

The insubordinate subordinator *de* in Mandarin Chinese

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Abstract

The item de subordinating modifiers of different categories to the head noun occupies a prominent place among the unresolved puzzles in Chinese linguistics. Examining Den Dikken & Singhapreecha's (2004) "linker" analysis of de we will argue in general against proposals analysing the modifier XP in terms of an underlying predicate, located in a small clause (D & S 2004) or a relative clause (Sproat & Shih 1988, 1991, Duanmu 1998, Simpson 2001). Taking into account the general properties of Chinese syntax, this article analyses de as a non-root complementiser.

1. INTRODUCTION

The element *de* in Chinese subordinating different kinds of XPs (including relative clauses (1f) and noun-complement clauses (1g)) to a head noun has so far not received a satisfying analysis. (Note that NP is head-final in Chinese.)

- (1a) [DP Meili / tamen] de pengyou¹
Mary/ 3PL SUB friend
'Mary's/their friend'
- (1b) [NP boli] de zhuozi
glass SUB table
'a glass table'
- (1c) [AP tebie congming] de haizi
particularly intelligent SUB child
'a particularly intelligent child'
- (1d) [PP dui wenti] de kanfa (Lü et al. 2000: 157)
towards problem SUB opinion
'an opinion about the problem'
- (1e) [adv lilai] de xiguan / [adv wanyi] de jihui
always SUB habit in.case SUB occasion
'an old habit / a rare occasion' (Lü et al. 2000: 157)
- (1f) [S ni jilai] de xin
2SG send SUB letter
'the letter you sent'
- (1g) [S Akiu de jiang] de xiaoxi
Akiu receive award SUB news
'The news that Akiu has received an award'

As the short overview of the literature given below shows, the analyses proposed for *de* so far often cover only a subset of the cases illustrated in (1a-g) and remain rather vague with respect to its categorial status.

¹ The following abbreviations are used in glossing examples: CL classifier; EXP 'experiential aspect'; NEG negation; PART sentence-final particle; PL plural (e.g. 3PL = 3rd person plural); SG singular; SUB subordinator, PERF perfective aspect.

Huang (1982:62) just states that *de* is a “grammatical marker [...] which marks subordination” of the peripheral elements to the head noun.

Li (1985:137-139) considers *de* a case assigner on a par with English 's (D° hosting the demonstrative pronouns *zhe/na* ‘this/that’ (Li 1998)) in order to capture the requirement for a possessor noun to be assigned Case (*cf.* (1a)). As Li (1985:138) acknowledges herself, though, this forces her to postulate Case assignment for adjectives and relative clauses as well, in order to account for the presence of *de* in cases such as (1c) and (1f), a rather implausible move. (For a recent revival of Li’s (1985) approach, see Cheung (2006) who in the spirit of Larson & Yamakido (2005, 2006) analyses *de* as a case marker.)

For Tang (1990:428; 1993:737; 2007), *de* is a functional category - different from D and C - that indicates a modifier-modifiee relation, but neither the exact features of this functional head nor its complement structure are discussed.

Simpson (2001:143) suggests that *de* is “a determiner whose existence in the language is no longer justified by any contribution of definiteness to the DP, but solely by a secondary function [...] of introducing a predication/modification on the NP [...]” Furthermore, *de*-modifiers of any category are to be derived from relative clauses (analysed within Kayne’s (1994) anti-symmetry approach), which presupposes that they can all function as predicates, a problematic assumption discussed in more detail below (section 3).

Accordingly, we share Aoun & Li’s view (2003:250, note 12) that the existing analyses of *de* are far from being satisfactory. Note that they do not offer a new analysis of *de*, either, nor do they attempt to elucidate its categorial status. Instead, they content themselves with Li & Thompson’s (1981:113) term of *associative marker* for *de*, based on the fact that *de* “associates” a phrasal category with the head noun.

In this context, Den Dikken & Singhapreecha’s (2004) (henceforth D&S) proposal seems at first sight a welcome new attempt to solve a persisting puzzle in Chinese linguistics. They propose a unifying analysis for the “linker” elements occurring in complex noun phrases between the head noun and the modifier in a variety of typologically different languages: French *de*, Thai *tʰi*, Chinese *de*, Japanese *no*. More precisely, they claim that the linker element is the reflex of a DP-internal predicate inversion where the modifier originates as the predicate in a small clause with the (surface) head noun as its subject. As a concomitant result of predicate inversion, the entire DP receives a contrastive interpretation and the modifier is construed as carrying old information.

However, as to be demonstrated in detail in the present article, this “linker” analysis cannot be applied to *de* in Chinese. More generally, the syntactic and semantic evidence arguing against D&S’s proposal equally invalidates any analysis postulating an underlying predicate for modifier XPs, be it in the form of a small clause (D&S) or in the form of a relative clause, as suggested by Sproat & Shih (1988, 1991), Duanmu (1998), Simpson (2001) and Simpson & Wu (2002). D&S are chosen as representative of the “predicational approach” here because their analysis is presented in enough detail to allow its predictions be checked against the Chinese data. It is this critical appraisal of the predicational approach, representing the mainstream in recent proposals for *de*, that will provide us with the ingredients that must be taken into account by any meaningful analysis of *de*.

The article is organized as follows. Section 2 introduces D&S’s linker analysis, which takes French *de* as a starting point. Section 3 offers a closer look at modification structures ‘XP *de* N’ in Mandarin and argues that the analysis of all modifying XPs as underlying predicates leads to wrong predictions. Section 4 turns to modification structures without *de* ‘adjective/noun N°’ and compares them with the modification structures where *de* is present, in order to check the semantic import associated with *de* according to D&S. Section 5 finally presents our new proposal of *de* as a non-root complementiser.

2. DEN DIKKEN & SINGHAPREECHA'S (2004) ANALYSIS OF *DE*

D&S (2004) propose to extend their analysis of French *de* in examples (2)-(4) to Chinese (as well as to Japanese and Thai):

- (2a) *une pizza chaude* (= D&S's (2a-b); p. 2)
a-FEM pizza hot-FEM
- (2b) *une pizza de chaude*
a-FEM pizza DE hot-FEM
Both: 'a hot pizza'
- (3a) *Il y a deux pizzas (de) chaudes* (= D&S's (6a-b); p. 5)
it there has 2 pizzas DE hot-FEM.PL
'There are two hot pizzas.'
- (3b) *J'ai deux pizzas (de) chaudes.*
I-have 2 pizzas DE hot-FEM.PL
'I have two hot pizzas.'
- (4a) *Je n'ai mangé que DEUX pizzas ?(de) chaudes*
I not-have eaten but 2 pizzas DE hot-FEM.PL
'I have only eaten two hot pizzas.' (= D&S's (5a-c); p. 4)
- (4b) *Qui *(de) sérieux as -tu rencontré?*
who DE serious have-you met
'Which serious person have you met?'
- (4c) *Rien *(d') extraordinaire n'est arrivé ce matin*
nothing DE extraordinary not-is happened this morning
'Nothing extraordinary has happened this morning.'

First of all, D&S (p. 2) note that examples (2a), on the one hand, and (2b), (3a-b), (4a), on the other, are neither syntactically nor semantically equivalent. The examples (3a-b), (4a) as well as (4b-c) illustrate the requirement of a special licenser for (2b) *une pizza de chaude*, either an existential context as in (3a-b) or a quantificational element within the complex NP itself as in (4a-c). Furthermore, the DPs in (3)-(4) "receive a contrastive interpretation and must construe the AP to the right of *de* [...] as old information" (*ibid.*). The special semantics is not contributed by *de* itself, which is considered a meaningless functional head, but rather by the A-movement operation of predicate inversion within the DP where the predicate raises across the subject (*cf.* Moro 1997). The linker *de* appears as a concomitant result of this inversion, giving rise to the first step in the derivation of *pizza de chaude* in (2b):

- (5a) [*chaude*_i [_{FP} *de* [_{SC} [*pizza*][*t*_i]]]] (=D&S's intermediate structure (21) for (2b); p. 12)

For the cases (4a-c) where the licensing is not provided by occurrence in an existential construction (*cf.* (3a-b)), D&S (p. 17) postulate that the quantificational elements themselves license predicate inversion. In order to be attractable to *wh*-, *Q*-, or Focus positions in the matrix clause, these elements must occupy the periphery of the DP phase *i.e.*, Spec,DP. Accordingly, the nominal part of the small clause must raise to Spec,DP. It is this A-bar movement, triggered by a *Q*-, *wh*-, or Focus head, in combination with the subsequent movement of *de* to the projection above the landing site of the raised predicate that leads to the same relative order as observed prior to predicate inversion (p. 17).²

² Although this article focuses on *de* in Mandarin, it should be noted that D&S's analysis of the French data contains some obvious shortcomings. The complex NPs headed by a quantified noun such as *qui*, *rien* (*cf.* (4b,c)) cannot be subsumed under the same group as the one headed by a lexical noun such as *pizza* (*cf.* (4a)), these two types of NPs not behaving alike. First, as

phrase” (D&S, pp. 35-36). Furthermore, predication inversion being universally associated with a particular information structural profile (D&S, p. 49), their account also predicts that the modifier conveys given, topical information, whereas the (surface) head noun presents the focus.

Unfortunately, however, their proposal is not compatible with the general syntactic and semantic properties of modification structures in Chinese, and at least with respect to this domain, it loses part of its claimed crosslinguistic validity. In particular, the predictions following from their approach with respect to the set of XPs able to function as a predicate in Chinese are not borne out by the data. Furthermore, the interpretation of modification structures is not as expected, either, the modifier XP in ‘XP *de* N°’ not being (automatically) associated with given information. This is corroborated by a comparison between modification structures with *de* and those without *de* (in section 4 below), which likewise demonstrates that the semantic import associated with *de* is not as predicted by D&S.

3. A CLOSER LOOK AT MODIFICATION STRUCTURES ‘XP *DE* N°’ IN CHINESE

This section provides an overview of the range of XPs occurring as modifiers in the DP and examines for each type whether it can indeed function as a predicate, a prediction made not only by D&S’s analysis in terms of predicate inversion, but also by any approach deriving prenominal modifiers from relative clauses. Given the increasing interest in the subordinator *de* by linguists not familiar with Chinese, we will provide the reader with a detailed picture of the situation in Chinese and thus the possibility to judge for her/himself. At times this might appear superfluous, if not boring to the specialists in the field whom we thank in advance for their comprehension. But even for the “insiders” it will be interesting to note that it is often sufficient to take into account a more representative array of data in order to detect the shortcomings of analyses based on too incomplete a data sample.

3.1. Non-predicative adjectives as modifiers

The distribution and syntactic properties of non-predicative adjectives provide one of the arguments against D&S’s analysis of modification structures ‘XP *de* N’ as cases of predicate (XP) inversion and likewise challenge any approach which analyses adjectival modifiers as relative clauses (*cf.* Sproat & Shih 1988, 1991; Duanmu 1998, Simpson 2001, Simpson & Wu 2002).

Unlike *predicative adjectives* (*cf.* (7)), the so-called *non-predicative* (intersective) adjectives cannot function as predicates on their own, but only as modifiers (*cf.* Lü & Rao 1981). For the predicative function, the copula *shi* and the particle *de* are obligatory (Paris 1979:61).⁵ Crucially, however, *shi...de* is excluded from the modification structure in the DP, as illustrated in (8b) and (9b):

(7) Zhangsan zhen congming⁶
Zhangsan really intelligent
‘Zhangsan is really intelligent.’

(8a) Zhei-ge panzi *(shi) fang *(de)
this -CL plate be square DE
‘This plate is square.’

⁵ Note that *de* with non-predicate adjectives is different from the subordinator *de* in the DP (*cf.* Paris 1979:60ss). Furthermore, the copula construction in Chinese does not involve *de* and is used for nominal predicates only: ‘NP *shi* NP’.

⁶ As pointed out by Hsieh Hsin-I (p.c.), predicative adjectives likewise show different properties in predicative vs. attributive function. More precisely, in the predicative function, when not modified by a degree adverb such as *zhen* ‘really’, *hen* ‘very’, *tai* ‘too’ etc., a predicative adjective is interpreted as comparative (with an implicit standard of comparison), *i.e.* *Zhangsan congming* can only mean ‘Zhangsan is more intelligent’ (than somebody else present in the discourse) (*cf.* Paris 1989:112ff.). This restriction does not hold for predicative adjectives as modifiers: *congming de haizi* ‘intelligent children’, not ‘more intelligent children’ (also *cf.* Dragunov 1952/60: §165).

- (8b) Ta mai-le [_{DP} yi-ge (*shi) fang de panzi]
 3SG buy-PERF 1 -CL be square SUB plate
 ‘He bought a square plate.’
- (9a) Zhexie wenjian *(shi) juemi *(de)
 these document be top-secret DE
 ‘These documents are top-secret.’
- (9b) Ta diu -le [_{DP} yixie (*shi) juemi de wenjian]
 3SG lose-PERF some be top-secret SUB document
 ‘He lost some top-secret documents.’

As can be seen from the examples above, the class of *non-predicative* adjectives in the Chinese classification is not limited to non-intersective adjectives such as ‘original’ *benlai*, ‘former’ *yiqian* etc. (cf. (13)-(14) below), but has a larger coverage, because it includes those intersective (absolute) adjectives in Chinese for which *shi...de* is obligatory. Non-intersective adjectives - as in other languages - can only function as modifiers and are completely excluded from any predicative function (irrespective of the presence of *shi...de*):

- (12a) gongtong de yuyan
 common SUB language
 ‘a common language’
- (12b) *Zhei-ge yuyan (shi) gongtong (de)
 this -CL language be common DE
- (13a) benlai de yisi
 original SUB meaning
 ‘the original meaning’
- (13b) * Zhei-ge yisi (shi) benlai (de)
 this-CL meaning be original DE
- (14a) yiqian de shuxue -laoshi
 former SUB mathematics-teacher
 ‘the former mathematics teacher’
- (14b) * Zhei-ge shuxue -laoshi (shi) yiqian (de)
 this-CL mathematics-teacher be former DE

It is on the basis of this latter class of non-intersective non-predicative adjectives (‘original’, ‘former’ etc.) that Aoun & Li (2003:148) likewise conclude that not all pronominal adjectives can be derived from relative clauses.⁷

When functioning as secondary predicates,⁸ non-predicative (intersective) adjectives require *shi...de* in the same way as when forming a matrix predicate. In this respect, they again contrast with predicative adjectives (e.g. *nankan* ‘ugly’, *da* ‘big’) which can function as predicates on their own:

⁷ Aoun & Li (2003:148-149) do not discuss intersective non-predicative adjectives (cf. (8), (9)) and accordingly do not examine the presence/absence of *shi...de* in terms of predicative vs. attributive function.

⁸ Huang (1984:568; 1987) provides several arguments against an analysis where the XP following the object in sentences such as (15)-(16) forms a constituent with the object, thus maintaining the head-final nature of NP in Chinese. First, the sequence ‘DP XP’ is only acceptable in postverbal position and, second, the DP must be indefinite and specific:

- (i) Wo dapo -le yi-ge chabei / *chabei / *zhei-ge chabei hen zhiqian
 1SG break-PERF 1-CL teacup / teacup / this-CL teacup very valuable
 ‘I broke a teacup which was very valuable.’
- (ii) *Yi-ge chabei hen zhiqian bei wo dapo -le

- (15) Ta you yi-ke yachi *(shi) jia *(de) / feichang nankan
 3SG have 1-CL tooth be fake DE / very ugly
 ‘He has a tooth which is false /very ugly.’
- (16) Ta you yi-zhang zhuozi *(shi) tuoyuan *(de)/ tebie da
 3SG have 1-CL table be oval DE/ particularly big
 ‘He has a table which is oval/ which is particularly big.’

The class of non-predicative adjectives in Chinese presents a challenge for the predicational approach, which derives all prenominal modifiers from underlying predicates, the adjectives in question being defined precisely by their inability to constitute a primary or secondary predicate.⁹ In the case of non-intersective adjectives (*cf.* (12b)-(14b)) the predicative function is furthermore excluded for semantic reasons; *benlai* ‘original’, *gongtong* ‘common’, *yiqian* ‘former’ thus exactly parallel the behaviour of their counterparts in English.

In a footnote (footnote 9, p. 13), D&S briefly mention the problem the occurrence of non-intersective adjectives in the ‘XP *de* N’ structure presents for their analysis and cite (14a) as (unique) example. However, they are not aware of the existence of intersective non predicative adjectives in Chinese (*cf.* (8)-(9) above) which systematically reflect the difference between predicative function (*shi...de* required) and attributive function (*shi...de* excluded), a difference incompatible with the predicate inversion approach. Accordingly, they do not consider non-predicative adjectives a serious challenge for their analysis and offer “the speculation that the ban on predicative use of certain adjectives is not a deep but a surface one, with inversion constructions of the type in (i) [= (14a), WP] apparently not being subject to it in Mandarin Chinese [...]” (p. 13). Regarding (14a) as an isolated case, they relegate its account to future research, instead of accommodating it in their analysis at hand. This is the more surprising as the existence of attributive-only adjectives has been a long-standing problem for any approach aiming at deriving modification structures from predication structures (*cf.* Bolinger 1976).¹⁰

3.2. Bare nouns and adverbs as modifier

Another case not taken into account by D&S is bare nouns and adverbs as modifiers:

- (17a) yi-zhang (*shi) boli / mutou de zhuozi (= (1b))
 1 -CL be glass/ wood SUB table

1-CL teacup very valuable PASS1SG break-PERF

Third, ‘DP XP’ only occurs in sentences which are existential in a broad sense, i.e. which contain existential verbs such as *you* ‘have’ or verbs of “creation” expressing the coming into existence of the object. Note that for the latter class of verbs the durative aspect (marked with *zai*) is excluded:

- (iii) Ta chao-le / *zai chao [yi-ge cai] [hen haochi]
 3SG fry -PERF / DUR fry 1-CL dish very delicious
 ‘He prepared a dish which was very delicious.’

As Huang points out, these constraints on the postnominal XP are incompatible with an analysis considering it as a part of the DP. For it would be very unusual for a nominal modifier to be acceptable only if the DP in question is indefinite/specific and occupies the postverbal position, and to depend on the nature of the VP. Taking furthermore into account that the XP provides a non-restrictive modification, he concludes to its status as a secondary predicate. (Also *cf.* Tang 1990, Tsai 1994b, among others.)

⁹ In contrast to Chinese, French behaves as expected under a predicate inversion analysis in only allowing predicative adjectives in the ‘NP *de* AP’ construction:

- (i) Ce film est bon /*policier
 this movie is good/ police(adjective)
 ‘This movie is good/*of the police.’
- (ii) J’en ai vu un de bon /*policier (= D&S’s (22), (23), p. 12)
 I of-them have seen one DE good / police(adjective)
 ‘I have seen a good one (*i.e.*, movie)/* a police one.’

¹⁰ With respect to the attempt of deriving attributive adjectives from relatives, Bolinger (1967:3) notes: “By itself, the fact that many more adjectives are restricted to attributive position than to predicative position is suspicious; if anything the reverse should be true if we want to base attribution on predication.”

- (21b) *Ta [PP dui zhei-ge wenti]¹¹
 3SG towards this-CL problem

In the modifier position preceding *de* and the head noun, however, PPs - though unable to function as predicates - are perfectly acceptable, which constitutes another piece of evidence against predicational approaches such as D&S's analysis.¹²

- (22a) [DP zhei-ben [PP guanyu Chomsky] de shu]
 this-CL about Chomsky SUB book
 'this book about Chomsky'

- (22b) [DP [PP guanyu tianwenxue] de zhishi]
 about astronomy SUB knowledge
 'knowledge about astronomy'

- (23a) [DP [PP dui zhei-ge wenti] de kanfa]
 about this -CL problem SUB opinion
 'the opinion about this problem'

- (23b) [DP [PP dui ziji] de yaoqiu]
 towards self SUB demand
 'the demands on oneself'

Again, the impossibility of PPs to function as predicates does not only hold in matrix sentences, but also in secondary predicate structures:

- (24) Ta you yi-ben shu *[PP guanyuChomsky]/
 3SG have 1-CL book about Chomsky /
 [VP tandao Chomsky.]/ [AP feichang gui]
 talk.about Chomsky / very expensive
 'He has a book about Chomsky/ talking about Chomsky/which is very expensive.'

(24) illustrates that a secondary predicate structure requires a VP or a predicative AP, to the exclusion of PPs, bare nouns and non-predicative adjectives (unless they are embedded in *shi...de*; cf. (15)-(16),

¹¹ Unlike *cong* 'from' and *guanyu* 'about', *dui* 'concerning, about, towards' does have a verbal counterpart *dui* 'to treat, cope with; to be opposite of'. In such a case, it is the different selectional properties which allow to distinguish between the preposition *dui* and the verb *dui*.

¹² The unacceptability of (i) below cannot be interpreted as evidence against the generalisation that PPs are allowed as nominal modifiers. Instead, it illustrates the fact that PPs are only allowed in DPs headed by relational nouns (cf. (v) vs. (iii)):

- (i) * [DP [PP cong Beijing] de ren]
 from Beijing SUB people
 (ii) [DP [s [PP cong Beijing] lai] de ren]
 from Beijing come SUB people
 'people who come from Beijing'
 (iii) *[DP [PP dui ta] de hua]
 towards 3SG SUB words
 ('the words for him')
 (iv) [DP [s wo [PP dui ta] shuo] de hua]
 1SG towards 3SG say SUB words
 'the words I spoke to him'
 (v) [DP [PP dui ta] de yijian]
 towards 3SG SUB opinion
 'the opinion about him'

While the prototype of relational nouns, *i.e.* body part and kinship terms, require the presence of a possessor, deverbal nouns (*e.g.* *re'ai* '(deep) love for sb.', *aihao* 'interest in something') and nouns such as *kanfa*, *yijian* 'opinion about sb.', *xingqu* 'interest for something' etc. are relational insofar as they require a complement (here in the form of a PP). For a similar view, Fu (1987:144).

- (29b) * Ta you [yi-ben shu /yi-liang qiche] [wo / Meili]
 3SG have 1-CL book/ 1-CL car 1SG/ Mary
 (intended interpretation: ‘He has a book/car belonging to me/to Mary.’)

Note that irrespectively of the analysis adopted for the possessor DP, the unacceptability of (29a-b) is expected, given the general constraints on predicates in Chinese syntax: if the possessor is a PP with a zero head as claimed by D&S, then the general ban against PPs as predicates observed above (*cf.* (20)-(21)) applies; if the possessor is a DP, it cannot function as a predicate, either, but requires the presence of the copula *shi*.¹⁴

Furthermore, there remains the problem of how to account for those DPs that cannot possibly be construed as possessors, such as bare NPs already discussed above (*cf.* (17)) or quantified phrases illustrated below. (Note that neither D&S nor Simpson 2001 mention these two cases.)

- (30a) [DP [QP wu li] de lucheng
 5 mile SUB journey
 ‘a journey of five miles’

- (30b) * Lucheng [QP wu li]
 journey 5 mile
 (intended meaning: ‘The journey is five miles.’)

- (31a) [DP [QP san tian] de liangshi
 3 day SUB provision
 ‘provisions for three days’

- (31b) * Liangshi [QP san tian]
 provisions 3 days
 (intended meaning: ‘The provisions are for three days.’)

- (32a) [DP yi-ge [QP san-ge xiaoshi] de yanjiang]
 1-CL 3-CL hour SUB talk
 ‘a talk of three hours’

- (32b) * yanjiang [QP san-ge xiaoshi]
 talk 3 -CL hour
 (intended meaning: ‘The talk is three hours (long).’)

We obtain the same situation here as in the discussion of the other modifier XPs, namely that the XP - here a quantified phrase - is perfectly acceptable as a modifier in the DP, but does not qualify as a predicate. Accordingly, it is not appropriate to derive it from a predicate, be it that of a small clause or that of a relative clause.

¹⁴ A proper name may be marginally acceptable as a nominal predicate without the copula *shi*. However, in such a case, it can never be interpreted as a possessor. Instead, the relation established between the two DPs is a relation of identity, not of predication (*cf.* Paul 1995).

- (i) (Ni gui xing ?) ?Wo Zhang Ping
 2SG honorable name 1SG Zhang Ping
 ‘What is your name? I’m Zhang Ping.’
- (ii) (Context : distributing roles in a play)
 ? Wo Hamlet, ni Ophelia
 1SG Hamlet 2SG Ophelia
 ‘I’m Hamlet, and you’re Ophelia.’

3.5. Modifiers in DPs with a kinship term as head

DPs headed by a kinship term such as *meimei* ‘(younger) sister’ are different from “ordinary” DPs (*cf.* (33a)), because in the former, *de* is optional:

- (33a) *ta *(de) maoyi* (= D&S’s (55), p. 39)
 3SG SUB sweater
 ‘his sweater’
 (33b) *ta (de) meimei*
 3SG SUB sister
 ‘his sister’

In order to account for the special properties of kinship DPs, D&S (p. 40) suggest that “kinship nouns have an argument structure of their own, thus introducing the relative (*ta* ‘he’ [...]) autonomously, without the need for a preposition to establish a predication relationship between the kinship term and the relative.”

This special assumption allows D&S to account for the absence of *de*, but not for the optional presence of *de*, a problem which they mention in passing (*cf.* footnote 27, p. 40) without, however, offering any solution.¹⁵

Furthermore, they do not seem to be aware of the fact that *de* is optional in kinship DPs only when the modifier is a pronoun (*cf.* Li & Thompson 1981:115). With DPs as modifiers, *de* is obligatory:¹⁶

- (34) *Akiu *(de) meimei*
 Akiu SUB sister
 ‘Akiu’s sister’

This strongly suggests that the optionality of *de* does not exclusively depend on the properties of the head noun, but also on the nature of the modifier itself (pronoun vs. other DPs), a fact which cannot be captured within D&S’s proposal, where the presence vs. absence of *de* is associated with presence vs. absence of predicate inversion. Last, but not least, returning to the case of a pronominal modifier in a kinship term DP where *de* is present (*cf.* (33b) *ta-de meimei* ‘his sister’) we have to state once again that contrary to the prediction made by D&S’s predication inversion approach for the modification structure with *de*, pronouns can never function as predicates (*cf.* (29) above.)¹⁷

4. THE DE-LESS MODIFICATION STRUCTURE

So far we have concentrated on checking the syntactic properties predicted for the modifier XP by the predicational approach. We have shown that with the exception of relative clauses and

¹⁵ “In Mandarin, apparently, it is nonetheless possible to introduce the relative (*ta* ‘he’ in (54b) [= (33b); WP]) with the aid of a predicate head external to the kinship noun phrase. Although the use of the linker *de* is by no means necessary, it is nonetheless possible in the Mandarin counterpart of *his sister*.” (D&S, p. 40, note 27,)

¹⁶ The data provided in Chappell & Thompson (1992) suggest a somewhat more complicated picture. They need, however, to be re-examined, because the position of the modifier (left or right of the classifier phrase) and the overall complexity of the NP concerned are not controlled for, although these factors are known to influence the optionality of *de* (*cf.* Fu, 1987). Also note that institutions and locations may behave on a par with kinship terms:

- (i) women (de) *xuexiao* Lü *et al.* (1980:158)
 1PL SUB school
 ‘our school’
 (ii) women (de) *jiaoshi* Lü *et al.* (1980:558)
 1PL SUB classroom
 ‘our classroom’

¹⁷ As stated in section 2.4 above, this holds irrespectively of the analysis adopted for the possessor DP: if the possessor is a PP with a zero head as claimed by D&S, then the general ban against PPs as predicates observed (*cf.* (20)-(21) above) applies; if the possessor is a DP (including pronouns), it cannot function as a predicate, either, but requires the presence of the copula *shi*.

predicative APs, the other XPs cannot function as predicates. In this section, we turn to the semantic import associated with *de* and the categorial status assigned to it in D&S as well as in Simpson (2001).

Recall that D&S postulate a particular “information-structural profile” to result universally from predicate inversion, where the inverted predicate represents a topic (*i.e.* given information) and its subject a focus (*cf.* D&S, p. 49). As far as we understand this part of D&S’s proposal, this would lead us to expect that a modification structure without *de* should lack this particular information-structural profile, the absence of *de* signaling the non existence of predicate inversion.¹⁸ In this respect, Chinese offers a welcome opportunity to check this prediction. For Chinese also allows *de*-less modification structures and provides numerous minimal pairs where for the same combination of modifier and head noun, *de* may be present or absent¹⁹:

- (35) boli / mutou (de) zhuozi
 glass/ wood SUB table
 ‘a glass/wooden table’
- (36) congming / laoshi (de) ren
 intelligent / honest SUB person
 ‘an intelligent/honest person’
- (37) piaoliang/ ganjing (de) yifu
 pretty / clean SUB dress
 ‘a pretty/clean dress’
- (38) yange (de) guiding
 strict SUB rule
 ‘strict rules’
- (39) fang (de) panzi
 square SUB plate
 ‘a square plate’
- (40) tianran (de) zhenzhu
 natural SUB pearl
 ‘natural pearls’
- (41) juemi (de) wenjian
 top-secret SUB document
 ‘top-secret documents’

¹⁸ Note that in their analysis of Chinese, D&S - without any explanation - do no longer invoke the particular information-structural profile associated with predicate inversion.

¹⁹ We limit ourselves here to the well-studied cases where the modifier is an adjective or a noun and where the sequence ‘modifier head noun’ is to the right of the classifier phrase. For it is well-known that the conditions for the optionality of *de* are different when the modifier precedes a demonstrative plus classifier phrase; in this case, *de* may also be omitted after a possessor NP or a relative clause:

- (i) Lisi (de) nei -ben shu
 Lisi SUB that-CL book
 ‘Lisi’s book’
- (ii) Ba ni dashang (de) nei-ge ren
 BA 2SG strike SUB that-CL person
 ‘the person who struck you’

We will not discuss the still poorly understood optionality of *de* in cases of *syntax-semantics mismatch* (*cf.* Huang 1991, 1992 and subsequent work) in (iii)) and with locative nouns (*cf.* (iv)):

- (iii) Ta du -le san-nian (de) shu
 3SG read-PERF 3 -year SUB book
 ‘She studied for three years.’
- (iv) Jiu shu dou zai shujia (de) shangtou (Peyraube 1980:79)
 vieux livre all be.at book.shelf SUB top
 ‘The old books are all on top of the book shelf.’

As argued for extensively in Paul (2005a), a *de*-less modification structure - contrary to the dominant view (cf. Sproat & Shih 1988, 1991; Duanmu San 1998, Aoun & Li 2003: 149, among others) - is not a compound, but a phrase, it is not subject to phonotactic constraints controlling the number of syllables, and both predicative (cf. (36)-(38)) and non-predicative adjectives (cf. (39)-(41)) are permitted as modifiers.²⁰

The absence or presence of *de* naturally induces an interpretational difference. As noted by the Chinese linguists back in the 50s and 60s (cf. Paris 1980) for translations of the most influential articles), with the *de*-less modification structure a new sub-category is established where the modifier is presented as a defining property of this new sub-category: *congming haizi* ‘intelligent children’, *fang panzi* ‘square plate’, *boli zhuozhi* ‘glass table’ (cf. Paul 2005a) for a detailed discussion). This is reminiscent of the semantics of prenominal adjectives in Romance: 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. Bouchard 1998, Klein-Andreu 1983). With the notable difference that in Chinese, modifiers referring to an intrinsic property of the noun are excluded from the *de*-less modification structure, because it is impossible to establish a new sub-category by using an intrinsic property of the category concerned: *tian *(de) fengmi* ‘sweet DE honey’ = ‘sweet honey’ (cf. Paul, to appear). Given these properties of the *de*-less modification structure, it is clear that the modification structure with *de* does not differ from the *de*-less modification structure in the way predicted by D&S, i.e. along the parameter of old vs. new information.²¹

In any case, the uniform interpretational value of ‘given information’ assigned to the modifier XP in the structure ‘XP *de* N’ in D&S’s approach is problematic in itself. This is particularly obvious in the case of relative clauses and noun complement clauses always requiring *de* preceding the head noun. Since according to D&S the presence of *de* signals predicate inversion, D&S (p. 15) predict that both types of clauses always involve predicate inversion and hence always carry old information, certainly not a desirable result. The same holds for the other modifier XPs (DPs, QPs, APs, adverbs etc., cf. (1a)-(1g) above). If D&S’s claim were correct for Chinese, we would e.g. not expect DPs containing *de* where the modifier carries new information such as in (42b):

(42a) Ni zui xihuan na -yi zhong hua ?
2SG most like which-one kind flower
‘Which kind of flowers do you prefer?’

(42b) Wo zui xihuan [_{NP} lan -se] / [_{AP} xinxian] / [_S cong helan jinkou] de hua
1SG most like blue-colour fresh from Netherlands import SUB flower
‘I prefer blue /freshly-cut flowers/flowers imported from the Netherlands.’

²⁰ Evidently, Chinese does have ‘A-N’ and ‘N-N’ compounds such as [_Nli-cha] ‘green tea’, [_N cha-hua] ‘tea-flower’ = ‘camelia’ etc. While these can be distinguished from the phrasal *de*-less modification structures by standard tests based on e.g. the *Lexical Integrity Hypothesis*, there exist no phonotactic well-formedness conditions allowing to tell compounds, i.e. words, apart from phrases. We therefore do not follow Feng (1995) who not only postulates constraints exclusively for compounds (exempting phrases) excluding e.g. three-syllable compounds, but also extends them to *de*-less modification structures, analysed as compounds by him. Apparently, this kind of confusion has been around for a long time, because it is explicitly corrected by Fan Jiyan (1958:213) and Zhu (1956/80: 3). Fan Jiyan (1958:213) even goes as far as providing a list illustrating the possible combinations of monosyllabic or polysyllabic head nouns with monosyllabic or polysyllabic adjectives in the *de*-less modification structures. The ill-formedness of Feng’s example *[xian-hong] hua ‘fresh-red flower’ is thus not due to the undesired number of syllables. It cannot be a compound because modifier-head adjectives such as *xian-hong* ‘fresh-red’ = ‘bright red, scarlet’ are excluded from compounding. It cannot be a *de*-less NP, either, because modifier-head adjectives describe a property rather than purely refer to it and are therefore unacceptable in the *de*-less modification structure. (Cf. Paul, to appear, section 4).

²¹ Huang (2006) bases her distinction of adjectives into two classes, entities <e> and predicates <e,t>, on the existence of *de*-less modification structures. She postulates a type matching constraint requiring the modifier to be of the same semantic type as the head noun. While nouns and <e> type adjectives can directly combine with the head noun (nouns being of type <e>), <e,t> adjectives need the “type shifter” *de*. Under this scenario, it is surprising that <e> type modifiers such as NPs, PPs, and adverbs allow or require *de* in modification structures (an issue not discussed by Huang). Since in addition Huang’s <e> vs. <e,t> typology of adjectives is problematic (cf. Paul 2006b; to appear), her type shifter analysis of *de* must be regarded with caution.

The existence of the *de*-less modification structure is also problematic for Simpson's analysis of *de* as a D°-head, because the interpretational effects linked to the presence vs. absence of *de* cannot in any way be associated to the dimension of (in)definiteness. Note in this context that to analyse *de* as D° is not a necessary consequence of Simpson's adopting Kayne's (1994) analysis where prenominal modifiers are derived from relative clauses. On the contrary, a direct transposition of Kayne's analysis to Chinese would have been to analyse *de* as a complementiser, on a par with English *that*:

(43a) [DP the [CP [Comp that] [IP Bill liked picture]]]

(43b) [DP the [CP picture_i [Comp that] [IP Bill liked t_i]]]

It is therefore not surprising that Simpson is unable to come up with any evidence for *de* as D° in modern Mandarin and searches earlier stages of the Chinese language in order to motivate this analysis. The only argument he offers is the fact that *zhi*, which he considers the precursor of *de*, can function as a demonstrative pronoun in Classical Chinese, whence the relation, so his reasoning, of *de* with the D° head:²²

(44) Zhi er chong you he zhi
 these 2 worm again what know
 'And what do these two worms know?' Zhuangzi 1.10
 (Glosses, translation and source indication as in Simpson 2001:137, (37))

However, as is equally well-known and pointed out by Tang (2007), *zhi* in e.g. the same works by Zhuangzi also served to subordinate modifiers to the head noun:

(45) You ren zhi xing , wu ren zhi qing (Zhuangzi, Dechongfu)
 have human ZHI appearance lack human ZHI feeling
 '(lit) with the form of a human being and yet without the substance of a human being'
 (Glosses, translation and source indication as in Tang 2007:(52b))

Last, but not least, even if one adopts the more obvious choice of the subordinating rather than the demonstrative *zhi* as the precursor of *de*, one still glosses over a crucial difference between *zhi* and today's *de*, i.e. the impossibility of an empty head noun in an NP with *zhi*. The fact that that no structures of the form 'XP *zhi* Ø' are attested contrasts sharply with the abundance of 'XP *de* Ø' structures in modern Mandarin and casts doubt on the claim to gain an insight into the nature of modern *de* from properties of *zhi*.²³

To summarize, this section has demonstrated that the characterization of the semantic import associated with *de* and the categorial status assigned to it within the predicational approach are not borne out by the actual properties of the 'XP *de* N' structures in Chinese. More precisely, the meaning differences observed between modification structures with and those without *de* invalidate D&S's claim that in a predicate inversion structure containing a "linker", 'XP *de* N°', the modifier XP necessarily carries old, "topical" information. They also do not support Simpson's analysis of *de* as a D°-head, the diachronic motivation of which likewise does not bear further scrutiny.

²² It is correct that Simpson provides a rich sample of examples from typologically diverse languages in order to show the different degrees of definiteness determiners may display. With respect to evidence internal to Chinese, however, the only piece of evidence he adduces is the use of *zhi* as a demonstrative pronoun in the example (44) from Zhuangzi. (For a detailed critique of Simpson 2001, cf. Tang 2007; for an in-depth study of the demonstrative pronoun *zhi* from its earliest attestations in the Shang inscriptions on, cf. Djamouri 1994, 1999.)

²³ The non-existence of structures of the type 'XP *zhi* Ø' has in fact led scholars to posit *zhe* as the precursor of *de*, not *zhi* (cf. a.o. Lü Shuxiang 1943/1990 and Feng Chuntian 1990). My thanks to Li Ming for having pointed this out to me.

5. AN ALTERNATIVE PROPOSAL FOR *DE*²⁴

The preceding discussion has shown that with the exception of relative clauses and predicative adjectives, the XPs in the modification structure ‘XP *de* N’ cannot function as (primary or secondary) predicates. Accordingly, any approach wanting to derive these modifier XPs from corresponding predicates contained in either a small clause or a relative clause cannot be on the right track, nor can analyses of *de* based on these erroneous assumptions. In this last section, we will draw on the results of the preceding discussion in order to sketch the outlines of an alternative proposal for *de*.

Our proposal takes as its starting point the statement made by Cheng (1986, 1997) that *de* is a “type marker (a D/C element) marking modification”, “a head-final complementizer that does not select any particular category of complement” (Cheng 1986:321).²⁵ We will try to spell out this intuition in more detail and attempt to tie it in with general properties of Chinese syntax.

A closer look at C in Chinese reveals that it has properties different from those in general associated with C in other languages.

First, it is important to point out that Chinese lacks a C heading propositional complements of verbs and sentential subjects, comparable to *e.g. that* in English:

(46) Ta shuo [Akiu de -le jiang]
3SG say Akiu obtain-PERF award
‘She told me that Akiu had won a prize.’

(47) [Akiu de -le jiang] shi women hen gaoxing
Akiu obtain-PERF award make 1PL very happy
‘The fact that Akiu won a prize made us very happy.’

Second, this ties in with the fact that the elements which can plausibly be analysed as C, *i.e.* the so-called *sentence-final particles* (*cf.* Li & Thompson 1981, ch. 7) are limited to root contexts, *i.e.* they are excluded from relative clauses, noun complement clauses, and propositional complements of verbs²⁶:

(48a) [DP [S zuotian chi yurou (*le) de] ren dou bing-le²⁷
yesterday eat fish PART SUB person all ill -PERF
‘The people who ate fish yesterday are all sick.’

(slightly changed example from Ross 1983:235)

²⁴ This section owes much to discussions with Alain Rouveret and John Whitman.

²⁵ Cheng (1986) does not attempt any explanation for this lack of selectional restrictions. She simply states that “a complementizer, being a head, may or may not select a particular type of complement or specifier. English is an example of a complementizer selecting only I’ as its complement. [...] *de*, if it is a complementizer in Mandarin, places no restrictions on the category of its complement.” (p. 319). She contends herself with this reformulation of the facts and does not pursue it any further. As for Cheng (1997), in the actual analysis she concentrates on relative clauses and does not spell out how her proposal works for non-clausal modifier XPs. Nor does she provide any further explanations concerning the mixed D/C nature invoked for *de*.

²⁶ This generalization has its origin in Li & Thompson’s (1981:557) observation that the question particle *ma* cannot be part of an embedded clause, but must be construed as belonging to the matrix sentence. For the analysis of the *yes/no* question marker *ma* as a complementiser; *cf.* Lee (1986). *Cf.* Tang (1988:363 ff) for an extensive discussion of interrogative C as root complementiser only.

²⁷ Note that the unacceptability of the sentence-final *le* in (48a) cannot be reduced to the alleged surface ban on a *le de* sequence often incorrectly invoked in the literature. As illustrated in (i) and (ii), the sequence of aspectual suffix *-le* plus *de* is perfectly acceptable:

- (i) [DP [S zuowan-le de] keyi xian zou
finish -PERF SUB can first leave
‘those who have finished can already leave’
- (ii) [DP [S hong -le de] pingguo] cai haochi
reddden-PERF SUB apple only delicious
‘Only apples which have reddened are delicious.’

- (48b) Women zuotian chi yurou le
 1PL yesterday eat fish PART
 ‘We ate fish yesterday.’
- (49a) [[Ta bu zhidao [Akiu lai] ma]?
 3SG NEG know Akiu come PART
 ‘Doesn’t she know that Akiu is coming?’
 [Excluded: ‘She doesn’t know whether or not Akiu is coming.’]
 (cf. Li & Thompson 1981:557; Tang 1988:365)
- (49b) Akiu lai ma?
 Akiu come PART
 ‘Does Akiu come?’
- (50) * [Akiu lai ma] mei you guanxi
 Akiu come PART NEG have relation
 (‘Intended meaning: Whether or not Akiu comes doesn’t matter.’)
 (cf. Li & Thompson 1981: 556; Tang 1988:363)

The *yes/no*-question particle *ma* can only be construed with the matrix clause. This is straightforward in (50) where the sentential subject cannot contain *ma*. In (49a), where the final position of the root clause coincides with the final position of the clausal complement, this must be deduced from the interpretational possibilities. As indicated, *ma* can only question the root clause, not the clausal complement in (49a), although *zhidao* ‘know’ can also select an interrogative clause.²⁸ The distribution of sentence-final particles thus neatly reflects the root/non-root asymmetry in Chinese.

Traditionally, Chinese linguists (cf. *a.o.* Zhu 1982, ch. 16) identify three distributional classes of sentence-final particles, whose relative order is fixed. *Le*, for example, is assigned the status of an “innermost” particle preceding the other particles (cf. (51) below), interrogative *ma* and imperative *ba* occupy the second slot, whereas the outermost particles such as *a*, *ou*, and *ei* express the speaker’s attitude.²⁹ Translated into a modified version of Rizzi’s (1997, 2002) split CP, ‘Fin < Force < Attitude’, (cf. Paul (in preparation)), it is plausible to assume that *le* instantiates FIN, *i.e.* a lower complementiser, *ba* and *ma* realize the FORCE head indicating the sentence type, followed by the particles related to the speaker’s attitude.

As to be expected from this hierarchy, the *yes/no* question particle *ma* can only follow, but not precede the Fin-head *le*.

- (51a) Xia yu le ma ?
 fall rain FIN FORCE
 ‘Is it raining?’

²⁸ In the case of an embedded interrogative clause, only the ‘A-*bu*-A’ question is possible (for an extensive discussion of ‘A-*bu*-A’ questions, cf. Huang 1982).

(i) Ta bu zhidao [Akiu lai bu lai]
 3SG NEG know Akiu come NEG come
 ‘She doesn’t know whether or not Akiu is coming.’

(ii) [Akiu lai bu lai] mei you guanxi
 Akiu come NEG come NEG have relation
 ‘It doesn’t matter whether or not Akiu comes.’

²⁹ Li (1992: 153, note 16) tentatively suggests Infl-status for the sentence-final particle *le*. Given its unacceptability in relative clauses (cf. (45a) above), this cannot be correct, though, because relative clauses certainly contain *Infl* or another functional category hosting the subject DP. Li Boya (2006: 171) - without further explanation - analyses *le* as the category *Deik*. The only other passage discussing *le* is p. 125 where it is likened to the Cantonese sentence-final particle *le* “mark[ing] realization” and illustrated by example (i) (her glosses and translation):

(i) Wo xin -li bian de gaoping he qingsong de duo le
 1S heart-inside become DE happy and relieved DE much PRT
 ‘My heart has become much happier and more relieved.’

(= Li Boya’s (3b), p. 125)

- (51b) * Xia yu ma le?
 fall rain FORCE FIN

Likewise, the imperative *ba*, another Force head, is only acceptable to the right of *le*:

- (52) Na- ge, ni bu yong gei qian le ba (*le)
 that-CL 2SG NEG need give money FIN FORCE FIN
 ‘Then you won’t need to pay for that!’ (Chao 1968:807)

Rather surprisingly, *de* is never included in the numerous detailed studies of sentence-final particles,³⁰ although it closes off the relative clause and occurs at the end of the sentence in (certain subtypes of) the *shi...de* construction (cf. Paul & Whitman 2004, forthcoming) and therefore certainly qualifies as a sentence-final particle.

In our opinion, the reason why *de* has not been included in (traditional) studies of sentence-final particles is the fact that *de* is a complementiser limited to non-root contexts, in contrast to the other sentence-final particles which are all root complementisers. The existence of this root/non-root dichotomy has not been acknowledged by those approaches that have assigned C° status (rather than D° status) to *de* (cf. Cheng 1986, 1997; Ning 1993, Li Boya 2007).³¹ However, once this crucial difference between *de* and the other C elements is recognized, the properties of modification structures with *de* can be better accounted for and be tied in with the overall syntax of Chinese, as outlined in the remainder of this article.

Having determined that the kind of C realized by *de* is a non-root C, we now turn to Cheng’s statement that this C “does not select any particular category of complement”, a statement reflecting the heterogeneity of XPs allowed as prenominal modifiers, illustrated in the preceding sections.

Taking the sentence-final particle *ne* as an example, we will provide evidence for the fact that *de* is not the only C in Chinese to merge with a large variety of XPs. The Force head *ne* in “follow-up” questions (cf. among others Lü et al. 1980: 412ff; Paris 1981, Jin Lixin 1996, Pan 2007) can combine with DPs (53), adverbs (54), (55), QPs (56), PPs (57), as well as clauses (58)³²:

- (53) Wo jintian you kong . Na ni ne ?³³
 1SG today have leisure then 1SG PART
 ‘I’m free today. And what about you?’
- (54) (when being told a story) Na houlai ne /*ma?
 then afterwards PART/ PART
 ‘And then?’

³⁰ Hu Mingyang (1981: 347-8) is the exception confirming the rule. Since he considers *de* as not on a par with the other sentence-final particles, he posits a separate slot for it, labeled ‘0’, thus indicating that *de* does not count for the relative ordering among the sentence-final particles.

³¹ While not having analysed *de* in the main body of her thesis, in the conclusion, Li Boya (2006:171) - without further explanation - assigns the status of FIN to *de*, *de* thus being the lowest in a hierarchy of root complementisers she proposes. The only other passage mentioning *de* and illustrating it with one example (p. 125) finally shows that she refers to the *de* “indicat[ing] the speaker’s commitment to the assertion”, i.e. the “Mandarin counterpart of the Cantonese final particle *ge3*”:

(i) Wo shi ni de fuxu , zanme bai guo tian-di de
 1S be 2S DE husband 1PL pay-homage-to EXP heaven-and-earth PRT
 ‘I am your husband, (it is the fact that) we’ve had a wedding ceremony

(= Li’s (3b), p. 125 her glosses and translation)

For a detailed analysis of *de* in assertions of the type illustrated in (i), cf. Paul & Whitman (2004; forthcoming).

³² It is important not to confound this Force head *ne* with the two other *ne*’s, one occurring with the durative aspect and labeled *ne1* (i.e. an innermost particle) by Zhu (1982:209), the other expressing exaggeration and labeled *ne3* (i.e. an outermost, Attitude-particle) by Zhu (1982:213).

³³ The presence of the sentential adverb *na* ‘then, in that case’ is preferred by the majority of the native speakers consulted, for it explicitly establishes the link with the preceding discourse.

- (55) Speaker A: Jintian wo mei you kong
 today 1SG NEG have leisure
 Speaker B: Na mingtian ne /*ma?
 then tomorrow PART/ PART
 A: ‘I’m not free today.’ B: ‘And tomorrow?’
- (56) A: Wo pa san-ge xuesheng bu gou.
 1SG fear 3-CL student NEG enough
 B: Na wu-ge ne /*ma?
 then 5-CL PART/ PART
 A: ‘I’m afraid three students won’t be enough.’
 B: ‘And five?’
- (57) A: Zai Zhongguo wo zaoshang chi xifan .
 in China 1SG morning eat rice.gruel
 B: Na zai Bali ne /*ma?
 then in Paris PART/ PART
 A: ‘In China, I eat rice gruel in the morning.’
 B: ‘And in Paris?’
- (58) Ni wen shei ne ? Lü et al. 1980/2000:412
 2SG ask who PART
 ‘Whom did you ask?’

Note that this type of question is impossible with the *yes/no* question head *ma* which selects clauses only.³⁴

As illustrated above, a root complementiser such as *ne* does not exclusively merge with clauses, but allows for all kinds of complements.³⁵ What distinguishes *de* from the other Cs is therefore not the heterogeneity of its complements, but its being a non-root C.

In fact, the case of *ne* poses the same problem as *de*, *i.e.* if we want to uphold the orthodox view of C as exclusively selecting a clausal complement, we are forced to derive (53)-(58) from complete sentences via deletion processes targeting different parts of the sentence. This would not only be an undesirable move from a general point of view, but would also create the concrete problem of how to determine the source structure to which deletion applies. Because the starting point for such a derivation cannot simply be the repetition of the first sentence plus *ne*; as shown in (59b)-(61b), this results in an ungrammatical sentence, *ne* being compatible with *yes/no* questions only when in the ‘A-*bu-A*’ form (*cf.* (59c), (60c)):

³⁴ It is important here to distinguish between the interrogative *ma*₁ and the *ma*₂ which according to Chao (1968: 801) expresses dogmatic assertion and is also noted as *me* (*cf.* (i)); *ma*₂/*me* can select complements other than clauses and also function as a topic marker (*cf.* (ii)):

(i) Ta bu shi Laoli ma₁? Rang ta jinlai ma₂ (Lü et al. 1980:375)
 3SG NEG be Laoli PART let 3SG enter PART
 ‘Isn’t that Laoli? Let him come in then.’

(ii) [CP [TOPP [DP Zhei-ge ren]_i [TOP° me] [IP wo jian-guo t_i]]]
 this -CL person PART 1SG see-EXP
 ‘This person, I have already met him.’ (Paul 2005b:116)

³⁵ It is this non-selectivity of *de* with respect to its complement which motivates Audrey Li’s (2006) analysis of *de* as a conjunction, adapting Munn’s (1993) analysis of English *and* here. *De* is first merged with the modifier XP to its left. The features the resulting projection α inherits from the head *de* specify that α must take another complement and that it is the complement of α , *i.e.* the head noun, that projects categorial features. While this nicely accounts for the fact that in the absence of an overt head, the sequence ‘XP *de* is always analysed as a headless NP ‘[_{NP} [_{XP} XP *de*] [_{NP} \emptyset], other assumptions might turn out to be problematic, such as the fact that *de* itself does not contribute any features and hence does not determine the categorial identity of ‘XP + *de*’. Also, it is not clear how the observed root/non-root dichotomy can be captured in Li’s approach. More research on the syntax and semantics of conjunctions in Chinese is called for here.

- (59a) Wo jintian you kong . Na ni ne
1SG today have leisure then 1SG PART
'I'm free today. And what about you?'
- (59b) Na ni jintian you kong ma /*ne ?
then 2SG today have leisure PART/ PART
'Are you free today?'
- (59c) Na ni jintian you mei you kong ne ?
then 2SG today have NEG have leisure PART
'Are you free today?'
- (60a) Speaker A: Jintian wo mei you kong
today 1SG NEG have leisure
Speaker B: Na mingtian ne ?
then tomorrow PART
A: 'I'm not free today.' B: 'And tomorrow?'
- (60b) Speaker B: Na mingtian ni you kong ma / *ne ?
then tomorrow 2SG have leisure PART/ PART
- (60c) Speaker B: Na mingtian ni you mei you kong ne
then tomorrow 2SG have NEG have leisure PART
'Are you free tomorrow?'
- (61a) A: Zai Zhongguo wo zaoshang chi xifan.
in China 1SG morning eat rice.gruel
B: Na zai Bali ne ?
then in Paris PART
A: 'In China, I eat rice gruel in the morning.'
B: 'And in Paris?'
- (61b) B: Na zai Bali ni zaoshang (ye) chi xifan ma /*ne ?
then in Paris 2SG morning also eat rice.gruel PART/ PART
'Do you (also) eat rice gruel in Paris?'
- (61c) B: Na zai Bali ni zaoshang chi shenme ne ?
then in Paris 2SG morning eat what PART
'What do you eat for breakfast in Paris?'

As illustrated above, under the hypothesis that the structure 'XP *ne*?' results from deletion applying to a complete sentence, it proves difficult to construct the source structure undergoing subsequent deletion: while in certain cases this must be an *A-bu-A* question (*cf.* ((59)-(60))), in other cases only a constituent question as source structure guarantees the correct output (*cf.* (61)). A derivation of 'XP *ne*?' via deletion therefore seems very problematic and we are forced to accept that some C heads in Chinese may select complements of a very heterogeneous nature, in addition to clauses.

This wide range of complements observed for *ne* and *de* suggests that their precise feature make-up varies in terms of the complement selected. *Ne* and *de* share features with C when combining with a clause, and with D when combining with a non-clausal element.

To summarize, a root complementiser such as *ne* need not exclusively merge with clauses, but allows for a wide range of complements. What distinguishes *de* from other Cs is therefore not the heterogeneity of its complements, but its being a non-root C. Like the root C elements, *de* is the head

and as such projects, *i.e.* *de* and its complement form a DeP.³⁶ In fact, within *Bare Phrase Structure* (*cf.* Chomsky 1995, section 4.3), there is no other possibility, the label of a category being its head.

Extending Aoun & Li's (2003: 179) adjunction analysis for relative clauses to the modification structure 'XP *de* NP' in general, we obtain the following structure, where the DeP containing the modifier XP is adjoined to the nominal head:

(62) [NP [DeP XP *de*] N]

The need for the DeP to occur within a nominal projection can be captured by postulating a nominal feature for *de*; such a feature might at the same time account for the fact that in the absence of an overt head, the sequence 'XP *de*' is always analysed as a headless NP: [NP [XP XP *de*] [NP \emptyset]]. Given that non-root contexts do not allow any other C elements besides *de* itself, *de* is not specified for features allowing to distinguish between the different types of root C-heads in the split CP (Fin vs. Force vs. Attitude).

The alternative proposal for *de* sketched here can better account for the properties observed in the modification structure. Recall that the modification structure is the same, irrespective of the categorial label of XP and its (im)possibility of functioning as a predicate. Accordingly, the semantic relation between the head noun and its modifier cannot be uniformly likened to that between a subject and its predicate, a claim inherent to the predicational approach. Rather, the modifier XP has a restricting function with respect to the head noun.

Against this background, it seems undesirable to derive modification structures without *de* (*cf.* (35)-(41) above) from the modification structure with *de*. Instead, the *de*-less modification structure should be analysed differently, *i.e.* no covert C should be postulated here. This is motivated by the fact that in the *de*-less modification structure, the modifier does not restrict the head noun (as in the modification structure with *de*), but in combination with the head noun creates a new denomination. Given that the *de*-less modification is limited to heads as modifiers (*cf.* Paul 2005a), it seems plausible to assume that it is the modifier which selects the noun, resulting *e.g.* in an AP for *ganjing yifu* 'clean clothes' (*cf.* (37) above).³⁷ This would also better capture the existence of "gaps" observed: *congming haizi* 'intelligent children' vs. *congming *(de) dongwu* 'intelligent animals', *gui dongxi* 'expensive things' vs. *gui *(de) dangao* 'expensive cakes' etc.³⁸

Kinship terms allowing pronouns without *de* (*cf.* (33b) *ta meimei* 'his sister') likewise do not involve an empty complementiser, but the pronoun is merged directly with the head noun. This is possible, because - as pointed out by D&S (p. 40) - kinship nouns differ from ordinary nouns in that they have an argument structure of their own.³⁹ Naturally, this special characteristic of kinship nouns does not exclude their being modified by a DeP, thus accounting for the acceptability of *ta de meimei* 'his sister' alongside with *ta meimei* 'his sister'.

6. CONCLUSION

Drawing upon a more representative array of data from Chinese and checking the predictions made by the predicational approach of modified DPs 'XP *de* N' against the general properties of Chinese syntax, the present article has argued that the modifier XP cannot uniformly be derived from an underlying predicate, be it contained in a small clause or in a relative clause (*contra* D&S 2004, Duanmu (1998), Simpson (2001), Simpson & Wu (2002), Sproat & Shih (1988, 1991)). Accordingly, an analysis of *de* based on the predicational approach such as D&S's cannot be correct. In addition, D&S's claim that a modifier XP in 'XP *de* N' carries old information (a universal consequence resulting

³⁶ This is different from Audrey Li (2006) where it is the category of the modifier XP that determines the categorial identity of [XP + *de*].

³⁷ We owe this suggestion to John Whitman (p.c.). Such a *de*-less modification structure would then become "nominal" by virtue of being selected by an overt or covert D⁰.

³⁸ As discussed in detail in Paul (2005a), a *de*-less modification structure must result in a natural, plausible classification in the sense of Bolinger (1967) (who states this as a condition for prenominal adjectives in English).

³⁹ It remains to be elucidated, though, why only pronouns are allowed here.

from predicate inversion) is not borne out by the Chinese data. Consequently, the successful application of the predicate inversion analysis to typologically very distinct languages, presented as supporting evidence in favour of their approach by D&S, does not exist to the extent claimed and at least Chinese must be crossed off the list of languages covered by this analysis.

Taking as a starting point the characteristics of *de* obtained from our critical exam of the predicational approach, we have outlined an alternative analysis for *de* in terms of a non-root C in the nominal domain. While this proposal still needs to be worked out in more detail, we nevertheless think that it is on the right track, because it not only ties in with general properties of complementisers in Chinese, but also has the advantage that no new category such as “linker” must be postulated.

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