

Adjectives in Mandarin Chinese

The rehabilitation of a much ostracized category*

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The present paper examines the syntax and semantics of adjectives in Mandarin Chinese and argues that adjectives have to be recognized as a separate part of speech in Mandarin. I show that adnominal adjectives introduced by *de* should not be analysed as reduced relative clauses or small clauses, since adjectives that cannot be used predicatively can be used adnominally in conjunction with *de*. For adjectives in direct juxtaposition with the noun, evidence from N-subdeletion and multiple adjective ordering shows that the [A N] sequence has to be analysed as a noun phrase, not as a compound. Accordingly, both types of modification structures, 'A *de* N' and 'A N' need to be taken into account by typological studies. Finally I provide evidence for the existence of two morphologically different classes of adjectives with distinct semantic and syntactic properties, i.e. 'simple' adjectives and 'derived' adjectives.

1. Introduction

During the last decades adjectives in Mandarin Chinese have been rather neglected by more theoretically oriented studies. This is partly due to the (erroneous) assumption that they are conflated with intransitive stative verbs (cf. e.g. McCawley 1992). Interest in the status of adjectives in Mandarin has been revived, however, by the growing number of typological studies of adjectival modification in the recent past. More precisely, adjectival modification has regained theoretical importance due to the claim made by Cinque (1994) and elaborated by e.g. Scott (2002a,b), Chao et al. (2001),

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Laenzlinger (2000) that the functional hierarchies in the clause proposed for adverbs (Cinque 1999 & Tenny 2000) might be observable in the DP as well. Before these and related claims can be examined for Chinese, however, it is necessary to first address the following basic issues.

1. Do adjectives constitute a part of speech distinct from intransitive stative verbs in Chinese?
2. If this is the case, do we observe different semantic types such as scalar vs. absolute adjectives, intersective vs. non-intersective adjectives? Do these semantic differences correlate with syntactic differences (as known from other languages)?
3. Does Chinese display different modification structures, as e.g. Romance and Germanic languages, which place adjectives in prenominal or postnominal position? What – if any – are the semantic properties associated with the different modification structures?

To answer these and related questions is precisely the purpose of this paper. We will provide extensive evidence for adjectives as a separate part of speech in Mandarin. In fact, we will go a step further and demonstrate that Chinese has as many as *two* morphologically different classes of adjectives with distinct semantic and syntactic properties: *simple adjectives* and *derived adjectives* (including e.g. reduplicated adjectives). Furthermore, we argue that typological studies have to take into account both types of modification structures available in Mandarin Chinese: that where the subordinator *de* intervenes between the adjective and the head noun, ‘A *de* N’, and the case of simple juxtaposition of the adjective and the noun ‘A N’. To acknowledge adjectives as a distinct part of speech not only allows us to correct the typological picture we have of so-called “isolating” languages, but also challenges current proposals where all adnominal modifiers subordinated by *de* are either analyzed as relative clauses (Sproat & Shih 1988, 1991; Duanmu 1998; Simpson 2001) or as small clauses (Den Dikken & Singhapreecha 2004).

Since most of the data are inaccessible to the non-sinologist, we will give numerous examples and provide the reader with a detailed picture of the situation in Chinese and the possibility to judge for her/himself. At the same time, taking into account a more representative array of data than has been done in previous works is often sufficient to invalidate some of the current misconceptions concerning the syntax and semantics of adjectives in Chinese.

The paper is organized as follows. Section 2 provides ample evidence for adjectives as a part of speech distinct from intransitive stative verbs. In Section 3, the existence of two modification patterns is established: one where the subordinator *de* intervenes between the adjective and the head noun, ‘A *de* N’, and the case of simple juxtaposition of the adjective and the noun ‘A N’. Section 4 once again takes up the issue of adjectives as a separate part of speech and argues that in fact two morpho-syntactically different classes of adjectives have to be postulated for Chinese. Section 5 concludes the article.

2. Adjectives as a separate part of speech

Many studies (McCawley 1992; Larson 1991; Tang Sze-Wing 1998; Lin 2004 *inter alia*) hold that adjectives are to be conflated with intransitive stative verbs in Chinese and accordingly analyse ‘adjective *de* N’ as involving a relative clause modifying the head noun. This widespread assumption is, however, clearly invalidated when a more representative array of data is taken into account:

- non-predicative adjectives such as *yuánlái* ‘original’, *gòngtóng* ‘common’ cannot be analysed as relative clauses when subordinated to the head noun by *de*
- adjectives are reduplicated according to a pattern different from that for verbs
- under certain conditions, an adjective can modify a noun without the subordinator *de*; by contrast, for relative clauses *de* is obligatory.

2.1 Non-predicative adjectives vs. predicative adjectives

The idea of conflating adjectives with stative verbs relies on the fact that adjectives such as *cōngmíng* ‘intelligent’ function as a predicate without the copula *shì* ‘be’:

- (1) Zhāngsān zhēn cōngmíng¹
 Zhangsan really intelligent
 ‘Zhangsan is really intelligent.’

When functioning as an adnominal modifier, the adjective is subordinated to the head noun by *de*:

- (2) yī-ge cōngmíng de rén
 1 -CL intelligent SUB person
 ‘an intelligent person’

Since the same subordinator *de* also appears between a relative clause and the head noun (cf. (3)), it has been suggested that a prenominal adjective followed by *de* should be analyzed as a relative clause (see among others Sproat & Shih 1988, 1991; Duanmu 1998; Simpson 2001):

- (3) [_{DP} yī-ge [_{IP} t_i xǐhuān xiào] de rén
 1-CL like laugh SUB person
 ‘a person who likes laughing’

1. The following abbreviations are used in glossing examples

CL	classifier	PL	plural (e.g. 3PL = 3rd person plural)
PERF	perfective aspect	SG	singular
NEG	negation	SUB	subordinator.
PART	sentence-final particle		

According to this scenario, *yī-ge cōngmíng de rén* in (2) would represent a head noun modified by a relative clause and hence should be translated as ‘a person who is intelligent’ rather than as ‘an intelligent person.’ This is precisely the view adopted by Sproat & Shih (1988, 1991), Duanmu (1998), and Simpson (2001) for whom all sequences ‘adjective *de*’ are equated with relative clauses. Their analysis, however, does not bear further scrutiny.

Chinese has a large class of so-called *non-predicative* adjectives which cannot function as predicates on their own, but only as modifiers (cf. Lü & Rao 1981). When in a predicative function (cf. (4a), (5a)), the copula *shi* and the particle *de* are obligatory (Paris 1979: 61). Crucially, *shi...de* is excluded from the modification structure in the DP (cf. (4b), (5b)):²

- (4) a. Zhèi-ge pánzi *(shì) fāng *(de)
 this -CL plate be square DE
 ‘This plate is square.’
- b. Tā mǎi-le [DP yī-ge (*shì) fāng de_{sub} pánzi]
 3SG buy-PERF 1 -CL be square SUB plate
 ‘He bought a square plate.’
- (5) a. Zhèixiē wénjiàn *(shì) juémì *(de)
 these document be top-secret DE
 ‘These documents are top-secret.’
- b. Tā diū-le [DP yīxiē (*shì) juémì de_{sub} wénjiàn]
 3SG lose-PERF some be top-secret SUB document
 ‘He lost some top-secret documents.’

As can be seen from the data provided here, the class of non-predicative adjectives in Chinese includes both intersective adjectives ((4), (5)) as well as non-intersective adjectives ((6)–(7)); the latter – like their counterparts in Western languages – are completely excluded from the predicative function, irrespective of *shi...de* ((6a), (7a)).

- (6) a. *Zhèi-ge yǔyán shì gòngtóng de
 this -CL language be common DE
 (*‘This language is common.’)
- b. gòngtóng de_{sub} yǔyán
 common SUB language
 ‘a common language’

2. Note that *de* in the *shi...de* construction with non-predicate adjectives is different from the subordinator *de* in the DP (cf. Paris 1979: 60ff). They are therefore glossed differently as DE and SUB, respectively. Furthermore, the subordinator *de* is indexed with SUB in order to facilitate parsing of the examples.

- (7) a. *Zhèi-ge yìsi shì yuánlái de
 this-CL meaning be original DE
 (*‘This meaning is original.’)
- b. yuánlái de_{sub} yìsi
 original SUB meaning
 ‘the original meaning’

Furthermore, predicative adjectives coincide with scalar, gradable adjectives, whereas non-predicative intersective adjectives coincide with absolute adjectives (cf. Paris 1979 for an extensive discussion). (For additional data, cf. Section 2.3 below.)

Given that non-predicative adjectives are unable to function as predicates, they clearly challenge an overall analysis of attributive adjectives as relative clauses, as proposed by Sproat & Shih (1988, 1991), Duanmu (1998), Simpson (2001) (the latter implementing Kayne 1994), Liu Danqing (2005), as well as analyses deriving every modifier from an underlying predicate (Den Dikken & Singhapreecha 2004).³ In any case, as discussed in detail in Paul (2005, 2007), the wide range of non-predicative modifiers (DPs, NPs, PPs, adverbs) subordinated to the head noun by *de* presents a general problem for the derivation of all modifiers from underlying predicates. (Also cf. Tang C.-C. 2007 for a critique of Simpson’s 2001 uniform analysis of modifiers as relative clauses.)

- (8) [_{DP} Měil / tāmen] de_{sub} pengyou
 Mary/ 3PL SUB friend
 ‘Mary’s/their friend’
- (9) [_{NP} bōli] de_{sub} zhuōzi
 glass SUB table
 ‘a glass table’
- (10) [_{PP} duì wèntí] de_{sub} kànfa (Lü et al. 1980/2000: 157)
 towards problem SUB opinion
 ‘an opinion about the problem’
- (11) [_{adv} lǐlái] de_{sub} xíguàn / [_{adv} wànyī] de_{sub} jīhuì (Lü et al. 1980/2000: 157)
 always SUB habit in.case SUB occasion
 ‘an old habit/a rare occasion’

3. Based on the class of *non-intersective* non-predicative adjectives (‘original’, ‘former’ etc., (cf. (6), (7)), Aoun & Li (2003: 148) likewise conclude that not all prenominal adjectives can be derived from relative clauses. However, they do not discuss *intersective* non-predicative adjectives (cf. (4), (5)) and accordingly fail to see the correlation between presence vs. absence of *shi...de* and predicative vs. attributive function.

2.2 Verbal vs. adjectival reduplication

While both transitive and intransitive verbs are repeated as a whole (cf. (12a–b)), each syllable is iterated with adjectives (cf. (13)) i.e. for a disyllabic verb noted as ‘AB’, we obtain ‘ $[_{V^0} AB]$ $[_{V^0} AB]$ ’, but ‘ $[_{A^0} AABB]$ ’ for a disyllabic adjective:

- (12) a. Ràng ta zhīdao zhīdao/*zhīzhīdaodao wǒ -de lìhài
 let 3SG know know 1SG-SUB (dis)advantages
 ‘Let him know my advantages and disadvantages.’ (Meng et al. 1984: 918)
- b. Nǐ chàng ge gē ràng dàjiā huānxǐ huānxǐ/*huānhuānxǐxǐ
 2SG sing CL song let everybody enjoy enjoy
 ‘Sing a song for everybody to enjoy.’
- (13) a. gānjìng / gāngānjìngjìng /*gānjìng gānjìng de_{sub} yīfu
 clean / clean / clean clean SUB clothes
 ‘(thoroughly) clean clothes’
- b. Zhèi-jiàn yīfu gāngānjìngjìngde /*gānjìng gānjìng
 this-CL clothes clean / clean clean
 This piece of clothing is (thoroughly) clean.

In the case of monosyllabic adjectives and verbs, no difference can be discerned on the segmental level between adjectival reduplication and repetition of the verb. On the suprasegmental level, however, these two phenomena can clearly be distinguished: while the second syllable in adjectival reduplication carries the first tone, irrespective of its original tone (cf. (14a–b)), the repeated verb (cf. (15a–b)) is in the neutral tone (signaled by the absence of a tone mark) (cf. Dragunov 1952/1960: 175):

- (14) a. xiǎo ‘small’ > $[_{A^0} xiǎoxiǎo]$
 b. kuài ‘fast’ > $[_{A^0} kuàikuài]$
- (15) a. kàn ‘look’ > $[_{V^0} kàn]$ $[_{V^0} kàn]$
 b. zǒu ‘walk’ > $[_{V^0} zǒu]$ $[_{V^0} zǒu]$

The formal difference between adjectival reduplication pattern and repetition of the verb is accompanied by an interpretational difference, indicating that two completely different processes are involved here. Whereas the repetition of the verb ‘ $[_{V^0} AB]$ $[_{V^0} AB]$ ’ gives rise to the so-called “tentative aspect” (Chao 1968: 204), reduplication of adjectives ‘ $[_{A^0} AABB]$ ’ is said to involve a higher degree of liveliness or intensity (Chao 1968: 209; Tang Ting-chi 1988; Zhu Dexi 1956). This shows clearly that adjectives and intransitive stative verbs (such as *huānxǐ* ‘enjoy’) cannot be conflated into a single class. (For further discussion of adjectival reduplication, cf. Section 4 below).⁴

4. Given that Francis and Matthews (2005) do not take into account the dichotomy scalar vs. absolute adjectives nor the dichotomy intersective vs. non-intersective adjectives, the conflation

2.3 De-less modification

Besides the modification structure with the subordinator *de*, ‘A *de* N’, there also exists the possibility of simply juxtaposing the adjective and the noun: ‘A N’, where ‘A N’ is a noun *phrase*, not a compound (as to be demonstrated in Section 3.3 below). The syntactic and semantic constraints on this *de*-less modification structure and the differences between the modification structure with and without *de* have been a longstanding issue in Chinese linguistics, as witnessed by the lively debate among Chinese linguists in the 1950s and 1960s (see Paris 1980 for a collection containing the translations of the most influential articles from that period).

The existence of the *de*-less modification structure is important because – in addition to the arguments provided above – it once again emphasizes the fact that not all adnominal modifiers can be analysed as relative clauses, the latter always requiring *de*. Furthermore, the acceptability of the *de*-less modification pattern again allows us to distinguish between (predicative) adjectives and stative verbs, because only the former, but not the latter, can modify a head noun without *de*. Last, but not least, the (im)possibility of *de*-less modification serves as one of the diagnostics to distinguish between the two different classes of adjectives to be postulated for Chinese (cf. Section 4 below).

A rich array of data is given below in order to illustrate the properties of the *de*-less modification structure and to correct some misconceptions prevalent in the literature.

First, the *de*-less modification structure is acceptable for mono- and disyllabic adjectives alike as well as for complex modifiers (cf. (19–20)); this invalidates Sproat & Shih’s claim (1988: 466, 474; 1991: 566) that the *de*-less modification structure is acceptable only for monosyllabic “light” adjectives.⁵

- (16) yī-jiàn zāng/ piàoliang/ gānjìng yīfu
 1 -CL dirty/ pretty / clean dress
 ‘a dirty/pretty/clean dress’

- (17) yī-ge qíguài xiànxàng
 1 -CL strange phenomenon
 ‘a strange phenomenon’

they propose of adjectives with verbs in Cantonese must be considered with caution, because it might turn out to be incorrect. Cf. Lau (1999) for evidence in favour of adjectives as a part of speech distinct from verbs in Cantonese.

5. Apparently, this idea has been around for a long time, because it is explicitly corrected by e.g. Fan Jiyuan (1958: 213) and Zhu Dexi (1956/80: 3). Fan Jiyuan (1958: 213) even goes as far as providing a list giving the possible combinations of monosyllabic or polysyllabic head nouns with monosyllabic or polysyllabic adjectives in the *de*-less modification structure.

- (18) pǔtōng shēnghuó
ordinary life
'an ordinary life'
- (19) yī-bǎ [yìng sùliào] yǐzi⁶ (Fu Jingqi 1987: 286, (55))
1 -CL hard plastic chair
'a chair of hard plastic'
- (20) yī-ge [hēi qī] yīguì (Fan Jiyan 1958: 215)
1 -CL black lacquer wardrobe
'a black-lacquered wardrobe'

Second, predicative adjectives as well as non-predicative adjectives can appear in both types of modification structures, the one with and the one without the subordinator *de*. If the relative clause analysis of adnominal modifiers were correct, we would expect a completely different scenario: predicative adjectives would be predicted to exclusively occur in the modification structure with *de* (*de* being obligatory for relative clauses), whereas non-predicative adjectives would be predicted to be limited to the *de*-less modification structure and to be excluded from the modification structure with *de* (the latter being likened to a relative clause).

Non-predicative (absolute) adjectives with and without *de*:

- (21) yī-ge fāng (de) pánzi (cf. (4) above)
1 -CL square SUB plate
'a square plate'
- (22) tiānrán (de) zhēnzhū
natural SUB pearl
'natural pearls'
- (23) juémì (de) wénjiàn (cf. (5) above)
top-secret SUB document
'top-secret documents'

Predicative adjectives with and without *de*:

- (24) yī-ge pàng / lǎoshí / cōngmíng / (de) rén
1 -CL fat / honest / intelligent / SUB person
'an honest/intelligent/fat person'
- (25) yángé (de) guǎdìng
strict SUB rule
'strict rules'

6. The complex modifier in (13) and (14) is itself a *de*-less modification structure 'A N', viz. *yìng sùliào* 'hard plastic' and *hēi qī* 'black lacquer', respectively.

- (26) yī-jiàn zāng/ piàoliang/ gānjìng (de) yīfu
 1 -CL dirty/ pretty / clean SUB dress
 ‘a dirty/pretty/clean dress’
- (27) yī-tiào dà / hēi (de) gǒu
 1 -CL big/ black SUB dog
 ‘a big/black dog’

Third, acceptability in the *de*-less modification structure is another criterion – besides the separate reduplication patterns for adjectives vs. verbs (cf. Section 2.2 above) – to distinguish between predicative adjectives on the one hand, and stative verbs, on the other. At first sight, these two classes seem to be difficult to tell apart, both e.g. being compatible with degree adverbs such as *hěn* ‘very’ in predicative function:

- (28) Tā hěn cōngmíng / hěn dānyōu
 3SG very intelligent / very worry
 ‘He is very intelligent/worries a lot.’

However, in contrast to adjectives, stative verbs – like verbs in general – are excluded from the *de*-less modification structure and can only modify a head noun by virtue of being in a relative clause, which always requires *de* (cf. (29)):⁷

- (29) dānyōu *(de_{sub}) rén
 worry SUB person
 ‘persons who worry’

7. As pointed out by an anonymous reviewer, this statement must be somewhat relativized insofar as VPs may modify a head noun without the subordinator *de*:

- (i) [_{VP} xià yǔ] tiān
 fall rain day
 ‘a rainy day’
- (ii) #qiē cài bǎn
 cut vegetable board
 ‘a chopping board’
- (iii) #dānyōu rénmíng
 worry life
 ‘a life of worries’

The absence of *de* seems to induce a semantic effect similar to that observed in the simple juxtaposition ‘adjective noun’ (cf. Section 3.1 immediately below) where a new subcategory is created: ‘rainy day’ rather than ‘a day when it was raining’, ‘chopping board’ rather than ‘a board for chopping vegetables’.

A first small survey shows that in the majority of the cases ‘VP N⁰’ the noun plays the role of an adjunct with respect to the VP, (cf. (i), (ii) above and (iv)–(vi) below), that the VP must

The difference between verbs and adjectives is particularly clear in the case of predicative adjectives that have an inchoative verbal counterpart, identifiable by its compatibility with the perfective aspect suffix *-le*; while the adjective can simply be juxtaposed with the head noun (cf. (24), (26) above), the corresponding verb requires the presence of *de* ((30), (31)):

(30) pàng -le *(de) rén
become.fat-PERF SUB person
'the person who has put on weight'

(31) zāng -le *(de) yīfu
become.dirty-PERF SUB dress
'the dress which has become dirty'

While so far we have concentrated on the aspects of the *de*-less modification structure that allow us to distinguish between adjectives and verbs, we will now turn

be a bare VP (cf. (viii)–(ix)), and that acceptability judgements may vary considerably: only (i), (iv), and (v) were unanimously accepted by all our informants ('#' indicates diverging acceptability judgements):

- (iv) tíng chē didiǎn
stop car place
'parking lot'
- (v) bào míng rìqí
report name date
'registration deadline'
- (vi) #kāi huì shíjiān
hold meeting time
'the time of the meeting'
- (vii) #bàokǎo xuéshēng
register.for.exam student
'students registering for the exam'
- (viii) kěyǐ bào míng *(de) rìqí
can report name SUB date
'the date until one can register'
- (ix) yǐjīng xúnluó *(de) dìqū
already patrol SUB area
'already patrolled areas'

More research is needed in order to determine whether these *de*-less structures are compounds or phrases. For first attempts at summarizing some of the relevant data, cf. Lü et al. (1980/2000: 158), Liu Danqing (2005: 8), Shi Dingxu (2005).

to its semantic properties and compare it with the modification structure where *de* is present.

3. The typology of adjectival modification

3.1 De-less modification vs. modification with *de*

The absence or presence of *de* is associated with an interpretational difference. To make a rather complicated story short (cf. Paul (2005) for a detailed discussion), with the *de*-less modification structure, a new subcategory is established, which must present a natural, plausible class in the sense of Bolinger (1967) (cf. Section 3.2 below). The modifier 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: *cōngmíng háizi* ‘intelligent children’, *fāng pánzi* ‘square plate’.

This explains why *de* modifiers referring to an intrinsic property of the noun are excluded from the *de*-less modification structure: it is impossible to establish a new subcategory by using an intrinsic property of the category concerned, this intrinsic property holding for the hyperonym and for any of its subcategories alike:

- (32) a. **tián fēngmì*
sweet honey
b. **gāo mótiānlóu*
high skyscraper

When it does not indicate an intrinsic property of the head noun, the same adjective can be perfectly acceptable in the *de*-less modification structure:

- (33) a. *Wǒ zuì xǐhuan tián mántou bù tài xǐhuan xián-de_{sub}*
1PL most like sweet steamed.bun NEG too like salty-SUB
‘I prefer sweet buns, I don’t really like salty ones.’
b. *gāo jiànzhùwù / shuǐpíng*
high building / standard
‘a high building/standard’

No such constraint holds for the modification structure with *de* where adjectives are acceptable regardless of whether they denote an intrinsic property of the head noun or not:

- (34) a. *tài tián de fēngmì / mántou*
too sweet SUB honey / steamed.bun
‘too sweet honey/buns’
b. *zuì gāo de mótiānlóu / jiànzhùwù*
most high SUB skyscraper/ building
‘the highest skyscraper/building’

The interpretational properties of the *de*-less modification structure in Chinese thus differ from the semantics associated with prenominal adjectives in Romance languages “where the property of the adjective is asserted to be part of the defining features of the object in question. [...] For instance, in *tes lisses cheveux* [‘your sleek hair’; WP], the hair is not merely described as sleek, it is defined as sleek, as if it could not be otherwise.” (Bouchard 1998: 145). Accordingly, adjectives referring to an inherent property typically occur in the prenominal position: French *la blanche neige* ‘the white snow’ vs. *la voiture blanche* ‘the white car’; Italian *dolce miele* ‘sweet honey’ vs. *vino dolce* ‘sweet wine’ (cf. Klein-Andreu 1983).

The interpretation of the sequence ‘adjective noun’ is thus more than a simple intersective one. For example, *hēi tóujīn* ‘black scarf’ is not meant to describe a scarf that happens to be black, but rather presents *hēi* ‘black’ as the defining property of the resulting subcategory of scarves. In *hēi de tóujīn*, however, the interpretation is purely intersective and *hēi* ‘black’ suggests a contrast with other modifiers as for example *bái* ‘white’ in *bái de tóujīn* ‘a white scarf’. This difference is admittedly a very subtle one and accordingly, most contexts allow both types of modification structures (cf. (35)). But as Fu Jingqi (1987) has shown, there also exist a few diagnostic contexts where only the *de*-less modification structure is allowed, as for example the identification context in (36):

- (35) Tā bǎ hēi (de) tóujīn sòng rén le
 3SG BA black SUB scarf give people PART
 ‘He gave black scarves to people (as a present).’ (Fu Jingqi 1987: 302)

- (36) Zhè shì hēi (*de) tóujīn
 This be black SUB scarf
 ‘This is a black scarf.’ (Fu Jingqi 1987: 302)

The examples by Tang Ting-chi (1979) and Zhu Dexi (1984) illustrate the same contrast (where the presence of *de* in e.g. (37b) implies the contrast with a stupid person, who would be expected to act in a muddle-headed way):

- (37) a. Nǐ shì ge cōngmíng rén, wǒ bù bī duō jiěshì
 2SG be CL intelligent person 1SG NEG must much explain
 ‘You are somebody intelligent, I don’t need to explain a lot.’
 (Tang T.-C. 1979: 147)
- b. Yī-ge cōngmíng de_{sub} rén bù huì zuò zhèyàng
 1-CL intelligent SUB person NEG will do such
 hútu de shìqíng
 muddle-headed SUB matter
 ‘An intelligent person would not do such a muddle-headed thing.’

- (38) a. Xuéxiào yǒu yángé guīdìng
 school have strict rule
 ‘The school has strict regulations.’ (Zhu Dexi 1984: 11, 15, 16)
- b. Xuéxiào yǒu jǐ -xiàng yángé de_{sub} guīdìng
 school have several-CL strict SUB rule
 ‘The school has several strict regulations.’

In the modification structure with *de*, a property is encoded as an accessory one, in the sense that this property is presented as not instrumental in establishing a new subcategory of N. It is important to note that this is not to imply that a property *presented* as accessory cannot be stable through time (in e.g. (35), *hēi-de tóujīn*, the scarf does not change its black color and in (38b) the regulations remain strict). This point is especially clear in the case of modifiers referring to material, which in Chinese are nouns and which – like adjectives – may appear in the *de*-less modification structure:

- (39) Zhāngsān yīgerén yī-tiān kěyǐ zuò sān-zhāng mùtóu (*de) zhuōzi
 Zhangsan alone 1 -day can make 3 -CL wood -SUB table
 ‘Zhangsan on his own can make three wooden tables a day.’
 (Fu Jingqi 1987: 292)
- (40) Tā bǎ mùtóu (de) zhuōzi sòng rén le
 3SG BA wood SUB table give people PART
 ‘He gave wooden tables to people.’ (Fu Jingqi 1987: 302)

It would not make sense to state that to be made of wood is a transient property of a table. To state that in the modification structure with *de*, a property is encoded as an accessory one is just meant to capture the fact that this property is not chosen by the speaker as one singling out a subcategory. Accordingly, individual-level as well as stage-level predicates are acceptable in both modification structures, with and without *de* (cf. (16)–(27)); it is the absence or presence of *de* which determines the interpretation of a given property as an accessory or rather a defining one. Also note that the *de*-less modification structure can refer to a token of the new subcategory (cf. (41)–(42)) and hence cannot be claimed to exclusively refer to kinds ((43)–(44)) (also cf. the discussion in Section 3.4 below):

- (41) yī-jàn zāng/ piàoliang/ gānjìng yīfu (= (16) above)
 1 -CL dirty/ pretty / clean dress
 ‘a dirty/pretty/clean dress’
- (42) yī-ge qíguài xiànxàng (= (17) above)
 1 -CL strange phenomenon
 ‘a strange phenomenon’

- (43) juémì (de) wénjiàn (cf. (5) above)
 top-secret SUB document
 ‘top-secret documents’
- (44) yángé (de) guǐdìng
 strict SUB rule
 ‘strict rules’

To summarize, unlike verbs (of any class), adjectives and nouns can function as modifiers in the *de*-less modification structure. Furthermore, adjectives are different from nouns in that they do not appear in the copulative structure.

3.2 Constraints governing the *de*-less modification structure

Clearly, we do not want to imply that any property can be presented as a defining characteristic via *de*-less modification, because the semantic properties of the head noun likewise play a role, as observed by Zhu Dexi (1956/80: 9–10) and many others after him:

- (45) a. cōngmíng rén / háizi
 intelligent person/ child
 b. *cōngmíng dòngwù
 intelligent animal
- (46) a. zāng yīfu
 dirty clothing’
 b. *zāng táng
 dirty candy
- (47) a. bái zhǐ / tóufa
 white paper/ hair
 b. *bái shǒu
 white hand
- (48) a. guì dōngxī
 expensive thing
 b. *guì dàngāo
 expensive cake

But for most dimensions ranging from e.g. material, color, shape to size etc. there exists a choice as to whether they can be encoded as defining or rather accessory properties. Recall that the *de*-less modification structure gives rise to the interpretation of the ‘A/N N’ sequence as (a designation for) a newly created subcategory, in other words, the ‘A/N N’ sequence has to result in a natural, plausible classification. In our opinion, it is this constraint which explains why *de*-less modification is not always possible.

This state of affairs is reminiscent of the restrictions governing the distribution in prenominal vs. postnominal position for adjectives in English investigated by Bolinger (1967). Provided that both positions are potentially available for a given adjective, the adjective is interpreted as a characteristic property in the prenominal position, and as an occasional, temporary property in the postnominal position:

- (49) a. the only navigable river
 b. the only river navigable
- (50) a. Who were the guilty people?
 b. Who were the people guilty? (Bolinger 1967: 4)

As Bolinger (1967: 4) states “[...] *the only river navigable* is unambiguously occasional, *the only navigable river* unambiguously characteristic. Similarly with *Who were the guilty people?*, which characterizes and classifies, vs. *Who were the people guilty?*, which relates the guilt to an occasion.”

Bolinger (1967) also comments extensively on the fact that the acceptability of an adjectival phrase in the prenominal position is difficult to predict, because it largely depends on pragmatic factors i.e. on whether the resulting NP is conceived of as a (culturally) relevant characterization. Discussing the reason why unlike *ill-behaved child* and *home-loving man*, **mistake-erasing secretary* and **husband-waking wife* are unacceptable, he says: “These must wait the day when we have some interest in characterizing secretaries as mistake-erasing and wives as husband-waking.” (Bolinger 1967: 7). Accordingly, there exist numerous “irregularities”: e.g. *your absent friend* is acceptable, while **your present friend* is not; the same holds for *deposited money* vs. **withdrawn money* (ibid., p. 9, 11). Conversely, it is not excluded that a former exclusively temporary modifier becomes acceptable in the prenominal position, “if the situation is such that nouns are distinguished by it” (ibid., p. 11): *the then president* vs. **the now president*, or *a nearby building* vs. **a nearby bus*.⁸

The same unpredictability as to what counts as a natural, plausible classification stated for English by Bolinger equally holds for Chinese and explains the “gaps” observed for *de*-less modification: *bái tóufa* ‘white hair’, but not **bái shǒu* ‘white hand’,

8. Taking up Ziff’s (1960) concept of “natural kind” as further developed by Chierchia (1998), Bouchard (2005) equally concludes to a pragmatic constraint determining the well-formedness of adjective-noun combinations. He demonstrates how allegedly devious adjective orderings as the one illustrated in (ii) (where the adjective indicating the ‘origin’ is farther away from the noun than the colour adjective) in fact correspond to a specific context. In the example at hand e.g. different techniques of obtaining the colour blue in pottery are discussed and consequently *blue vases* constitute a “natural kind”, which is modified by *Chinese* (ii):

- (i) blue Chinese vases
 (ii) Chinese blue vases

cōngmíng rén/háizi ‘intelligent person/child,’ but not **cōngmíng dòngwù* ‘intelligent animal,’ *pàng rén* ‘fat person,’ but not **shòu rén* ‘skinny person,’ etc.⁹

3.3 The phrasal status of the *de*-less modification structure

The requirement to obtain a natural, plausible classification and the resulting impossibility of predicting the acceptability for a given *de*-less modification structure, as well as the special semantics associated with the *de*-less modification structures have often been misinterpreted as arguments for compound status i.e. for ‘A N’ being a word, N⁰, rather than a noun phrase (cf. among others Sproat & Shih 1988, 1991; Duanmu 1998; Aoun & Li 2003: 149). It is true that Chinese displays a large number of ‘A-N’ and ‘N-N’ compounds such as *xiǎo-fèi* ‘small-cost’ = ‘tip,’ *dà-yī* ‘big-coat’ = ‘overcoat,’ *hóng-huā* ‘red-flower’ = ‘safflower’ (plant used in traditional Chinese medicine), *chá-huā* ‘tea-flower’ = ‘camelia,’ *lóng-tóu* ‘dragon-head’ = ‘tap,’ *huǒ-chē* ‘fire-vehicle’ = ‘train’ etc. However, there are several tests to show that *de*-less modification structures possess clearly different properties from compounds and must be analyzed as phrases.

First, it is well-known that the internal structure of compounds, i.e. of words, is inaccessible to syntactic rules (*Lexical Integrity Hypothesis* (LIH)).¹⁰ This is illustrated

9. The unpredictability of what counts as a natural, plausible classification and hence, the unpredictability of whether a given *de*-less modification structure will be judged acceptable or not, probably explains the comments by two anonymous reviewers that they do not always accept the examples of *de*-less modification structures cited in the literature or given in the text. The following observation made by Monique Hoa (p.c.) sheds some light on the role that context may play here as a means of establishing a new subcategory whose relevance might not be immediately accessible to other speakers (thereby confirming Bolinger’s (1967) and Bouchard’s (2005) views). Commenting on the unacceptability of (45b) above, **cōngmíng dòngwù* ‘intelligent animals,’ she notes that this sequence might become acceptable after the difference between intelligent animals (*cōngmíng de dòngwù*) and non-intelligent animals (*bù cōngmíng de dòngwù*) has been introduced in the preceding discourse; to continue with *cōngmíng dòngwù* as a new subcategory relevant in the given situation then becomes possible.

10. As shown by Huang (1984: 60ff), Chinese (cf. (i), (ii)) – unlike German (cf. (iii)) – does not allow subparts of a word to be conjoined:

(i) [_{N⁰} huǒ-chē] gēn [_{N⁰} qì-chē] (= Huang 1984: 60 (13a–b))
 fire-vehicle and gas-vehicle
 ‘train(s) and car(s)’

(ii) *[huǒ gēn qì] chē
 fire and gas vehicle

(iii) Filz- und Stroh-hüte
 felt and straw-hats
 ‘felt hats and straw hats’

in (51)–(54) where the head noun inside the ‘A N’ compound (e.g. *chá* ‘tea’ in (51)) is not visible for the rule operating on the phrasal level and allowing an empty head noun in the subsequent NP:

- (51) a. *Wǒ xǐhuān [_{N⁰} lǜ -chá], [_{NP} hóng de_{sub} Ø] yě kěyǐ
 1SG like green-tea red SUB also possible
 b. Wǒ xǐhuān [_{N⁰} lǜ -chá], [_{N⁰} hóng-chá] yě kěyǐ
 1SG like green-tea red -tea also possible
 ‘I like green tea, but black tea is also ok.’
- (52) a. *Wǒ xǐhuān chī [_{N⁰} xiǎo -báicài], yě xǐhuān [_{NP} dà de_{sub} Ø]
 1SG like eat small-Chin.cabbage also like big SUB
 b. Wǒ xǐhuān chī [_{N⁰} xiǎo -báicài], yě xǐhuān [_{N⁰} dà -báicài]
 1SG like eat small-Chin.cabbage also like big-Chin.cab.
 ‘I like to eat pakchoi [= a variety of Chinese cabbage],
 and I also like to eat Chinese cabbage.’
- (53) a. *Wǒ yǐjīng mǎi-le [_{N⁰} xiǎo-cōng], hái yào mǎi [_{NP} dà -de_{sub} Ø]
 1SG already buy-PERF small-onion still want buy big-SUB
 b. Wǒ yǐjīng mǎi-le [_{N⁰} xiǎo-cōng], hái yào mǎi [_{N⁰} dà -cōng]
 1SG already buy-PERF small-onion still want buy big-onion
 ‘I already bought shallots, I still want to buy Chinese onions.’
- (54) *Amēi bù xiǎng chī [_{N⁰} hóng-huā], [_{NP} huáng de_{sub} Ø] hái kěyǐ
 Amei NEG want eat red -flower yellow SUB still acceptable
 (‘Amei doesn’t want to take safflower [as medicine], yellow ones are still ok.’)

Importantly, the LIH holds regardless of whether the meaning of the compound is (relatively) compositional (cf. (51)) or completely opaque (cf. (54)); it is therefore not feasible to reduce the effects of the LIH observed above to the semantic opacity of the compounds at hand.

Huang (1984: 61) equally observes that subparts of a word are not visible to interpretation rules; accordingly, (iv) is *not* rejected as contradictory:

- (iv) yī-kuài lǜsè -de [_{N⁰} hēi -bǎn]
 1 -CL green-SUB black-board
 ‘a green blackboard’

Lu Zhiwei (1975: 32) makes the same observation; he states that the acceptability of (v) forces us to conclude that *xiǎo-hái* ‘small-child’ = ‘child’ is a word, N⁰. Also note that *-hái-* ‘child’ is a bound morpheme.

- (v) dà [_{N⁰} xiǎo -hái]
 big small-child
 ‘a big child’

In noun phrases, however, the head noun is visible to phrase-level rules and accordingly, an identity relation can be construed with the head noun in a subsequent NP, thus licensing an empty head in the latter. Note that *de* is obligatory in a modified NP lacking an overt head (cf. Li 2007):¹¹

- (55) Wǒ juéde [_{NP} huáng chènshān] bǐ [_{NP} hóng -de_{sub} Ø] hǎokàn
 1SG think yellow shirt compared:to red -SUB pretty
 ‘I think that yellow shirts are prettier than red ones.’
- (56) Wǒ bù xǐhuān [_{NP} yuán pánzi], [_{NP} fāng -de_{sub} Ø] hái kěyǐ
 1SG NEG like round plate square-SUB still acceptable
 ‘I don’t like round plates, square ones are still ok.’
- (57) Bù mǎi [_{NP} dà pángxiè], mǎi [_{NP} xiǎo -de_{sub} Ø]
 NEG buy big crab buy small-SUB
 ‘Don’t buy a big crab, buy a small one.’

Examples (55)–(57) are thus on a par with (60): the subordinator *de* being optional in the case of pronouns as modifiers of kinship terms (cf. (58) vs. (59)), there is no *de* in the first NP; in the second NP, by contrast, *de* is obligatory due to the empty head.

- (58) Tā / wǒ (de) gēgē
 3SG/ 1SG SUB younger.brother
 ‘his/my younger brother’
- (59) Zhāngsān *(de) gēgē
 Zhangsan SUB younger.brother
 ‘Zhangsan’s younger brother’
- (60) Tā gēgē bǐ [wǒ *(de) Ø] gāo
 3SG younger.brother compared.to 1SG SUB tall
 ‘His younger brother is taller than mine.’

The (un-)acceptability of an empty head noun allows us to distinguish between the ‘A N’ sequences in (51)–(54), on the one hand, and those in (55)–(57), on the other: *lǜ-chá* ‘green tea’, *xiǎo báicài* ‘a variety of Chinese cabbage’, *xiǎo-cōng* ‘shallots’, *hóng-huā* ‘safflower’ are shown to be compounds, whereas *huáng chènshān* ‘yellow shirt(s)’, *yuán pánzi* ‘round plate(s)’, *dà pángxiè* ‘big crab(s)’ are clearly phrases.

Another difference between ‘A-N’ compounds and ‘A N’ phrases is provided by the fact that ‘A-N’ compounds are not subject to the constraint observed for *de*-less modification structures, viz. to result in a natural, plausible classification. Thus,

11. The exact syntactic status of *de* is still under debate, cf. Aoun & Li (2003: 250, fn. 12), Tang C.-C. Jane (2007), Paul (2005). For new proposals, cf. Li (2007), Paul (2007).

compounds with three modifiers are well attested and do not result in divergence of judgements (cf. (61)–(63)).

- (61) [_{N⁰} yōu -liáng -zhōng -chéngjī] (Xu & Liu 1999: 99)
 excellent-good-average-result
 ‘excellent, good and average results’
- (62) [_{N⁰} dà -zhōng -xiǎo -xué]
 big-middle-small-school
 ‘educational institutions (i.e. primary school, middle school and university)’
- (63) [_{N⁰} guān-yà -jì -jūn]
 best -second-third-rank
 ‘the first, second and third rank’

By contrast, *de*-less modification structures with more than two modifiers are very rare and are not uniformly judged acceptable. Whereas according to Xu & Liu (1999), (64) is well-formed, several native speakers rejected (64) as soon as the third modifier *hēi* ‘black’ was added. This is due to the fact that a natural, plausible classification is the more difficult to obtain the more modifiers are present:

- (64) [_{NP} xiǎo shòu (??hēi) gēbo]
 small skinny black arm
 ‘a small skinny black arm’

Note that in the phrasal *de*-less modification structure the modifiers are interpreted as stacked.

Finally, adjective ordering restrictions (cf. Sproat & Shih 1988, 1991) may also serve as a diagnostic to distinguish between ‘A-N’ compounds such as [_{N⁰} dà-guàr] ‘unlined long gown’, on the one hand, and the phrasal *de*-less ‘A N’ modification structures such as [_{NP} dà pánzi] ‘big plate’, on the other. Feng Shengli (2001) observes that when a modifier such as e.g. *bái* ‘white’ is added, different ordering patterns obtain:

- (65) a. [_{NP} dà bái pánzi]
 big white plate
 ‘a big white plate’
 b. *bái dà pánzi
 white big plate
- (66) a. bái [_{N⁰} dà-guàr]
 white big-gown
 ‘a white unlined long gown’
 b. *dà- bái guàr
 big white gown

Given that the ordering restrictions for modifiers apply word-externally and that a modifier relating to color must be nearer to the head noun than a modifier relating to size, he concludes that *dà-guàr* ‘unlined long gown’ is a compound. Its internal structure is invisible to the ordering restrictions, hence the acceptability of (66a); (66b), on the other hand, is ungrammatical due to a violation of the *Lexical Integrity Hypothesis*. The NP *dà bái pánzi* ‘big white plate’ in (65a), however, obeys the ordering restrictions ‘size > color’ applying in syntax and therefore must be distinguished from compounds like *dà-guàr*. His observation thus confirms the contrast established between A-N compounds, on the one hand, and phrasal *de*-less ‘A N’ modification structures, on the other.

3.4 Intermediate summary

In the preceding sections, we have argued that the *de*-less modification structure is a phrase, not a compound (*contra* among others Sproat & Shih 1988, 1991, Duanmu 1998, Aoun & Li 2003: 149). This result is important insofar as it leads to the conclusion that both types of modification, with and without *de*, have to be taken into account for typological studies of adjectival modification, *contra* Sproat & Shih’s (1988, 1991) claim that only the *de*-less modification structures are relevant.¹²

The constraint governing the acceptability of a *de*-less modification structure and giving rise to unpredictable “gaps” – an issue having preoccupied Chinese linguists since the 1950’s – has turned out to be of a semantico-pragmatic nature similar to the constraint observed for English by Bolinger: a *de*-less modification structure must result in a natural, (culturally) plausible classification. Since the *de*-less modification structure establishes a new subcategory (with the modifier presented as its defining property), it is evident that intrinsic properties are excluded here, because they hold both for the hyperonym and any of its subcategories. In this respect, Chinese *de*-less modification structures clearly differ from structures with prenominal modifiers in Romance languages.

12. As discussed in detail in Paul (2005), Sproat & Shih (1988: 474, 477) apparently do not see any contradiction between assigning compound i.e. word status to *de*-less modification structures and their claim that ordering restrictions only apply to *de*-less modification structures. If Sproat & Shih were right and the *de*-less ‘A (A) N’ sequences were really words, i.e. N⁰, the impossibility of inverting the order of the adjectives would simply be due to the fact that word-internal structure is inaccessible to phrase level rules, and accordingly would not reveal anything about the (non-) existence of ordering restrictions in Chinese. For evidence in favour of the view that adjective ordering restrictions operate above the word level (a view contested by an anonymous reviewer), cf. *inter alia* Scott (2002a,b), Laenzlinger (2000), Cinque (2005) and references therein.

Furthermore, the fact that predicative adjectives as well as non-predicative adjectives can appear in both types of modification structures challenges those proposals that derive all modifiers from underlying predicates. For if this approach were correct, we would expect predicative adjectives to exclusively occur in the modification structure with *de* (*de* being obligatory for relative clauses), whereas non-predicative adjectives would be predicted not to function as modifiers at all, a prediction not borne out by the Chinese data.

As we have already pointed out, there exists no correlation between one type of modification structure and a particular type of predicate. On the contrary, individual-level as well as stage-level predicates (e.g. *cōngmíng* ‘intelligent’, *gānjìng* ‘clean’) are acceptable in both types of modification structures with and without *de*. This situation in Chinese is problematic for Cinque (1994, 2005) who – based on Romance languages – proposes a correlation between defining, non-restrictive, individual-level predicates and designated specifier positions (for prenominal adjectives in Romance), on the one hand, and between restrictive, stage-level predicates and relative clause source (for postnominal adjectives in Romance), on the other.

If the correlation obtained by Cinque equally held for Chinese, we would e.g. not expect stage-level predicates in the *de*-less modification structure (cf. (67)), where the modifier encodes a defining property of the resulting subcategory:

- (67) yī-jàn zāng/ piàoliang/ gānjìng yīfu (= (20))
 1 -CL dirty/pretty / clean dress
 ‘a dirty/pretty/clean dress’

Note in this context that the possible interpretation of the *de*-less modification structure as referring to an individual token does not hinge on the presence of the classifier phrase, as witnessed by the following sentence:

- (68) Ba zāng/ gānjìng yīfu fàng zài zhèr
 BA dirty/ clean dress put at here
 ‘Put the dirty/clean dress here.’

Non-intersective adjectives such as *yǐqián* ‘former’, *jiānglái* ‘future’ etc. likewise do not behave as expected, because they always require the presence of *de*:

- (69) a. běnlái *(de) yìsi
 original SUB meaning
 ‘the original meaning’
 b. yǐqián /jiānglái *(de) xiáozhǎng
 former/future SUB school.president
 ‘the former/future school president’
 c. mùqián *(de) qíngkuàng
 present SUB situation
 ‘the present situation’

According to Cinque (2005: 31) attributive-only adjectives are functional. Given that for Cinque, the modifiers in the *de*-less modification structure occupy dedicated functional projections, non-intersective non-predicative adjectives such as *běnlái* ‘original’ etc. should therefore be acceptable in the modification structure without *de*. This is, however, not borne out by the Chinese data above, where in fact the exact opposite of Cinque’s claim is observed.

4. Two classes of adjectives

Having established adjectives as a distinct part of speech in Chinese allows us to take a fresh look at reduplicated adjectives (e.g. *gāngānjìngjìng* ‘really clean’) and to acknowledge them as a second class of adjectives distinct from simple adjectives (e.g. *gānjìng* ‘clean’). While adjectival reduplication has been described in great detail in the literature in Chinese, these descriptions have mainly concentrated on simply listing the properties of simple vs. reduplicated adjectives.¹³ Accordingly, the semantic and syntactic differences observed have not been interpreted as what they really are, i.e. as arguments in favour of reduplication of adjectives as a genuine morphological process resulting in a *new* class of derivatives. Instead, Zhu Dexi (1956/80: 6) in his still influential article on adjectives explicitly subsumes – under one and the same grammatical category – the so-called “base forms”, instantiated by simple adjectives such as *gānjìng* ‘clean’, and the so-called “complex forms”, instantiated by e.g. reduplicated adjectives such as *gāngānjìngjìng* ‘really clean’. To postulate the existence of two morphologically separate classes of adjectives in Chinese is therefore not as uncontroversial as an anonymous reviewer claims.

Furthermore, none of the typologically oriented studies (cf. a.o. Tang Sze-Wing 1998; Lin 2004; Scott 2002b) ever takes reduplicated adjectives into account, which does not prevent Tang (1998) and Lin (2004) to make the farreaching – and for that matter wrong – claim that adjectives and stative verbs are to be conflated into one class in Chinese. Finally, the recent monograph on morphology in Chinese, Packard (2000), does not examine reduplication of adjectives either, but only mentions it in passing (p. 249).

As we will demonstrate in the remainder of the article, not only are adjectives a separate part of speech from (stative) verbs, but within the category of adjectives, simple adjectives and reduplicated adjectives belong to two distinct morphological classes, each of which is associated with a predictable set of semantic and syntactic properties.

13. There is not much literature on adjectival reduplication in Mandarin Chinese accessible to non-sinologists: Chao (1968: 205–10), Karl (1993), Tang T.-C. (1997). Li & Thompson’s (1981: 32–34) section on reduplication cannot be recommended, because it is for a large part factually incorrect. The discussion of reduplication and related issues in what follows is based on Paul (2004, 2006).

4.1 Reduplication as a morphological process

As to be expected from a morphological process, adjectival reduplication is sensitive to word-internal structure.¹⁴ Thus, while the general reduplication pattern for a bisyllabic adjective noted as 'AB' is [_{A⁰} AABB] (cf. (70)), it is [_{A⁰} ABAB] for 'modifier-adjectival head' compounds such as *xuě-bái* 'snow-white' = 'as white as snow' (cf. (71)):¹⁵

(70) AB => AABB:

- a. piàoliang 'pretty' => piàopiàoliangliang
- b. gāoxìng 'happy' => gāogāoxìngxìng
- c. qīngchū 'clear' => qīngqīngchūchū

(71) AB => ABAB:

- a. xuě-bái 'snow-white' => xuě-bái-xuě-bái 'snow-white'; *xuě-xuě-bái-bái
- b. bǐ-zhí 'brush-straight' = 'perfectly straight' => bǐ-zhí-bǐ-zhí; *bǐ-bǐ-zhí-zhí
- c. gǔn-rè 'roll-hot' = 'scalding hot' => gǔn-rè-gǔn-rè; *gǔn-gǔn-rè-rè
- d. tōng-hóng 'all-red' = 'very red, scarlet' => tōng-hóng-tōng-hóng;
*tōng-tōng-hóng-hóng

Furthermore, reduplication is blocked in the cases of monomorphemic disyllabic adjectives (cf. Tang Ting-chi 1997: 320). This holds both for 'native' adjectives (cf. (72)) and for phonetic borrowings from other languages (cf. (73)):

- (72) a. yǎotiǎo 'graceful, gentle' => *yǎoyǎotiǎotiǎo¹⁶
 b. línglóng 'exquisite' => *línglínglónglóng
 c. tángtū 'brusque' => *tángtángtūtū
 d. miáotiao 'slender' => *miáomiáotiaotiao

14. Reduplicated adjectives are different from onomatopoeia, where the original form is repeated as a whole, in general two to three times (cf. Chao 1968: 210):

- (i) pūtōng, pūtōng (pūtōng ...) 'splash, splash'
- (ii) dīngdāng, dīngdāng (dīngdāng...) 'ding-dong'
- (iii) dā dā (dā) 'hammering, pounding sound' (e.g. of a typewriter, machine guns etc.)

15. The reduplication pattern for 'modifier-adjectival head' compounds deriving an adjective of the form [_{A⁰} ABAB] is not to be confounded with the repetition of a disyllabic verb as a whole in syntax: [_{V⁰} AB] [_{V⁰} AB] (cf. Section 2.2 above). In the latter case, the first verb can e.g. be suffixed with the perfective aspect-*le*:

- (i) Zhèi-ge wèntí , wǒmen yánjiū-le yánjiū
 this -CL problem 1PL study -PERF study
 'This problem, we have studied it a bit'

16. Naturally, the reduplication as [_{A⁰} ABAB] is equally excluded for all of these disyllabic monomorphemic adjectives (e.g. *_{A⁰} yǎotiǎoyǎotiǎo) 'graceful'), because reserved for adjectives which do have a word-internal structure.

- (73) a. móděng ‘modern’ => * mómódēngdēng
 b. yōumò ‘humorous’ => * yōuyōumòmò

When an initially monomorphemic disyllabic adjective has been reanalyzed as consisting of two morphemes (“backformation”), reduplication is possible. Again, backformation and the ensuing possibility of reduplication is available both for ‘native’ adjectives (cf. (74a)) and for phonetic borrowings (cf. (74b)):

- (74) a. hùtu ‘confused, bewildered’ => hùhùtutu (cf. Lu Zhiwei 1975: 18)
 b. làngmàn ‘romantic’ => lànglàngmànmàn
 (= phonetic borrowing of *romantic*)

Besides the AABB and ABAB reduplication pattern, there are other patterns of partial reduplication, associated with a special type of connotation. The pattern ‘AliAB’ always carries a negative connotation (cf. (76)), whereas the (total reduplication) patterns ‘AA’ and ‘AABB’ can be associated with either a positive, neutral, or negative connotation (cf. (75)):

- (75) a. luàn ‘chaotic’ => luànlùàn ‘chaotic’ (but less so than *luàn*)
 b. bái ‘white’ => báibái ‘(thoroughly) white’
 c. bèn ‘dull, foolish, clumsy’ => bènbèn ‘very foolish, clumsy’
- (76) a. hùtu ‘confused, bewildered’ => hùlihùtu ‘muddle-headed’
 (vs. => hùhùtutu ‘confused, bewildered’)
 b. mǎhu ‘casual, careless’ => mǎlimǎhu ‘careless, sloppy’
 (vs. => mǎmǎhuhu ‘not bad, still ok’)

In the reduplication pattern ‘A-BB’, ‘BB’ provides a metaphoric description of the property denoted by the adjective (cf. Karl: 287ff):

- (77) a. bái-huā-huā ‘white-flower-flower’ = ‘shining white’
 b. bái-xuě-xuě ‘white-snow-snow’ = ‘as white as snow’
- (78) a. hēi-yóu-yóu ‘black-oil-oil’ = ‘jet-black, shiny black’
 b. hēi-yā-yā ‘black-press-press’ = ‘dense, dark’ (said of e.g. people in a crowd)

4.2 Derived adjectives as a distinct class

In order to obtain the full picture, another fact needs to be taken into account, viz. that modifier-head adjectival compounds such as *xuě-bái* ‘snow-white’ = ‘as white as snow’ – in their *non*-reduplicated form – pattern with reduplicated adjectives, and not with simple adjectives. As will however emerge from the ensuing discussion, this is in fact the expected result, given the syntactic and semantic properties of modifier-head

compounds.¹⁷ In the remainder of the present text, we will therefore use the label *derived adjectives* for the class comprising reduplicated adjectives (with total or partial reduplication) as well as modifier-head compounds (be they reduplicated or not), in contrast to the class of *simple adjectives*.

In general, derived adjectives can have all of the following three functions: attributive, predicative, and adverbial (with the exception of reduplicated modifier-head compounds which cannot function as adverbs):¹⁸

- (79) a. gāogāoxìngxìng de háizi
 happy SUB child
 ‘happy children’
- b. Tā gāogāoxìngxìngde¹⁹
 3SG happy
 ‘He is happy.’

17. Chinese linguists (e.g. Zhu Dexi 1956/80) have always subsumed reduplicated adjectives and head-modifier adjectives (both in their non-reduplicated and reduplicated form) under the same class of ‘complex forms’, without however giving an explicit motivation for this at first sight surprising classification. Cf. Paul (2006) for demonstrating that it is the unacceptability of both reduplicated and head-modifier adjectives in the *de*-less modification structure (cf. Section 4.4 below) that constitutes the reason for including them in the same class.

18. As noted by Paris (1979), absolute (i.e. intersective non-predicative) adjectives never reduplicate: *fāng* ‘square’, but not **fāngfāng*.

19. Note that in the case of reduplicated adjectives, *de* is part of the reduplicated form itself; accordingly, sentences (79b)–(81b), (83)–(84) where the reduplicated form functions as a predicate cannot be analysed as cases of predication with *shi...de* (cf. (4a), (5a) above) from which *shi* would have been dropped. When a reduplicated adjective functions as a modifier as e.g. in (79a), we assume haplology between the *de* of the reduplicated adjective and the subordinator *de* into one surface *de*, similar to the generally acknowledged haplology of the sentence-final complementizer *le* with the perfective verbal suffix *-le* in case the verb occupies the sentence-final position: *V-le le # => V le #* (cf. Chao 1968: 247). Evidence for the haplology of the reduplication *de* with the subordinator *de* comes from Chinese dialects where these two *de*’s are phonologically different and can hence co-occur (cf. Zhu Dexi 1993).

The exact role and distribution of *de* in the reduplicates is far from clear. Lü Shuxiang et al. (1980/2000) only note that *de* is optional for ‘AABB’ reduplicates when functioning as the so-called descriptive complement introduced by *de* (Note that this *de* is different from those already encountered and has so far not been satisfactorily analysed):

- (i) Tā shōushi de zhěngzhěngqíqí(de) (Lü et al. 1980/2000: 719)
 3SG tidy DE neat
 ‘He tidied up very neatly.’

- c. Tā gāogāoxìngxìngde chàng gē
3SG happy sing song
'He is singing happily.'
- (80) a. yì-zhī hǎohǎode bǐ
1 -CL good pen
'a perfectly good pen'
- b. Wǒ zuótiān hái hǎohǎode, jīntiān jiù bìngdǎo le
1SG yesterday still good today then be.ill PART
'Yesterday, I still felt ok, but today I'm ill.'
- c. Nǐ hǎohǎode gēn tā shuō, bié shēng qì
2SG good with 3SG talk not produce air
'Talk to him nicely and don't get angry.'
- (81) a. tōng -hóng (-tōng -hóng) de liǎn
thorough-red -thorough-red SUB face
'a scarlet face'
- b. Tā -de liǎn tōng -hóng (-tōng -hóngde)
3SG-SUB face thorough-red -thorough-red
'His face was scarlet.'
- (82) a. bǐ -zhí de shù-gàn
brush-straight SUB tree-trunk
'perfectly straight tree trunks'
- b. Gōnglù bǐ -zhí
highway brush-straight
'The highway is perfectly straight.'
- c. Tā bǐ -zhíde zhàn zài lǎoshī de qiánmiàn
3SG brush-straight stand at teacher SUB front
'He is standing perfectly straight in front of the teacher.'
- (83) Liǎn cháng-chángde, yáchǐ yě cháng-chángde Zhu Dexi (1956/80: 11)
face long -long tooth also long -long
'The face is long, and the teeth are long, too.'
- (84) Tiān yǐjīng hēi -hūhūde le
sky already dark-HUHU PART²⁰
'The sky is already dark.'

The data furthermore suggest that non-reduplicated modifier-head adjectival compounds such as *xuě-bái* 'snow-white' preferably appear without *de*, though this cannot be generalized and also varies from speaker to speaker.

20. No meaning is associated with *hūhū* on its own.

Unlike simple adjectives, derived adjectives cannot appear in the comparative construction and are incompatible with degree adverbs such as *fēicháng* ‘very’, *tèbié* ‘particularly’ etc. Adverbs such as *zhème*, *nàme* ‘this/that way; so, such’ are, however, acceptable (and for some native speakers also *tài* ‘too’, cf. (86)):

- (85) Tā -de yīfu bǐ nǐ -de
3SG-SUB clothes compared.to 2SG-SUB
gèng bái / gèng gānjìng / *báibáide/*gāngānjìngjìngde/*xuě -bái
even white / even clean / white / clean snow-white
‘His clothes are (even) cleaner/whiter/*more snow-white than yours.’
- (86) Tā fēicháng pàng/*fēicháng pàngpàngde/#tài pàngpàngde
3SG very fat / very fat / too fat
‘He is very/too fat.’
- (87) *Tā -de liǎnsè tèbié tōnghóng(-tōnghóngde)
3SG-SUB face particularly scarlet
(‘His face is particularly scarlet.’)
- (88) Tā -de liǎnsè wèishénme nàme tōnghóng-tōnghóngde ?
3SG-SUB complexion why that.way scarlet
‘Why is his face so red?’
- (89) Lǎo zhème màn-tēngtēngde kě bù xíng²¹
always this.way slow-TENGTENG really NEG possible
‘It’s impossible to be always so sluggish.’

Derived adjectives cannot be negated by *bù*:

- (90) Tā bù pàng /*bù pàngpàngde
3SG NEG fat / NEG fat
‘He is not fat.’
- (91) Tā -de yīfu bù gānjìng /*bù gāngānjìngjìngde /*bù
3SG-SUB clothes NEG clean / NEG clean / NEG
xuěbái (- xuěbáide)
s-white - s-white
‘His clothes are not clean/snow-white.’

As illustrated in (79)–(84) above, derived adjectives can very well function as predicates on their own and be modified by VP-level adverbs such as *hai* ‘still’, *yě* ‘also’ *yǐjīng* ‘already’ which only precede predicative elements (cf. (80b), (83), (84)). The incompatibility with

21. No meaning is associated with *tēngtēng* on its own.

negation and with degree adverbs, which are equally typical of predicative elements, can therefore not be due to syntax, but must have semantic reasons.

The unacceptability of modifier-head compounds in the comparative construction (cf. (85) above) allows us to determine the semantic problem at stake. Derived adjectives are not admitted here because in a comparison, a quantitative judgement with respect to the presence of a property is asked for, not a description of this property. The predominance of the descriptive component in derived adjectives is particularly visible in the case of modifier-head compounds:

- (92) Tā -de yīfu bù shì xuě -bái , érshì bǐ xuě hái bái
 3SG-SUB clothes NEG be snow-white but compared.to snow still white
 ‘Her dress is not as white as snow, but even whiter than snow.’

The second clause in (92) is obligatory, because it makes explicit that it is the descriptive component which is negated, not the property itself. The latter cannot be negated, hence the incompatibility with *bù* (cf. (91)). Negation of the adjective with *bù shì* functioning as metalinguistic negation, however, is possible, because *bù shì* can bear on a subpart of the compound only.

This line of reasoning showing the incompatibility of derived adjectives with negation to be of a semantic, not a syntactic nature is corroborated by the acceptability of derived adjectives with adverbs of intensity such as *zhème*, *nàme* ‘so, such’ (cf. (98), (99)). Consequently, derived adjectives are not on a par with absolute adjectives; the latter do not allow these adverbs, because they are essentially binary. Also recall that absolute adjectives – being non-predicative adjectives – need *shì...de* in order to form a predicate (cf. Section 2.1 above), another contrast with respect to the systematically predicative derived adjectives.

Besides their systematic ability to function as predicates, attributes and adverbs, derived adjectives also behave alike with respect to two other phenomena, viz. compound formation and *de*-less modification.

4.3 The unacceptability of derived adjectives in verbal compounds

As has been observed in the literature, reduplicated adjectives – unlike their simple counterparts – are excluded from the formation of resultative verb compounds of the form ‘verb-adjective’ where the adjective indicates the result of the action expressed by the verb:

- (93) a. Tā bǎ zhuōzi cā -gānjìng le
 3SG BA table wipe-clean PART
 ‘He wiped the table clean.’
 b. *Tā bǎ zhuōzi cā -gāngānjìngjìng le
 3SG BA table wipe-clean PART

- (94) a. Tā bǎ chuángdān dié -zhěngqí le
 3SG BA sheet fold-neat PART
 ‘He folded the sheets neatly.’
- b. *Tā bǎ chuángdān dié -zhěngzhěngqíqí le
 3SG BA sheet fold-neat PART
 (Sybesma 1991: 133, (13/14))
- (95) a. Wūzi de qiáng dōu shuā-bái le
 room SUB wall all paint-white PART
 ‘The walls of the room have all been painted white.’
- b. *Wūzi de qiáng dōu shuā-báibái le
 room SUB wall all paint-white PART
- (96) a. Lúzi shāo-rè le
 stove burn-hot PART
 ‘The stove has burnt itself hot.’
- b. *Lúzi shāo-rèrè le
 stove burn-hot PART

Since disyllabic adjectives ((93a), (94a)) are as acceptable in these compounds as monosyllabic ones ((95a), (96a)), the unacceptability of the ‘AA’ reduplicates in examples (95b) and (96b) cannot be reduced to a phonotactic constraint sensitive to the number of syllables.

As demonstrated below, the same constraint equally holds for (non-reduplicated) ‘modifier-head’ adjectival compounds, i.e. like reduplicated adjectives, they cannot enter into the formation of resultative verbal compounds:

- (97) a. Tā kū -hóng-le yǎnjing
 3SG cry-red -PERF eye
 ‘He cried his eyes red.’
- b. *Tā kū -tōnghóng-le yǎnjing
 3SG cry-scarlet -PERF eye
- (98) a. Tā shǒu dòng-hóng le
 3SG hand freeze-red PART
 ‘His hands were red-frozen.’
- b. *Tā shǒu dòng-tōnghong le
 3SG hand freeze-scarlet PART
- (99) a. Wūzi de qiáng dōu shuā-bái le (= (95a) above)
 room SUB wall all paint-white PART
 ‘The walls of the room have all been painted white.’
- b. *Wūzi de qiáng dōu shuā-xuě -bái le
 room SUB wall all paint-snow-white PART

- (100) a. Diànxian lā -zhí le
 electric.wire pull-straight PART
 ‘The electric wire has been pulled straight.’
 b. *Diànxian lā -bǐ -zhí le
 electric.wire pull-brush-straight PART

The general ban on derived adjectives to enter into the formation of resultative verb compounds clearly sets them apart from the class of simple adjectives. It also further corroborates our claim that modifier-head compounds – both in their non-reduplicated as well as in their reduplicated form – belong to the same class as reduplicated adjectives.

4.4 The unacceptability of derived adjectives in the *de*-less modification structure

Another important characteristic of derived adjectives is their unacceptability in the *de*-less modification structure (cf. Lü et al. 1980/2000: 719):

- (101) a. gānjìng (de_{sub}) yīfu
 clean SUB clothes
 ‘clean clothes’
 b. gāngānjìngjìng *(de_{sub}) yīfu
 clean SUB clothes
 ‘(thoroughly) clean clothes’
- (102) a. bái (de_{sub}) zhǐ
 white SUB paper
 ‘white paper’
 b. báibái/xuěbái / xuěbái xuěbái *(de_{sub}) zhǐ
 white/snow-white/ s-white s-white SUB paper
 ‘(snow-) white paper’
- (103) a. hóng (de_{sub}) chènshān
 red SUB shirt
 ‘a red shirt’
 b. tōnghóng/ hóng-hóng *(de_{sub}) chènshān
 all.red / red -red SUB shirt
 ‘a scarlet shirt’

As argued for at length in Sections 2.3 and 3.3 above, this unacceptability cannot be reduced to a prosodic ban against non-monosyllabic adjectives in the *de*-less modification structure nor to alleged wordhood of the sequence ‘adjective N’ (contra Sproat & Shih 1988; Lu & Duanmu 2002).

Instead, we propose an account in semantico-pragmatic terms. As noted by Zhu Dexi (1956/80: 5–6) and subsequent authors (cf. e.g. Tang T.-C. 1988), reduplicated adjectives introduce the speaker's subjective evaluation of the property expressed by the adjective rather than solely refer to that property (as is the case with simple adjectives). Accordingly, reduplicated adjectives cannot be interpreted as defining properties and are excluded from the *de*-less modification structure, because the resulting NP does not satisfy the condition of a plausible, natural classification. The same reasoning applies to modifier-head compounds such as *xuě-bái* 'snow-white' = 'as white as snow', *bǐ-zhí* 'brush-straight' = 'perfectly straight' etc.: as their internal structure shows, these adjectives provide the description of a property ('as white as snow', 'as straight as a brush') rather than purely refer to it. It is this semantic component of evaluating, describing a property, in contrast to referring to a property, which is shared by reduplicated adjectives and modifier-head compounds and which explains their belonging to the same class.²²

4.5 The productivity of the 'AABB' reduplication pattern

The systematic syntactic and semantic differences between simple and derived adjectives discussed so far justify their analysis as two separate morphological classes, the relation between them being one of derivation. Among the different derivation processes (modifier-head compound formation, total or partial reduplication), the 'AABB' reduplication represents the productive and regular pattern. This is evidenced by the fact that the derivation of 'AABB' reduplicates is not limited to cases where a corresponding simple adjective 'AB' exists, but applies to all kinds of morphemes. Importantly, the resulting 'AABB' reduplicates once again have all of the three functions typical of the class of derived adjectives: attributive, predicative and adverbial (some reduplicates only function as adverbs, though; cf. (106)–(107)).

- (104) a. pǒ- -pǒ -mā -mā 'womanish, fussy, sentimental;
old.lady-old.lady-mother-mother
(N.B. There exists no "corresponding" pǒ-mā)
- b. Zhè-ge rén pǒ-pǒ-mā-mā-de
this-CL person fussy
'This person is fussy.'

22. Note that *encoding* the speaker's subjective evaluation via a derived adjective should not be confounded with whatever subjective connotation may enter into the meaning of (stage-level predicate) adjectives such as *gānjìng* 'clean', *piàoliang* 'pretty', *qíguài* 'bizarre'. The fact that the latter *are* acceptable in the *de*-less modification structure (cf. (10), (11) above), whereas derived adjectives are not, clearly shows that the grammar of Chinese makes this distinction.

- c. Wǒ bù xǐhuan zhè-ge pó-pó-mā-mā de rén
1SG NEG like this-CL fussy SUB person
'I don't like this fussy person.'
- d. Tā pó-pó-mā-mā de shuō-le yī dà duī
3SG fussy talk -PERF 1 big heap
'He fussily talked a lot.'
- (105) a. guǐ -guǐ -suì -suì 'furtive, stealthy, sneaky'
ghost-ghost-evil.spirit-evil.spirit
(N.B. There exists no "corresponding" *guǐ-suì*)
- b. Zhè jiāhuo guǐ-guǐ-suì-suì-de
this guy stealthy
'This guy is stealthy.'
- c. yì-ge guǐ-guǐ-suì-suì de xiǎotōu
1 -CL stealthy SUB thief
'a stealthy thief'
- d. Zhè-ge xiǎotōu guǐ-guǐ-suì-suì-de pǎo dào wūzi -li lái
this-CL thief stealthy run to house-inside come
'This thief ran stealthily into the house.'
- (106) a. kū -kū -tí -tí 'with sobs and tears, weeping and wailing'
cry-cry-weep.aloud-weep.aloud
- b. Tā kū-kū-tí-tí-de pǎo-guò -lái
3SG weeping.and.wailing run-pass-come
'He came running over weeping and wailing.'
- (107) a. sān-sān-liǎng-liǎng 'by two's and three's'
3 3 2 2
- b. Tāmen sān-sān-liǎng-liǎng-de zǒujìn-le jiàoshì
3PL 3 3 2 2 enter -PERF classroom
'They entered the classroom by two's and three's.'

These cases put forward the derivational nature of reduplication in a particular clear fashion, the output being the same, independently of the categorial identity of the input.

4.6 Intermediate summary

This section has provided ample evidence in favor of two morphologically different classes of adjectives in Chinese, viz. simple vs. derived adjectives.²³ The class of derived

23. Given the properties of simple and derived adjectives discussed in detail above, Huang Shi-Zhe's (2006) approach cannot be on the right track. Huang Shi-Zhe claims simple adjectives to be of the same semantic type ⟨e⟩ as bare nouns, and derived adjectives to be of the type ⟨e,t⟩ (glossing over the differences between predicative and non-predicative simple adjectives). Furthermore, she postulates a type matching constraint in NP modification

adjectives subsumes (completely and partially) reduplicated adjectives as well as modifier-head compounds; they can systematically function as predicates, attributes and adverbs. Accordingly, derived adjectives lack the bipartitioning into predicative and non-predicative adjectives observed for the class of simple adjectives. The common semantic denominator of derived adjectives has been shown to evaluate, describe a property rather than purely refer to it (as simple adjectives do). It is this special semantics of derived adjectives which explains their incompatibility with degree adverbs and with negation as well as their unacceptability in the comparative construction and the *de*-less modification structure.

structures, requiring the modifier and the modifiee to be of the same semantic type, i.e. ⟨e⟩ in *de*-less modification. While this might perhaps capture the fact that derived adjectives, being ⟨e,t⟩, are excluded from the *de*-less modification structure, it makes wrong predictions for the overall syntax/semantics of adjectives, some of which are briefly discussed here. Simple adjectives being of the same type as bare nouns, they are wrongly predicted to appear in the copula structure. Furthermore, being argumental, simple adjectives are not expected to function as predicates without any of the “predication markers” such as the adverb *hen* ‘very’ “turning” the ⟨e⟩ type adjective into the required type ⟨e,t⟩ (p. 352). However, it is well-known (see Paris 1989: 112) that a simple adjective can constitute a predicate on its own and then indicates the comparative degree of the property in question:

- (i) Zhèi-běn shū guì (= Paris 1989: 112, (51))
 this -CL book expensive
 ‘This book is more expensive.’

When used in a contrastive pair of sentences, the adjective is interpreted in the neutral degree:

- (ii) Zhèi-běn shū guì nèi -běn piányi / bù guì (= Paris 1989: 112, (54))
 this -CL book expensive that-CL cheap / NEG expensive
 ‘This book is expensive, that one is cheap/is not expensive.’

In a yes/no question – either with the sentence-final particle *ma* or in the form of an ‘A-bù-A’ question (cf. Huang C.-T. 1982) – the adjective is equally interpreted in the neutral degree:

- (iii) Zhèi-běn shū guì ma ?
 this -CL book expensive PART
 (iv) Zhèi-běn shū guì bù guì?
 this -CL book expensive NEG expensive
 ‘Is this book expensive?’

Last, but not least, the possibility to negate adjectives with *bù* demonstrates that they do not need any “predication marker” in order to function as predicates (cf. (ii) above).

Also note that with bare nouns, the “predication marker” *hen* ‘very’ is not able to change the semantic type from ⟨e⟩ into ⟨e,t⟩: **hen* N, a contrast unexpected under Huang Shi-Zhe’s (2006) proposal.

5. Conclusion

We have provided extensive evidence for adjectives as a distinct part of speech in Mandarin. More precisely, we have argued that Chinese has as many as *two* morphologically different classes of adjectives, simple and derived adjectives, each with its own set of predictable semantic and syntactic properties. Furthermore, we have demonstrated that typological studies have to take into account both types of modification available in Mandarin Chinese: that where the subordinator *de* intervenes between the adjective and the head noun, ‘A *de* N’, and the case of simple juxtaposition of the adjective and the noun ‘A N’. To acknowledge adjectives as a distinct part of speech not only allows us to correct the typological picture we have of so-called “isolating” languages, but also challenges current proposals where all adnominal modifiers subordinated by *de* are either analyzed as relative clauses (cf. Sproat & Shih 1988, 1991; Duanmu 1998; Simpson 2001) or as small clauses (cf. Den Dikken & Singhapreecha 2004).

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