15) suggests that when occurring in a sentence where the subject purposely conditions the progress of the event denoted by the main verbal predicate, an adjective less amenable to reduplication might become accessible to reduplication, as shown by the contrast below.

- (ii) *Shijian jijide.
 Time urgent-urgent
- (iii) Jijide pao guo lai.
 Urgent-urgent run cross come
 ‘Someone is running to me urgently_{REDUPL}.’

Assuming this, the percentage of the manner adverbial usage of reduplicated adjectives is expected to be higher than that of the attributive, the predicative, or the complement usage of reduplicated adjectives. This expectation, in fact, is borne out by the statistic study made by Zhu (2003), in which the percentage is 72.62 % for the adverbial use, 19.7 % for the attributive use, 3.7 % for the predicative use, and 4% for the complement use (cf. Tang 1988).

- (16) a. Duanduanerde xiabai, gaogaoer-de ken.
 Short-short skirt tall-tall slit
 ‘Her graceful figure has been nicely manifested by her short_{REDUPL} skirt and high_{REDUPL} slits.’
- b. Wo tingshuo ta kandao de na-ge ren aiaide, chouchoude,
 I hear s/he see DE that-CL person short-short ugly-ugly
 Yifu zangzangde.
 clothes dirty-dirty
 ‘I heard that that person s/he saw is short_{REDUPL} and ugly_{REDUPL}; her/his clothes are dirty_{REDUPL}.’

Namely, in (16a) the subject’s subjective approval of the skirts functions as her/his purpose for using the reduplicated adjective *duanduande* ‘short-short’ as the attributive modifier here. In contrast, (16b) felicitously expresses that the subject (i.e., the internal speaker *wo* ‘I’) subjectively shows her/his dislike or lack of respect for *na-ge ren* ‘that-CL person.’ So, the favorable or unfavorable connotation conveyed by (16a, b) originates from the subject’s attitudes and intentions to express them rather than from some specific reduplicated pattern (i.e., the XX reduplicated pattern), as Chao (1968) suggests. Given this, I suggest that, whether the connotation involved is favorable, neutral, or unfavorable depends on what kind of specific expressive purpose the subject has; as (17a, b) illustrate, further observation bears out this suggestion.⁷

- (17) a. Zhe-ge ren benbende, yiding bu hui you
 This-CL person stupid-stupid must not will have
 ren xihuan ta.
 person like he
 ‘This person is stupid_{REDUPL}. So, no one will like him.’
- b. Ta zhe-ge ren yixiang jiushi lanlande, bie qiwan
 He this-CL person always is lazy-lazy do-not expect
 ta neng zuo shenme da shi.
 he can do what great thing
 ‘He is a person who is always lazy_{REDUPL}. So, don’t expect him to be able to do anything great.’

2.1.4 The internal structure of compound adjectives

As Tang (1988, p. 55) points out, among the five types of compound adjectives (i.e., the subject–predicate/S–P, the verb–object/V–O, the verb–complement/V–C, the modifier–head/M–H, and the coordinated/X–X compound adjective), the coordinated compound adjective is more accessible to reduplication than the other four types. The contrast between (18a–d) and (19a–c) illustrates this point (cf. Lu 1975; Tang 1988; Cui 1995; Zhu 2003; Li 2004).

⁷ Examples (17a, b) are provided by one of the anonymous reviewers.

- (18) a. xingji *xinxinji [S-P]
 impatient impatient-impatient
 b. heli *hehelili [V-O]
 reasonable reasonable-reasonable
 c. chidekai *chichidedekaikai [V-C]
 popular popular-popular
 d. haoxin *haohaoxin [M-H]
 kindhearted kindhearted-kindhearted
- (19) a. suanguai suangsuanguaikuaide [A-A]
 cheerful.swift cheerful-cheerful.swift-swift
 ‘frank-open’ ‘frank-open_{REDUPL}’
 b. timian titimianmiande [N-N]
 body.face body-body.face-face
 ‘respectable’ ‘respectable_{REDUPL}’
 c. gongjing gonggongjingjingde [V-V]
 respect.respect respect-respect.respect-respect
 ‘respectable’ ‘respectful_{REDUPL}’

In spite of this, compound adjectives belonging to the other types are still amenable to reduplication if the meaning denoted can be easily perceived by the senses of sight, taste, touch, smell, and hearing, as (20a–c) show.

- (20) a. chedi chechedidide [V-O]
 thorough.bottom thorough-thorough.bottom-bottom
 ‘thorough’ ‘thorough_{REDUPL}’
 b. keqi kekeqiqide [M-H]
 visitor.atmosphere visitor-visitor.atmosphere-atmosphere
 ‘courteous’ ‘courteous_{REDUPL}’
 c. lata lalatatade
 sloppy sloppy-sloppy
 ‘sloppy’ ‘sloppy_{REDUPL}’

In contrast with the non-coordinated compound adjectives in (20), non-coordinated compound adjectives like *bu’an* ‘disturbed’, *haochi* ‘delicious’, *keai* ‘lovable’, *nande* ‘scarce,’ and *youqu* ‘interesting’ cannot be reduplicated, as (21a–e) illustrate.

- (21) a. bu’an *bubuanande
 uneasy uneasy-uneasy
 b. haochi *haohaochichide
 delicious delicious-delicious
 c. keai *kekeaiaide
 lovable lovable-lovable
 d. nande *nannandedede
 scarce scarce-scarce
 e. youqu *youyouququde
 interesting interesting-interesting

The contrast between (20a–c) and (21a–e) leads Zhu (2003) to formulate the following hypothesis: on the one hand, it is very difficult for the non-coordinated compound adjectives in (21) to have the meaning denoted shared equally by the two syllabic components (e.g., the syllabic component *bu* ‘not’ and *an* ‘easy’ of the compound adjective *bu’an* ‘uneasy’); on the other hand, the non-coordinated compound adjectives in (20) can be treated as a type of coordinated compound adjective because the speaker might obscurely consider that the two syllabic components usually share the perceivable meaning.

Thus, Zhu (2003, p. 11) suggests that the parallelism in category and semantics between the two syllabic components of coordinated compound adjectives can be considered as a kind of rhetorical style that can make the property denoted by coordinated compound adjectives more life-like and perceptible than that of the other types of compound adjectives. So, a coordinated compound adjective is more amenable to reduplication.

2.1.5 *The rhetorical style*

As Cui (1995, pp. 18–19) points out, the rhetorical style of repetition or parallelism (i.e., several parts of a sentence or several sentences being expressed similarly to show that the ideas in the parts or sentences are equal in importance) can make adjectives that are less amenable to reduplication (e.g., non-gradable adjectives like *feiyang* ‘rising-up’, adjectives denoting a property not easily perceived, like *kunnan* ‘difficult,’ adjectives with an extreme degree like *weida* ‘great,’ derogatory adjectives, like *yuben* ‘stupid,’ and compound adjectives not belonging to the coordinated type, like *xinggan* ‘sexy’) become more accessible to reduplication. This is illustrated by (22a–e).

- (22) a. Wanshang de yanchu zai xuexiao de baogao ting, jushuo haoxiang
 Night DE play at school DE lecture hall reportedly seemingly
 shi shenme zhongyang dangxiao de ren yao lai, you jushuo
 is what important party-school DE person will come and reportedly
 lian dianshitai dou yao lai, fanzheng nong de feifeiyangyang
 even TV-station all will come one-way-or-another make DE boiling-boiling
yanyanzhongzhongde, suoyi zhihao zao yi-huier zou tai.
 serious-serious so only early a-little go stage
 ‘Tonight’s play will be in the lecture hall of the school. Reportedly, some
 important person from the Communist-Party School and even persons
 from the TV station will be there. So, the situation becomes unusual,
 uncomfortable, and extraordinarily serious. So, it is better for us to leave
 earlier.
- b. Laoda shuo: tian shang yun huhututu; xia cheng yu
 Eldest say sky up cloud muddle-muddle fall become rain
qingqingchuchu; yun bian yu rongrongyiyi; yu bian yun
 clear-clear cloud become rain easy-easy rain become cloud
kunkunnannan.
 difficult-difficult

- ‘The eldest said: although the cloud in the sky looks dark, it looks clear when dropping as rain; although it is easy for a cloud to transform into rain, it is difficult for rain to transform into a cloud.’
- c. Bier ... yi-ge pinfan de tuixiaoyuan, yi-ge weida de canzhang zhe,
 Bill one-CL common DE salesman one-CL great DE disable person
 rang women chongfen tiweidao jiuqing shenme shi
 let we fully understand what-on-earth what is
 ‘pinpinfanfande weida, weiweidadade pinfan.’
 common-common great great-great common
 ‘Bill’s being, a common salesman as well as a great disabled person,
 makes us fully understand why greatness is always disguised and why the
 common is always cloaked in greatness.’
- d. Zui da de zhiqiao kan qilai haoxiang pupuzhuozhuo;
 Most big DE wisdom look rise seem simply.awkward-simply.awkward
 zui da de congming kan qilai hoaxing yuyubenben.
 most big DE smart look up-come seem stupid-stupid
 ‘The best wisdom looks innocently awkward, and the smartest looks
 innocently stupid.’
- e. Ba ziji daban-de piaopiaoliangliangde, xingxinggangande, zai pen shang
 BA self dress-up-DE beautiful-beautiful sexy-sexy again spray upon
 ji-kuai qian jiu neng mai dao de xiangshui, pensa zai sheng-shang,
 several-CL money then can buy arrive DE perfume spray at body-upon
 zhe yang yi lai jiu neng xiyin shuaige-men tiansheng jiu haose
 this way once come then can attract gentlefolk innate then lustful
 de yangjing.
 DE eye
 ‘You can attract the spontaneously lustful expressions from those
 gentlefolks’ eyes by dressing yourself up in an attractively beautiful and
 sexy way with some cheap and ordinary perfume.’

Rhetorically, repetition allows a writer or speaker to hammer home an idea, image, or relationship, in order to force the reader or listener to pay attention. For example, Churchill’s thundering *we shall fight* in (23) fall like hammer strokes, leading up to that emphatic, defiant, and irresistible *we shall never surrender*.

- (23) We shall go on to the end, we shall fight in France, we shall fight on the seas and oceans, we shall fight with growing confidence and growing strength in the air, we shall defend our island, whatever the cost may be, we shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills; we shall never surrender

Similarly, the rhetorical style of parallelism uses identical patterns of words to express related ideas. This rhetorical style enables the writer to highlight or to emphasize information and to add balance and rhythm and, most importantly, clarity to the sentence, thereby rendering it memorable. Example (24) clearly shows how paralleling fairly long subordinate clauses helps one remember the whole sentence:

- (24) These critics – who point out the beauties of style and ideas, who discover the faults of false constructions, and who discuss the application of the rules – usually help a lot in engendering an understanding of the writer’s essay.

Simply put, these two rhetorical styles not only hammer home or highlight the property denoted by an adjective, but also add clarity to the meaning and force the reader or listener to pay attention to it. They can make the meaning denoted by an adjective more perceptible. Therefore, adjectives that are less amenable to reduplication might become accessible to reduplication when occurring in a structure involving the rhetorical styles of repetition or parallelism.⁸ This assumption also agrees well with Zhu’s (2003) assumption that the parallelism between the two syllabic components of coordinated compound adjectives can be considered as a kind of rhetorical style that can make the property denoted more perceptible. Thus, coordinated compound adjectives are more amenable to reduplication than the other types of compound adjectives.

Thus, along the line of Tang (1988) and Zhu (2003), I suggest that an adjective denoting a property that can be more easily perceived by human senses is more accessible to reduplication. And, the perceptibility of the property denoted by an adjective might be affected by factors like the gradability of adjectives, the internal structure of compound adjectives, and the rhetorical style involved.

2.2 The syntactic properties of reduplicated adjectives

Chinese reduplicated adjectives have the following syntactic properties: first, the reduplicated adjectives can occur as the attributive modifier, the adverbial modifier, the predicate, and the complements of verbs, as illustrated by (25a–d), respectively.

⁸ Unlike Li and Thompson (1981), I do not want to say adjectives like *kunnan* ‘difficult’ or *weida* ‘great’ cannot undergo reduplication. Instead, I suggest that they might become amenable to reduplication if they occur in a construction involving rhetorical styles like parallelism; however, this does not mean that all adjectives can undergo reduplication in all contexts.

- (25) a. honghongde lian
 red-red face
 ‘a red_{REDUPL} face’
 b. kuaikuaide lai
 fast-fast come
 ‘coming fast_{REDUPL}’
 c. Zhangsan gaogaode.
 Zhangsan tall-tall
 ‘Zhangsan is tall_{REDUPL}.’
 d. Zhangsan zhang-de gaogaode.
 Zhangsan grow-DE tall-tall
 ‘Zhangsan grows into being tall_{REDUPL}.’

However, the fact that examples (26a, b) are ungrammatical unless they are analyzed as having a covert noun modified by the reduplicated adjective *honghongde* ‘red-red,’ implies that reduplicated adjectives, as Zhu (1980), Tang (1988), Liu et al. (2004), and Zhu (2003) suggest, cannot occur as subject or object.⁹

- (26) a. [_{NP} [Honghongde] *([_N e])] hen haokan.
 Red-red very pretty
 ‘The red_{REDUPL} thing looks pretty.’
 b. Wo xihuan [_{NP} [honghongde] *([_N e])].
 I like red-red
 ‘I like the red_{REDUPL} thing.’

Second, reduplicated adjectives, as Paul (2004, 2010) points out, cannot occur as predicate in a construction where a quantitative judgment with respect to the presence of a property is asked for. For example, they cannot occur as predicate in a comparative construction like the *bi* comparative or the *bi-qilai* ‘compare-qilai’ comparative, as illustrated by (27a, b), respectively.

- (27) a. *Zhangsan bi Lisi gaogaode.
 Zhangsan than Lisi tall-tall
 b. *Gen Zhangsan bi-qilai, Lisi gaogaode.
 With Zhangsan compare-qilai Lisi tall-tall

The same observation also holds for a *ma* particle question like (28), where a quantitative judgment with respect to the presence of a property is asked for.

⁹ As one anonymous reviewer reminds me, this is nothing special because adjectives, in general, cannot occur as subject or object, as (i)–(ii) illustrate.

- (i) *Hong hen haokan.
 Red very beautiful
 ‘Red is beautiful.’
 (ii) *Wo xihuan hong.
 I like red
 ‘I like red.’

- (28) Q: Zhangsan gao ma?
 Zhangsan tall SFP
 'Is Zhangsan tall?'
- A: a. Feichang gao.
 Extremely tall
 'Zhangsan is extremely tall.'
- b. *Zhangsan gaogaode.
 Zhangsan tall-tall

Third, as Lü et al. (1980) point out, the marker *de* is obligatorily required for a reduplicated adjective when the reduplicated adjective modifies a noun directly, or occurs as predicate, as shown by (29a, b), respectively.

- (29) a. qingqing*(de)/ganganjingjing*(de)/lengbingbing*(de) shui
 clear-clear-DE/clean-clean-DE/cold.ice-ice-DE water
 'the clear_{REDUPL}/clean_{REDUPL}/ice-cold_{REDUPL} water'
- b. Shui qingqing*(de)/ganganjingjing*(de)/lengbingbing*(de).
 Water clear-clear-DE/clean-clean-DE/cold.ice-ice-DE
 'The water is clear_{REDUPL}/clean_{REDUPL}/ice-cold_{REDUPL}.'

However, when occurring as the complement of the *V-de* construction, or as a modifier right before a verb phrase or the numeral of nominal expressions, the marker *de* becomes optional for the reduplicated adjective, as (30a–c) illustrate.¹⁰

- (30) a. zhua-de jinjin(de)/jinjinmimi(de)/jinbengbeng(de)
 catch-DE tight-tight-(DE)/close-close-(DE)/tight.taut-taut-(DE)
 'grabbing it in a tight_{REDUPL}/compact_{REDUPL}/taut_{REDUPL} manner'
- b. manman(de)/suisuibianbian(de)/rehuhu(de) ao-le
 slowly-slowly-(DE)/casually-casually-(DE)/hot-hot-(DE) boil-ASP
 yi-guo tang
 one-CL soup
 'cooking a pot of soup slowly_{REDUPL}/casually_{REDUPL}/languidly_{REDUPL}'
- c. lanlan(de)/kuankuankuokuo(de)/huimengmeng(de) yi-pian tian
 blue-blue-(DE)/broad-broad-(DE)/dusky-dusky-(DE) one-CL sky
 'a blue_{REDUPL}/broad_{REDUPL}/dusky_{REDUPL} sky'

Although the exact syntactic or morphological status of *de* of reduplicated adjectives is still under debate and no satisfying analysis has been proposed so far, this will not in any significant way affect my study of the Chinese reduplicated adjective, especially of its semantics (cf. Paul 2010, p. 139). So, I will leave this issue for further research.

¹⁰ Although Lü et al. (1980, p. 719) state that, when occurring as the complement of the *V-de* construction, only the XXYY reduplicated adjective allows the marker *de* to be optional, examples like (30a) show that both the XX and the X-YY reduplicated adjective also allow the marker *de* to be optional when occurring as the complement of the *V-de* construction.

Fourth, as the contrast between (31a, b) illustrates, a reduplicated adjective can be directly modified by the negation marker *mei* ‘not’ but not by the negation marker *bu* ‘not’.

- (31) a. Ni mei guaiguai.
 You not well.behaved-well.behaved
 ‘You do not have yourself well-behaved_{REDUPL.}’
 b. *Ni bu guaiguai.
 You not well.behaved-well.behaved

Although examples (32a, b) seem to show that a reduplicated adjective can be directly modified by the negation marker *bu* ‘not’, this example, according to Huang (1988), in fact contains an empty volitional or future modal verb, and what is directly modified by the negation marker *bu* ‘not’ in (32a, b) is the empty modal verb, rather than the reduplicated adjective (cf. Lin 2003).

- (32) a. Ni ruguo bu guaiguai, wo jiu xiuli ni.
 You if not well.behaved-well.behaved I then punish you
 ‘If you do not have yourself well-behaved_{REDUPL.}, then I will punish you.’
 b. Ni-de jiaobu zenme bu qingqingde.
 Your step how-come not soft-soft
 ‘How come you are not willing to have your step soft_{REDUPL.}?’

Fifth, as Liu et al. (2004) and Zhu (2003, pp. 14–15) point out, the reduplicated form of adjectives like *guai* ‘well-behaved’ can occur as predicate of imperatives, while that of adjectives like *bai* ‘white’ and *pang* ‘fat’ cannot. This is illustrated by the contrast in meaning between (33a–c) and (34a–c).

- (33) a. Ni guaiguai.
 You well.behaved-well.behaved
 ‘Be well-behaved_{REDUPL.}’
 b. Ni laolaoshishide.
 You honest-honest
 ‘Be honest_{REDUPL.}’
 c. Shengyin didide.
 Voice low.pitched-low.pitched
 ‘Be low-pitched_{REDUPL.}’
 (34) a. Pifu baibaide.
 Skin white-white
 ‘The skin is white_{REDUPL.}’
 b. Ni pangpangde.
 You fat-fat
 ‘You are fat_{REDUPL.}’

Sixth, as Paul (2010, p. 145) points out, a reduplicated adjective cannot occur as the adjective component of an adjective-noun modification phrasal structure in Chinese, such as *congming ren* ‘smart person’ in (35). This is illustrated by the contrast between (36a) and (36b) (cf. Tang 1979; Zhu 1984).

(35) Zheli congming ren bu duo, dan shi hutu-de que bu shao.
Here smart person not many but is muddled-DE but not few
‘Here we do not have many smart persons, but we do have a lot of muddled ones.’

- (36) a. [NP [AP congming] [NP ren]]
smart person
‘smart persons’
b. *congcongmingming ren
smart-smart person

2.3 The semantic properties of reduplicated adjectives

In this section, I shall discuss the semantic properties of reduplicated adjectives from the following three perspectives: the semantic denotation of reduplicated adjectives, the degree conveyed by reduplicated adjectives, and the agentivity activation function shown by some type of reduplicated adjectives.

2.3.1 The core semantics: some specific state

The core semantics of reduplicated adjectives, as is unanimously but arbitrarily assumed by Wang (1943), Zhu (1956/1980), Lü et al. (1980), Zhu (2003), and Liu et al. (2004), is to denote some life-like or vivid state rather than a property whose degree value needs to be specified by a degree term. This assumption indeed can be shown to be true by the empirical fact that reduplicated adjectives cannot occur as predicate in a construction where a quantitative judgment is asked for with respect to the presence of a property. The ungrammaticality of (37a, b) illustrates this point (cf. Paul 2004, 2010).

- (37) a. *Zhangsan bi Lisi gaogaode.
Zhangsan than Lisi tall-tall
‘*Zhangsan is tall_{REDUPL} than Lisi.’
b. Q: Zhangsan gao ma?
Zhangsan tall SFP
‘Is Zhangsan tall?’
A. Zhangsan hen gao/*gaogaode.
Zhangsan HEN tall/tall-tall
‘Zhangsan is tall/*tall_{REDUPL}.’

The premise of having a property realized as a state is that the degree of that property must be ‘high’ enough. So, a reduplicated adjective is expected to convey

some kind of degree meaning, though the degree meaning is not the core (or the primary) meaning.

2.3.2 *A degree that is just right*

As Zhu (2003, p. 14) notices, the degree conveyed by reduplicated adjectives cannot be an extreme one. For example, the reduplicated adjective *yuanyuande* ‘round-round’ cannot be used to modify a geometrically standard ‘round’ circle.

- (38) **yuanyuande* *jihe* *yuan*
 round-round geometrical round
 ‘a round_{REDUPL} geometric circle’

Thus, Zhu (2003) suggests that the ‘degree’ conveyed by a reduplicated adjective, as shown by (39a–c), must be perceptible to the human senses of sight, taste, smell, touch, and hearing.

- (39) a. *yuanyuande* *dipingxian*
 far-far horizon
 ‘the far_{REDUPL} sky line’
 b. *xixide* *toufa*
 thin-thin hair
 ‘thin_{REDUPL} hairs’
 c. *aiaide* *Zhangsan*
 short-short Zhangsan
 ‘the short_{REDUPL} Zhangsan’

Since the degree of accuracy of human sense perception cannot be as precise as that of a scientific apparatus, it is impossible for a reduplicated adjective like *honghongde* ‘red-red’ to ‘convey’ a degree of *redness* like that of the *red* with the wavelength of 0.77 micrometers, which can only be measured by an electromagnetic wave-measuring apparatus. Hence, Zhu (2003, p. 14) interprets a reduplicated adjective’s denoting a life-like or vivid state as follows: within the limits of human sense perception, the speaker does her/his best to ‘exaggerate’ the ‘degree’ of the related property so as to render it as close to the limit of the property as possible.

This interpretation immediately reminds us of Zhu’s (1956, 109) observation that the degree conveyed by reduplicated adjectives at hand is *qia dao hao chu* ‘just right or exactly as it should be.’ For example, as the interpretation of (39c) shows, Zhangsan is shorter than the context-dependent standard of the human height, and the difference between the context-dependent standard height and Zhangsan’s cannot be too large or too small. It has to be just big enough to be perceived by human sense (i.e., sight). So, the reduplication morphology is expected not to be treated as a degree morphology simply functioning to increase or decrease the degree of the relevant property, as Zhu (1956) suggests (i.e., when occurring as attribute or predicate, reduplicated adjectives have a degree ‘intensification’ sense that is weaker than that of reduplicated adjectives that appear as adverbial or complement of the verb-complement construction). As shown by examples in (40)–(41), taken from Zhu (2003, pp. 9–10), the facts bear out this expectation.

- (40) a. Jingqi gaogao pan tui zuo zai
 Jingqi tall-tall cross leg sit at
 yaobao shang. (adverbial)
 medicine-bag upside
 ‘Jingqi sat on the medicine bag which is tall_{REDUPL} with his legs crossing each other.’
- b. Gaogaode yaobao xiamian gui-zhe
 Tall-tall medicine-bag down-face kneel-ASP
 Jingwu. (attributive)
 Jingwu
 ‘Jingwu knelt under the tall_{REDUPL} medicine bag.’
- (41) a. Shui-de haohaode, jiao wo gan ma? (complement)
 Sleep-DE well-well call I do SFP
 ‘I slept well_{REDUPL}; why do you wake me up?’
- b. Zuo fan de shihou, hai haohaode. (predicative)
 Do rice DE moment still well-well
 ‘While I am cooking, s/he is still fine_{REDUPL}.’

So, the actual function of the reduplication morphology, as Zhu (2003) suggests, is to change the property denoted by the adjectival base into a life-like or vivid state perceptible to human sense.

2.3.3 The activation of agentivity

In addition to denoting a life-like state that is perceptible, and to conveying a degree that is just right, reduplicated adjectives like *laolaoshishide* ‘honest-honest,’ as Zhu (2003) points out, can also activate the agentivity of the subject when occurring as predicate of the sentence. This is shown by the contrast between (42a, b),

- (42) a. Ni renwei ta laoshi.
 You think s/he honest
 ‘You consider her/him to be honest.’
- b. Ni laolaoshishide.
 You honest-honest
 ‘Be honest_{REDUPL}.’

The activation of the subject’s agentivity by the reduplicated adjective *laolaoshishide* ‘honest-honest’ in (42b), as Zhu (2003) argues, comes from the subject’s ability to self-control the degree change of the property denoted by the adjectival base. More precisely, in (42b), the adjectival base *laoshi* ‘honest’ denotes a commendatory property intrinsic to the internal characteristics of human beings (e.g., temperament, attitude, virtue of patience, behavior, or morality) whose degree change can be self-controlled by the subject. And, the state that people tend to pursue is one realized by a property with a commendatory meaning. So, the specific state denoted by the reduplicated adjective *laolaoshishide* ‘honest-honest’ in (42b) can be easily achieved by the subject’s self-

controlling the degree change of the property of *honest*, and the subject's self-controlling the degree change further activates the subject's agentivity.¹¹

As Zhu (2003, pp. 14–15) further argues, the following syntactic phenomenon shown by reduplicated adjectives provides supporting evidence for the assumption that reduplicated adjectives under some specific condition (i.e., the property denoted by the adjectival base can be self-controlled by the subject) can activate the agentivity of the subject. Namely, a reduplicated adjective with an adjectival base denoting a property whose degree change can be self-controlled by the subject, can occur as predicate of the imperative construction, as shown by (43a–c).

- (43) a. Ni jiaobu qingqingde.
 You step soft-soft
 ‘Have your steps soft_{REDUPL.}.’
- b. Ni laolaoshishide.
 You honest-honest
 ‘Be honest_{REDUPL.}.’
- c. Shengyin didide.
 Voice low.pitched-low.pitched
 ‘Be voice low-pitched_{REDUPL.}.’

Thus far, the restrictions on adjectival reduplication in Chinese and the syntactic, as well as semantic, properties of Chinese reduplicated adjectives can be briefly summarized as follows. First, the replicability of adjectives is mainly affected by the interactions between such factors as the gradability of adjectives, the perceptibility of the property, the commendatory versus derogatory distinction in meaning, the internal structure of compound adjectives, and the rhetorical style (i.e., parallelism). Thus, the more perceptible a gradable adjective's property is, the more amenable it is to reduplication, but an adjective less accessible to reduplication might become amenable to reduplication if it occurs in a structure either involving the rhetorical style of parallelism or containing a subject with some specific intention in purposely conditioning the progress of the relevant event. And the connotation 'conveyed' by reduplicated adjectives originates from the subject's expressive intentions, rather than from some specific reduplicated pattern.

Second, a predicative reduplicated adjective can activate the agentivity of a subject if the subject can self-control the degree change of the property denoted by the adjectival base, or purposely condition the progress of a relevant event by having the state denoted by the reduplicated adjective function as a manner adverb or a result complement. A reduplicated adjective able to activate the agentivity of the subject can occur as predicate of the imperative construction.

Third, the core semantics of reduplication adjectives is to denote a life-like or vivid state which is perceptible, rather than some specific degree; that is, the reduplication morphology functions to change a property into a life-like state which is perceptible. The non-core degree meaning conveyed by reduplicated adjectives

¹¹ In addition to this way, the activation of the subject's agentivity by a reduplicated adjective, as Zhu (2003) argues, can also be done by having the subject purposely condition the progress of a relevant event by having the state denoted by the reduplicated 'adjective' function as an adverbial manner modifier (cf. footnote (6)).

can be described as a degree that is just right or exactly as it should be, as Zhu (1956, p. 180) and Zhu (2003) suggest. Since they do not denote a specific degree, reduplicated adjectives cannot occur in a construction where a quantitative judgment with respect to the presence of a property is asked for.

Fourth, the reduplicated form of adjectives can be used as an attributive modifier, an adverbial modifier, a predicate, or a complement of clause, but not as a subject or an object.

Fifth, a reduplicated adjective cannot occur as the adjective component of an 'adjective-noun' modification phrasal structure.

These empirical facts immediately lead us to the following questions that any theories on the syntax and semantics of Chinese reduplicated adjectives have to address. First, why is it the case that an adjective accessible to reduplication is always gradable?

Second, if a reduplicated adjective functions to denote a life-like state which is perceptible, what kind of state is it?

Third, what makes the degree conveyed by reduplicated adjectives a degree that is just right, or exactly as it should be?

Fourth, what makes a reduplicated adjective unable to occur as the adjective component of an 'adjective-noun' modification phrasal structure? and

Fifth, if some reduplicated adjectives, as Zhu (2003) argues, can activate the agentivity of the subject, should we treat these reduplicated adjectives as adjectives or verbs?

3 Analysis

In a nutshell, my proposal consists of the following four assumptions. (A) The reduplicated adjective denotes a life-like state perceptible to the human senses. The gradability requirement on adjectives amenable to reduplication results from the perceptibility requirement on the state denoted by reduplicated adjectives, and the rhetorical style of parallelism can make the property denoted by an adjective more perceptible. (B) The degree conveyed by reduplicated adjectives is the by-product of the state realization of the property denoted by the adjectival base, and can be interpreted as the positive degree. (C) Depending on the means by which the property denoted by the adjectival base is realized as a state, reduplicated adjectives can be divided into two types: one category includes reduplicated adjectives in the XX and XXYY reduplicated pattern; the other includes those in the X-YY reduplicated pattern. (D) A reduplicated adjective can occur as predicate of an imperative construction by merging with a covert light verb of the agentive meaning if the degree change of the property denoted by the adjectival base can be self-controlled by the subject; that is, a reduplicated adjective cannot activate the agentivity independently.

3.1 Assumption A: a perceptible state

Although still conveying some kind of degree meaning, reduplicated adjectives cannot occur as predicate in a construction where a quantitative judgment with

respect to the presence of a property is asked for, no matter which type of comparison (i.e., the explicit or the implicit comparison) that construction involves, as illustrated by (44)–(46), respectively (cf. Kennedy 2007).

- (44) Zhangsan bi Lisi gao/geng gao/*gaogaode.
Zhangsan than Lisi tall/even-more tall/*tall-tall
'Zhangsan is /taller/even taller/*tall_{REDUPL} than Lisi.'
- (45) Gen Lisi bi-qilai, Zhangsan hen gao/geng gao/*gaogaode.
With Lisi compare-qilai Zhangsan HEN tall/even-more tall/tall-tall
'Compared with Lisi, Zhangsan is tall/even taller/*tall_{REDUPL}.'
- (46) Q: Zhangsan gao ma?
Zhangsan tall SFP
'Is Zhangsan tall?'
A: Zhangsan hen gao/*gaogaode.
Zhangsan HEN tall/*tall-tall
'Zhangsan is tall/*tall_{REDUPL}.'

Given this, the core semantics of reduplicated adjectives should not be the degree meaning. So, along with Wang (1943), Zhu (1956, 1982), Chao (1968), Lü et al. (1980), and Zhu (2003), I suggest that the reduplicated adjective denotes a life-like or vivid state. Since the property denoted by the adjectival base must be perceptible to human sense, the state denoted by reduplicated adjectives must also be perceptible to human sense.¹²

¹² At this point, example (i) might appear as a form of counter-evidence to my assumption that the core semantics of reduplicated adjectives is the state-denoting meaning, rather than the degree meaning.

- (i) Zhangsan-de lian shaowei/youdian honghongde.
Zhangsan-DE face slightly/a little bit red-red
'Zhangsan's face is slightly/a little bit red_{REDUPL}.'

Namely, a reduplicated adjective can be modified by the degree adverb *shaowei* 'slightly' and *youdian* 'a little bit.' Although *shaowei* 'slightly' and *youdian* 'a little bit' indeed can be used as degree adverbs, I want to argue they are not actually used as degree adverbs in (i). Semantically, the degree adverb *shaowei* 'slightly' expresses the explicit comparison, while *youdian* 'a little bit' the implicit comparison, as the contrast between (iia, b) and (iiaa, b) illustrates (cf. Kennedy 2007).

- (ii) a. Zhangsan bi Lisi shaowei gao *(yidian).
Zhangsan than Lisi slightly tall a-little-bit
'Zhangsan is a little bit taller than Lisi.'
b. Zhangsan shaowei gao *(yidian).
Zhangsan slightly tall a-little-bit
'Zhangsan is a little bit taller.'
- (iii) a. *Zhangsan bi Lisi youdian gao (yidian).
Zhangsan than Lisi a-little-bit tall a-little-bit
'Zhangsan is a little bit taller than Lisi.'
b. Zhangsan youdian gao *(yidian).
Zhangsan a-little-bit tall a-little-bit
'Zhangsan is a little bit tall.'

Here, relevant to the contrast above, is the grammaticality of example (iv), in which the adverb *shaowei* 'slightly' co-occurs with *youdian* 'a little bit'.

Since the degree of accuracy of human sense perception cannot be as precise as that of a scientific apparatus, it is very difficult for a person without help to ‘capture’ the property or state denoted by an adjective denoting an abstract concept, an adjective with an extreme degree, or a non-gradable adjective.¹³ For example, the reduplicated adjective *honghongde* ‘red-red’, as Zhu (2003) points out, cannot be used to ‘convey’ a degree of *redness* like that of the *red* with the wavelength of 0.77 micrometers, which can only be measured by an electromagnetic wave-measuring apparatus, because the state denoted by reduplicated adjectives must be easily perceived. So, it is preferable that the state denoted by a reduplicated adjective not be derived from an adjective denoting an abstract concept (e.g., *kunnan* ‘difficult’), a non-gradable adjective (e.g., the absolute adjective like *zhen* ‘true’), or an adjective with an extreme degree (e.g., *liaokuo* ‘expansive’), because the degree value of these adjectives can only be ‘measured’ through the help of some ‘precision-measuring equipment’, as illustrated by examples below.¹⁴

- (47) a. *kunnan* **kunkunnannan*
 difficult difficult_{REDUPL}
 b. *zhen* **zhenzhende*
 true true_{REDUPL}
 c. *liaokuo* **liaoliaokuokuode*
 expansive expansive_{REDUPL}

Footnote 12 continued

- (iv) *Zhangsan-de lian shaowei youdian honghongde.*
 Zhangsan-DE face slightly a-little-bit red-red
 ‘Zhangsan’s face is a little bit red_{REDUPL}.’

If both *shaowei* ‘slightly’ and *youdian* ‘a little bit’ can only be used as degree adverbs, we would expect (iv) to be ungrammatical because of the semantic conflict between *shaowei* ‘slightly’ and *youdian* ‘a little bit;’ however the fact does not bear out this expectation. So, the ‘degree-adverb’ usage should not be the only usage that *shaowei* ‘slightly’ and *youdian* ‘a little bit’ can have. As the contrast between (i) and (v) shows, the adverbs *shaowei* ‘slightly’ and *youdian* ‘a little bit’ function to convey the speaker’s moderate and mild attitude to the proposition.

- (v) *Zhangsan-de lian honghongde.*
 Zhangsan-DE face red-red
 ‘Zhangsan’s face is red_{REDUPL}.’

So, I suggest that *shaowei* ‘slightly’ and *youdian* ‘a little bit’ in (i) are adverbs conveying the speaker’s moderate/mild attitude to a proposition, rather than degree adverbs.

¹³ A non-gradable adjective in fact can be considered as a type of adjective with an ‘extreme’ degree.

¹⁴ This also explains the ungrammaticality of examples like (i), in which the predicative reduplicated adjective *gaogaode* ‘high-high’ is predicated on the subject *Zhangsan-de chengji* ‘Zhangsan’s grade’.

- (i) **Zhangsan-de chengji gaogaode.*
 Zhangsan-DE grade high-high

A paper can only be graded on the basis of how well it matches an answer key (which can be considered a type of ‘precision-measuring tool’), not on the simple basis of a human sense like that of sight, or hearing. So, without the help of the answer key, we cannot know what the exact grade is. Given this, one cannot say example (i) is a counter-example to my analysis simply because we can see the grade (for example 95 out of 100) on the paper.

So, as Tang (1988) suggests, it is preferable that adjectives amenable to reduplication be gradable and have a perceptible property.

One piece of strong evidence in support of the assumption that reduplicated adjectives denote a life-like or vivid state perceptible to human sense comes from the fact that a reduplicated adjective, as Paul (2010, p. 145) suggests, cannot occur as the adjective component of adjective-noun modification phrasal structures in Chinese. This is illustrated by the contrast in grammaticality between (48a) and (48b).

- (48) a. [NP [AP congming] [NP ren]]
 smart person
 ‘smart persons’
 b. *[NP [AP congcongmingming] [NP ren]]
 smart-smart person

As Paul (2010, 134) points out, in Chinese an adjective-noun modification phrasal structure like (48a) must result in a natural, and (culturally) plausible classification in the sense of Bolinger (1967). In other words, the adjectival modifier in the *de*-less modification structure serves to single out the relevant subset of objects denoted by the NP (i.e., the modifier is presented as a defining property of the resulting new subcategory). A reduplicated adjective denoting a perceptible life-like state, therefore, cannot be used as a defining property for making a new classification. This assumption is further supported by example (49), provided by one anonymous reviewer, where the reduplicated adjective is not used as a defining property to single out a subset of objects denoted by the NP *fangzi* ‘house’.

- (49) [[AP xiaoxiao] [[NP mutou] [NP fangzi]]]
 small-small wood house
 ‘a small_{REDUPL} wooden house’

3.2 Assumption B: the positive degree

In order for a quality denoted by an adjective to be realized as a state, the degree value of the adjective must be ‘high’ enough. Significantly here, the interpretation of (50) seems to indicate that the meaning of the reduplicated adjective *pangpangde* ‘fat-fat’ can be interpreted as the state denoted by the property of *pang* ‘fat’ plus the positive degree.

- (50) Wo shuo Zhangsan pangpangde, zhishao biaooshi wo
 I say Zhangsan fat-fat at-least imply I
 renwei Zhangsan pang.
 think Zhangsan fat
 ‘The fact that I said that Zhangsan is fat_{REDUPL} implies that I think Zhangsan is fat.’

In other words, the adjective *pang* ‘fat’ denotes a property with a degree argument that needs to be saturated, while the reduplicated adjective *pangpangde* ‘fat-fat’ denotes a state realized by the property of *pang* ‘fat’ by having its degree argument saturated by the positive degree morpheme.

More importantly, as the semantic interpretation of (51a, b)–(52a, b) shows, the peripheral ‘degree’ meaning conveyed by reduplicated adjectives can only vary within certain limits.

- (51) a. *yuanyuande dipingxian*
 far-far sky-line
 ‘the far_{REDUPL} sky line’
 b. *xixide toufa*
 thin-thin hair
 ‘thin_{REDUPL} hairs’
- (52) a. **Ming Yao zhang-de gaogaode, ni mo bu dao ta-de tou.*
 Ming Yao grow-DE tall-tall you touch not arrive he-DE head
 ‘*Ming Yao is tall_{REDUPL}; you are not able to touch his head.’
 b. **Gaogaode Ming Yao, ni mo bu dao ta-de tou.*
 Tall-tall Ming Yao you touch not arrive he-DE head
 ‘You are not able to touch the head of Ming Yao, who is tall_{REDUPL}.’

On the one hand, no matter how far the distance ‘conveyed’ by the reduplicated adjective *yuanyuande* ‘far-far’ in (51a) is, the distance must be perceivable by human sight. And, the same also holds true in (51b), where the thinness of the hair must be perceptible for the relevant human sense. On the other hand, in (52a, b) the height ‘conveyed’ by the reduplicated adjective *gaogaode* ‘tall-tall’ cannot be that of Ming Yao, who is so extraordinarily tall that normal people are not tall enough to touch his head.¹⁵

What examples (51a, b)–(52a, b) imply here is as follows: on the one hand, the difference between the degrees conveyed by a reduplicated adjective and the context-dependent standard, as shown by (51a, b), cannot be crisp and has to be significantly greater than some contextually-determined norm and, in addition, induce a contextually given threshold, for example specifying the degree of thinness required of the hair in (51b). On the other hand, the difference between the degrees conveyed by a reduplicated adjective and the context-dependent standard, as (52a, b) indicate, cannot be too large. The restriction on the degree variation shown by the degree conveyed by reduplicated adjectives (i.e., the difference between the degree conveyed by the reduplicated adjective and the context-dependent standard

¹⁵ As one anonymous reviewer reminds me, the assumption that (52b) is unacceptable due to some property related to the ‘human sensation’ might be challenged by example (i), which, though being marginal to me and ten of my thirteen informants, is acceptable to her/him.

- (i) *Bai-nian lao shu dou shi gaogaode, ni pa bu shang qu.*
 Hundred-year old tree all is tall-tall you climb not up go
 ‘Hundred-year old trees are all tall_{REDUPL}. So, you cannot climb (them).’

For those who accept it as grammatical, example (i) might be considered as a part of a conversation about hundred-year old trees. So, in (i) the comparison class for the adjectival base *gao* ‘tall’, from which its reduplicated form is derived, only includes trees that are hundred-year old and always taller than trees in general (cf. Kennedy and McNally 2005). Therefore, the context-dependent standard height for trees in (i) which the positive degree involved refers to, is higher than that for trees in general. Given this, example (i) indeed provides supporting evidence for, rather than a challenge to, my analysis.

can neither be too ‘small’ nor too ‘large’) leads us to suggest that the degree conveyed by reduplicated adjectives can be interpreted as the positive degree.

This characteristic leads us to analyze the state denoted by reduplicated adjectives as the default state (i.e., the state realized by the property denoted by the adjectival base plus the positive degree). And, the degree conveyed by reduplicated adjectives is the by-product of the state realization of the relevant property. So, the reduplication morphology is expected not to be analyzed as the positive degree morpheme, which denotes the implicit comparison. The fact that a reduplicated adjective, as the contrast between (53a, b) shows, cannot occur as predicate in the *bi-qilai* ‘compared-qilai’ comparative, where the main predicate can be one denoting either explicit or implicit comparison, bears out this expectation.

- (53) a. Gen Zhangsan bi-qilai, Lisi geng/hen gao.
 With Zhangsan compare-qilai Lisi even-more/HEN tall
 ‘Compared with Zhangsan, Lisi is even taller/is tall.’
- b. *Gen Zhangsan bi-qilai, Lisi gaogaode.
 With Zhangsan compare-qilai Lisi tall-tall
 ‘*Compared with Zhangsan, Lisi is tall_{REDUPL.}’

One welcome consequence of the assumption that the core semantics of reduplicated adjectives is to denote a perceptible life-like state, is that we can well explain why a reduplicated adjective cannot be directly negated by the negation marker *bu* ‘not.’

- (54) *Toufa bu baibaide.
 Hair not white-white
 ‘The hair is not white_{REDUPL.}’

Pertinent to the perceptible state-denoting meaning of reduplicated adjectives and the ungrammaticality of (54), here is the contrast between (55a, b).

- (55) a. Wo yiwei ni bu hui qu.
 I think you not will go
 ‘I think you will not go (there).’
- b. *Wo bu yiwei ni hui qu.
 I not think you will go

Significantly here, the ungrammaticality of (55b) results from the lexical meaning of the speech act verb *yiwei* ‘think,’ which implies that the ‘thinking’ speech act has already existed (or been realized) once if this verb is used. So, the speech act verb *yiwei* ‘think’ cannot be negated; otherwise, the existence of the ‘thinking’ speech act will be negated. By the same reasoning, the core semantics of reduplicated adjectives is to denote a perceptible life-like state; therefore, the use of reduplicated adjectives implies the existence of the relevant perceptible state. Thus, the ungrammaticality of (54) is to be expected, because the existence of the relevant state will be negated if we use the negation marker *bu* ‘not’ to negate the reduplicated adjective *baibaide* ‘white-white’.

3.3 Assumption C: state realization

Depending on the means by which the property denoted by the adjectival base is realized as a state, reduplicated adjectives can be divided into two types. The first type, including reduplicated adjectives in the XX and XXYY reduplicated pattern, denotes a state directly realized by the property denoted by the adjectival base plus the positive degree, and the standard of comparison is directly determined by the context. For example, the reduplicated adjective *aiaide* ‘short-short’ in (56a) denotes a state realized by the expression of *pos-ai* ‘pos-short’ (here, the term *pos* represents the covert positive degree morpheme).

- (56) a. *aiaide*
 short-short
 ‘short_{REDUPL}’
 b. *ganganjingjingde*
 clean-clean
 ‘clean_{REDUPL}’

The standard of comparison on which the positive degree of the expression *pos-ai* ‘pos-short’ is interpreted is directly determined by the context. The degree conveyed by the reduplicated adjective, therefore, is always interpreted as a degree that is just right, or exactly as it should be. Similarly, the state denoted by the reduplicated adjective *ganganjingjingde* ‘clean-clean’ in (56b) is the one realized by the expression *pos-ganjing* ‘pos-clean.’

The second type of reduplicated adjectives, having as members those with the X-YY reduplicated pattern, denotes a state in which the state denoted by the adjectival base X plus the positive degree occurs as a parasite on the state provided by the -YY suffix. The value of the positive degree is interpreted according to the ‘context’ associated with the -YY suffix. For instance, in (57a) the -YY suffix *-youyou* ‘oil-oil’ of the X-YY reduplicated adjective *lu-youyou* ‘green.oil-oil’ not only provides a shiny-oil-like state on which the state denoted by the expression *pos-lu* ‘pos-green’ occurs as the parasite, but also affects the interpretation of the positive morpheme in the expression *pos-lu* ‘pos-green’ by making the degree of the property of *green* high enough to let people feel the property of *green* is highly saturated.

- (57) a. *lu-youyou* (sight)
 green.oil-oil
 ‘oil-green_{REDUPL}’
 b. *tian-jinjin* (taste)
 sweet.saliva-saliva
 ‘saliva-sweet_{REDUPL}’
 c. *ruan-mianmian* (touch)
 soft.cotton-cotton
 ‘cotton-soft_{REDUPL}’
 d. *xiang-penpen* (smell)
 fragrant.assail.the.nostrils-assail.the.nostrils
 ‘nostril-assail-fragrant_{REDUPL}’

- e. nao-honghong (hearing)
noisy.hubbub-hubbub
'hubbub-noisy_{REDUPL}'

In (57b), the -YY suffix *-jinjin* 'saliva-saliva' of the reduplicated adjective *tianjinjin* 'sweet.saliva-saliva', providing a saliva-dripping state on which the state denoted by the expression *pos-tian* 'pos-sweet' occurs as the parasite, affects the interpretation of the positive morpheme involved by making the property of *sweet* with a degree high enough to make the tongue keep salivating. In (57c), the -YY suffix *-mianmian* 'cotton-cotton' not only provides a cotton-like state on which the state denoted by the expression *pos-ruan* 'pos-soft' occurs as the parasite, but also interprets the positive morpheme associated with the adjectival base *ruan* 'soft' by making the property of *soft* carry a degree that the 'property' of cotton always carries. In (57d), the -YY suffix *-penpen* 'assail.the.nostrils-assail.the.nostrils' provides a nostril-assailing-like state on which the state denoted by the expression *pos-xiang* 'pos-fragrant' occurs as the parasite. In (57e), the -YY suffix *-honghong* 'hubbub-hubbub' not only provides a hubbub-like state on which the state denoted by the expression *pos-nao* 'pos-noisy' occurs as the parasite but also affects the interpretation of the positive morpheme involved by making it high enough to make one have the sense of staying in a state of uproar.¹⁶

3.4 Assumption D: adjectives and agentivity

Although all reduplicated adjectives denote a default state, only some reduplicated adjectives, as Zhu (2003) points out, can activate the agentivity of the subject. This is shown by the contrast between (58) and (59).

- (58) Zhangsan gaogaode.
Zhangsan tall-tall
'Zhangsan is tall_{REDUPL}.'
- (59) Ni guaiguaide.
You well.behaved-well.behaved
'Be well-behaved_{REDUPL}.'

The agentivity activation function shown by the reduplicated adjective *guaiguaide* 'well.behaved-well.behaved' in (59), as Zhu (2003) argues, results from the subject's capability of self-controlling the degree change of the property denoted by the adjectival base *guai* 'well.behaved'.

However, this proposal leads us to the question of whether the reduplicated 'adjective' *guaiguaide* 'well.behaved-well.behaved' in (59) should be analyzed as an adjective or as a verb. As Zhu (2003, p. 16) himself notices, the strength of agentivity activated by the reduplicated adjective is weakened in accordance with

¹⁶ Unlike examples in (57), the state provided by the -YY suffix of some X-YY reduplicated adjectives is very difficult to derive from its lexical meaning. For instance, the -YY suffix *-liuliu* 'slide-slide' of *suanliuliu* 'sour-slide.slide' provides an 'exaggerated' state on which the state denoted by the adjective *suan* 'sour' plus the positive degree occurs as parasite. That is, speakers are driven by convention to use the -YY suffix *-liuliu* 'slide-slide' to denote an 'exaggerated' state.

the hierarchy of the subject: the second person > the first person > the third person, as shown by (60a–c), respectively.

- (60) a. Ni jingjingde.
 You quiet-quiet
 ‘Have yourself be quiet_{REDUPL.}.’
 b. ?Wo jingjingde.
 I quiet-quiet
 ‘Have myself be quiet_{REDUPL.}.’
 c. *Ta jingjingde.
 S/He quiet-quiet
 ‘Have herself/himself be quiet_{REDUPL.}.’

This hierarchy implies that the reduplicated adjective cannot activate the agentivity of the subject independently. Given this, I suggest that the reduplicated ‘adjective’ is an adjective rather than a verb, and I further revise Zhu’s (2003) analysis as follows: a reduplicated adjective can occur with a covert light verb of the agentive meaning in an imperative construction if the degree change of the property denoted by the adjectival base can be self-controlled by the subject.¹⁷

The proposed revised analysis implies that the reduplicated adjective *guaiguaide* ‘well.behaved-well.behaved’ in (59) conveys a dynamic sense after merging with the covert light verb; this implication gets supporting evidence from the fact that, after merging with the covert light verb of the agentive meaning, the predicative reduplicated adjective *guaiguaide* ‘well.behaved-well.behaved’ can be negated by the negation marker *mei* ‘not’, but not by the negation marker *bu* ‘not’, as the contrast below illustrates.

- (61) a. Ni mei guaiguaide.
 You not well.behaved-well.behaved
 ‘You are not well-behaved_{REDUPL.}.’
 b. *Ni bu guaiguaide.
 You not well.behaved-well.behaved

According to my analysis, what is directly negated in (61a, b) is the covert light verb of the dynamic agentive meaning, rather than the reduplicated adjective. As Lin (2003) suggests, the distribution of the Chinese negation markers *bu* ‘not’ and *mei* ‘not’ is aspectually sensitive; namely, the negation marker *bu* ‘not’ aspectually selects as complement a stative situation, while the negation marker *mei* ‘not’

¹⁷ One anonymous reviewer wonders whether there is a set of criteria according to which one can determine if something is an adjective or a verb. The criteria might include the following (cf. Zhu 1956/1980; Liu 2012):

- (i) An ‘adjective’ is considered as a verb if it takes an aspect marker.
- (ii) An ‘adjective’ is analyzed as a verb if it takes a postverbal object.
- (iii) An ‘adjective’ is treated as a verb if it occurs in a construction containing a light verb into which the ‘adjective’ is incorporated.

aspectually selects a dynamic and bounded event as complement.^{18,19} So, example (61a), as expected, is grammatical.

4 Concluding remarks

This study only concentrates on the XX, XXYY and X-YY type of reduplicated adjectives in Chinese. Consequently, there still remains much work to be done to fill the ‘gap’ left by the other types of reduplicated adjectives. In spite of this, four major conclusions have been reached. First, although agreeing with previous studies such as Wang (1943), Zhu (1956/1980), Lü et al. (1980), and Zhu (2003) that reduplicated adjectives denote a perceptible life-like state, I further argue that the gradability requirement on adjectives amenable to reduplication results from the perceptibility requirement on the state denoted by reduplicated adjectives. Like Tang (1988), I suggest that not all adjectives can be reduplicated under all contexts; however, I point out that the rhetorical style of parallelism can make the property denoted by adjectives more perceptible. So, adjectives less amenable to reduplication might become accessible to reduplication when occurring in structures involving the rhetorical style of parallelism. Second, I provide a more advanced understanding of the semantics of reduplicated adjectives by suggesting that the peripheral ‘degree’ meaning conveyed by reduplicated adjectives is the by-product of state realization of the property denoted by the adjectival base and can be interpreted as the positive degree. Furthermore, for the first time I provide a clear contrast to show how expressions like *hen gao* ‘very tall’ differ from *gaogao* ‘tall-tall’ in semantics and syntax. I also cover the problem provoked by the grammaticality of expressions like *shaowei honghongde* ‘slightly red-red.’ Third, for the first time I divide the XX, XXYY and X-YY types of reduplicated adjectives into two types, depending on the means by which the property denoted by the adjectival base is realized as a state. Fourth, although I agree with Zhu (2003) that a reduplicated adjective can occur as predicate of imperatives only if the degree change of the property denoted by its adjectival base can be self-controlled by the subject, I differ from Zhu (2003) in arguing that the agentivity meaning of the imperative here comes from the covert light verb with which the reduplicated adjective is merged, rather than from the reduplicated adjective itself.

Acknowledgments In order to put together the jigsaw puzzles of Chinese adjectives, I have no choice but to work on Chinese reduplicated adjectives, which is like fighting with intangible ‘enemies’ in a mist-

¹⁸ As one anonymous reviewer reminds me, reduplicated adjectives are adjectives, not verbs. If they were verbs, the verbal reduplication pattern should be possible, which is not borne out.

- (i) Ni kaikaixininde.
You happy-happy
‘Be happy_{REDUPL.}’
- (ii) *Ni kaixinkaixin.
You happy-happy
‘Be happy_{REDUPL.} a little bit.’

¹⁹ Ernst (1995) also utilizes aspectual requirement to account for the distribution of *bu* ‘not,’ but differs from Lin’s (2003) proposal in many aspects.

filled jungle. This ‘fight,’ as expected, has come to a standstill several times, as manifested by the various versions and portions of this study presented in my 2010 fall Seminar in Syntax at National Chiao Tung University (Taiwan), the colloquium at National Chung Cheng University in 2010, and the Nineteenth Annual Conference of the International Association of Chinese Linguistics held by Nankai University (China) in 2011. I would like to thank the audiences there, especially James Huang, Ya-Fei Li, James Myers, Waltraud Paul, James Tai, Lei Wang, and Jiun-Shiung Wu. I am also indebted to Yi-Hsun Chen, Pei-Yi Hsiao, Hui-Yu Huang, Chin-Man Kuo, Hui-Chin Tsai, Ting-Chi Wei, and Ching-Yu Yang for their substantive feedback, and to the anonymous reviewers for their constructive comments. Without their inspiring suggestions, especially those of the anonymous reviewers, I could not hope to get out of the jungle at this stage, though I am not by any means sure I will not have to return to it again. Besides these, I gratefully acknowledge the research grant NSC100-2410-H-009-045 from the National Science Council, Taiwan. Finally, any errors or inconsistencies that have persisted, of course, are my responsibility.

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