

Another attempt to define the syntactic nature of the nominal modifier marker *de* in Mandarin Chinese – evidence from *de*-omission¹

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Abstract

This paper tentatively reviews the syntax of the general nominal modifier marker (subordinator) *de* in Mandarin Chinese focusing on cases with the “*de*-omission” phenomenon, which consists of the appearance of only one *de* marker in a DP with multiple modifiers of the same or different natures, including adjectives and pre-/post-demonstrative relative clauses.

I first introduce *de*-omission as a syntactic phenomenon instead of a “stylistic rule” as stated in Sprout and Shih (1991); then, based on the observations obtained from the data and their implications, I review some of the previous analyses of the marker *de* and suggest that considering the *de*-omission data, in the DP domain two *de*’s should be distinguished, one is a functional particle F^0 on the DP spine, activated by simple adjectives; the other one is used with modified adjectives and relative clauses as the relativizer C^0 , and it can be either the Force⁰ or the Fin⁰, depending on the finiteness of the relative clause. In addition, I also point out some characteristics of pre-demonstrative relative clauses, including the possibility of omitting *de* under some restrictions, which suggest that in Mandarin the pre-demonstrative area is also hierarchically articulated just as the post-demonstrative area.

0. Introduction

In recent Cartographic studies, the structure of DP is proved to be much richer than people thought before (Giusti 2006, Poletto 2015, Cinque 2010, 2020 a.o.). It is pointed out that nominal modifiers, including APs, relative clauses (RCs), numerals, classifiers etc., are organized in a fixed word order among world languages, just like the functional area and the left periphery in the CP domain, and thus linguists hypothesize that nominal modifiers construct

¹ This paper is dedicated to Cecilia, who is a great mentor and a good friend (if I may). Special thanks to Guglielmo Cinque, who has patiently and supportively given me illuminating suggestions about this topic since 2018. I am very grateful to the anonymous reviewer whose comments are very reasonable and well-expressed. I also benefited a lot from discussions with Linda Badan, Chang Liu, Emanuela Sanfelici and Wenli Tang. All remaining errors and flaws are mine.

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the extended projections of the head noun are hierarchically organized in the DP domain. However, despite the structural parallelism between DP and CP, many interesting phenomena in DP cannot be simply explained by looking at the CP structure. When multiple nominal modifiers (especially relative clauses, hereafter “RCs”, and adjective phrases, hereafter “APs”) co-occur in a single DP, they can be analyzed as a case of Stacking (Stockwell, Schachter & Partee 1973: 442, cited by Cinque 2020: 302), where the modifiers take different scopes in the same DP; or as a case of coordination, where the modifiers have an equal syntactic status in the nominal phrase. The scope difference should be a consequence of the hierarchical relation among the modifiers, while the coordination construction implies a structural similarity of the conjuncts.

However, the investigation of the syntax of multiple nominal modifiers is difficult to conduct, especially for a language like Mandarin Chinese where all kinds of nominal modifiers are marked by a single marker *de* (的), and there is no obvious relativizer or adjectivizer that signals the underlying structure of each modifier.

This paper attempt to point out some observations about stacked/juxtaposed modifiers, as well as some “unclassical” cases in the pre-demonstrative positions in Mandarin. Then, by contemplating on these data, I provide my opinion on the syntactic analysis which could possibly explain the observed phenomena. The main purpose of this paper, then, is to offer new perspectives to the investigation of this marker and the DP structure, instead of resolving the long-lasting issue for good.

After the introductory §0, from §1 to §3 I focus on a phenomenon called “*de*-omission” and assume that *de*-omission is a tool to detect asyndetic coordination of two nominal modifiers of the same type. In §2, I propose that the nominal modifier marker *de* should get at least two different syntactic analyses, one is a C^0 which is internal to the modifying phrase (which is either a RC or a modified AP), the other is a F^0 which is external to the modifier (which can be only a simple AP) and belongs to the DP spine. Then in §3 I point out that Finiteness plays a role also in Mandarin post-demonstrative RCs, and the C^0 type *de* can also be divided into $Force^0$ and Fin^0 . The last section §4 is dedicated to pre-demonstrative RCs, a category that is always disputable in their syntactic nature and semantic interpretation. I tentatively propose that pre-demonstrative RCs can be either derived from a post-demonstrative position or external-merged higher than the Dem(onstrative)P, and that the pre-demonstrative area is also occupied by different types of RCs, similar to the post-demonstrative area.

0.1 The eternal mystery of *de*

From the early studies of Chinese grammar to the recent research in generative linguistics, the particle *de* (的) in Mandarin has attracted a lot of attention from scholars, but its veil still remains unrevealed. The “mystery” of this particle is multifaceted. In descriptive works, the discussion is often brought up together with the homophonous adverbial marker *de* (地) and the post-verbal ability/resultative marker *de* (得), which are both used as particles which connect a modifier to a modified head element (see for instance Lü and Zhu 1951 as an early attempt to disambiguate their use). The nominal modifier marker *de* of our concern here can be attached to almost every type of nominal modifiers, including adjectives (A), nouns (N), relative clauses (RC) and prepositional modifier (P). Moreover, it is also used as a non-root “sentence-final particle” (Paul and Whitman 2008, Paul 2015). The vast coverage of its use makes it difficult to find a unified proper analysis, which should be neither too specific and *ad hoc*, nor too general and barely explanatory.

In addition to the vast distribution, the “optionality” of *de* is also hard to generalize as a rule. Some simple nominal modifiers like APs and NPs can appear *de*-less, unlike other nominal modifiers which must be followed by *de* before the head noun. Paul (2005) argues against this “optionality” and holds the idea that a modifier gets a “defining” reading when it appears without *de*, namely, the property is conceived as an intrinsic part of the definition of the nominal phrase; while when it is followed by *de* it gets an “accessory” reading, namely, the property does not contribute to establish a new type of entity. Since this paper focuses on the syntactic analysis of it, I will leave the semantic interpretation of *de* for future research, and, hopefully, with a step forward in the syntactic study, the semantics of *de* can also get a more convincing explanation.

In addition to this possibility of absence with simple modifiers, pre-demonstrative complex modifiers can also abandon their *de* even if it is needed for the same type of constituent in a post-demonstrative position:

- (1) Pre-demonstrative modifier with optional *de*:

<i>Dai yanjing</i>	<i>(de)</i>	<i>na</i>	<i>ge</i>	<i>nansheng</i>
Wear glasses	DE	that	CL	boy

- (2) Post-demonstrative modifier with obligatory *de*:

*Na ge dai yanjing *(de) nansheng*

That CL wear glasses DE boy

‘that boy who is wearing glasses’

This “optionality” is also subject to some syntactic restrictions, thus it cannot be explained as a simple phonetic reduction.

Syntactically, previous analyses can be classified into two major groups: EXTERNAL-to-the-modifier-phrase ones (E-type) and INTERNAL-to-the-modifier-phrase ones (I-type). The E-type treats it as a functional head on the spine of DP, such as D^0 (Simpson 2002, from data of nominal modifiers in general in a comparative point of view), LINKER (den Dikken and Singhapreecha 2004 and den Dikken 2006, focusing on the subject-predicate relation it implicates), and underspecified classifier (Cheng and Sybesma 2009, considering evidence from its counterpart in Cantonese); while I-type like C^0 (Cheng 1986 from an analysis of RCs, Paul and Whitman 2008, Paul 2015 for *de* as a SFP, and Cinque 2020 in the discussion of RCs) and Mod^0 (Rubin 2002 from cross-linguistic evidence of modifier marking) proposals deem it as a part of the modifier which do not directly select the head noun. I will briefly discuss it later in §1.

In this paper I confine my discussion within the nominal modifier marker use of *de* without repeating the previous discussion. The central evidence I gaze at is the phenomenon called “*de*-omission” and I propose that *de* in simple modifiers and in complex modifiers should get different syntactic analyses.

Naturally, as suggested by the title of this paper, I am not trying to resolve the mystery. It will only be another attempt seeking to review it from a different point of view.

0.2 De-omission

In Mandarin, the marker *de* is canonically attached to every modifier of a DP, unless the one nearest to the head noun is a direct modifier which gets the “defining” property reading as mentioned above:

- (3) *Nage [xihuan chi yu] de [laoshi] (de) ren*

That-CL like eat fish DE honest DE person

With the second *de*: ‘an honest person who likes to eat fish’

Without the second *de*: ‘a person who is honest and who likes to eat fish’

The idea of *de*-omission comes from Sproat and Shih (1991: 593, footnote 9) who mention the “*de*-deletion” phenomenon: under some conditions, in the presence of two or more nominal modifiers, we can delete the first *de*(s) and only keep the final *de*, immediately to the left of the head noun, without changing the grammatical judgement of the phrase.²

(4) Polysyllabic adjectives:

<i>[Pianyi]</i>	<i>[haokan]-de</i>	<i>shu</i>
Cheap	interesting-DE	book

‘an interesting cheap book’

(5) RCs:

<i>[xihuan chi yu]</i>	<i>[haokan]-de</i>	<i>neige ren</i>
like eat fish	good-looking-DE	that person

‘that good-looking person who likes to eat fish’

In (4) and (5), *de* after the first modifier is “deleted” but the phrases remain grammatical as their two-*de* variant (e.g., *pianyi-de haokan-de shu* ‘cheap-*de* interesting-*de* book’). According to the authors, this is due to a general “stylistic” rule and does not implicate that the higher modifier is a *de*-less direct modification. However, this raises the puzzle of whether the first *de* ever exists or not: if it first appears and then gets deleted, it is still necessary to explain why the higher copy, instead of the lower copy, is deleted, contrary to a general Ellipsis rule or other operations that can lead to a silent element;³ if it does not merge at all in the structure, we should find a way to account for a grammatical *de*-less complex modifier, which should be banned out of this context.

Furthermore, in another paper (Sun 2023) I claimed that *de*-omission is not just a stylistic rule, but a phenomenon which appears only when the two co-occurring modifiers are

² Notice that the gloss for the same word “*haokan*” is different in (4) ‘interesting’ and in (5) ‘good-looking’.

These are original translations of Sproat and Shih (1991) and I agree with them: for a book it is the content that gives pleasure to the readers, while for a person it is his/her appearance that is good to look at, and probably this is the radical reason why in (4) the word is treated as an adjective while in (5) a RC.

³ An anonymous reviewer suggests that when movements are involved, a higher-copy deletion is also possible (Bobaljik 2002). But for the case of *de*, even if we suppose that *de* goes through some syntactic movement, the two copies would not hold a c-command relation and thus the license of Ellipsis is still problematic.

syntactically recognized as the exact same type in the DP. For instance, by simply changing the first AP in (4) to a disyllabic RC,⁴ the phrase becomes ungrammatical:⁵

- (6) **[ni mai]* *[haokan]-de* *shu*
 You buy interesting-DE book
 Intended ‘the interesting book you bought’

Therefore, in that paper I tested the possibility of having post-classifier *de*-omission between modifiers of different natures and the result is shown in Table 1, where “Y” means that the sequence is fully acceptable, “N” means that it is ungrammatical and “?” means marginal acceptance:

First modifier Second modifier	(simple) AP individual-level	(simple) AP stage-level	O-RC	(modified) AP individual-level	S-RC individual-level	(modified) AP stage-level	S-RC stage-level
(simple) AP individual-level	Y	N	N	N	N	N	N
(simple) AP stage-level	N	Y	N	N	N	N	N
O-RC	N	N	Y	N	?	N	?
(modified) AP individual-level	N	N	N	Y	Y	Y	Y
S-RC individual-level	N	N	N	Y	Y	Y	Y
(modified) AP stage-level	N	N	N	?	?	Y	Y
S-RC stage-level	N	N	N	?	?	Y	Y

Table 1 Result of *de*-omission test

Here we can see that the following variables play a role in licensing *de*-omission:

- i. Stage-level vs. Individual-level (“who talked to you” vs. “who likes linguistics”);
- ii. Modified AP vs. simple AP (“very rich” vs. “rich”);
- iii. AP vs. RC (“rich” vs. “who has a lot of money”);

⁴ The number of syllables is controlled here to avoid the effect of the heaviness of RCs. As pre-nominal modifiers, heavy RCs in Mandarin are often marked with longer pauses or even rephrased into separate clauses, which will influence the result of the test.

⁵ Cf. the grammatical two-*de* version:

- i. *[ni mai]-de* *[haokan]-de* *shu*
 You buy-DE interesting-DE book
 ‘the interesting book you bought’

iv. S(ubject)-RC vs. O(bject)-RC (“who bought a yacht” vs. “which I gave to her”).

From this perspective, *de* serves to identify modifiers of the same type: two modifiers of the exact same category can always appear with only one *de* after the second one; simple APs of individual-level interpretation, simple APs of stage-level interpretation and O-RCs are clearly kept distinct from each other, while modified APs and S-RCs are mixed as a single category. I mentioned that underlyingly it could be the coordination that makes *de*-omission possible, without illustrating any details.

Considering the former analyses about the DP hierarchy in Cinque (2018, 2020) and this test result, in the appearing paper I show that the hierarchy in the post-numeral position in Mandarin should be organized as (7):

- (7) Dem > ... > Numeral_{cardinal}(+Classifier) > (modified)AP/S-RC > O-RC > (simple)AP_{stage-level} > (simple)AP_{individual-level} > N

However, a syntactic mechanism that drives the differentiation of simple APs and modified APs, as well as S-RCs and O-RCs, is left to be explored. This paper aims to make a further step from this conclusion, in the attempt to show a possible syntactic analysis that could account for the (im)possibilities of using *de*-omission under certain contexts.

1. An approximation to the syntactic formation of *de*-omission

In §0.1 I mentioned that previous studies about the syntax of *de* can be divided into two major trends, namely the “internal” I-type analyses and the “external” E-type analyses. Formally they can be simplified⁶ and represented as follows:

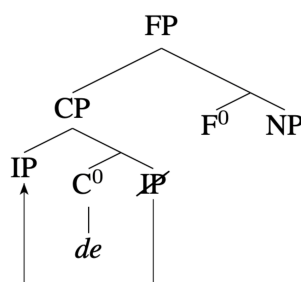


Figure 1 I-type

⁶ They are simplified in the sense that I ignore the hierarchy and the label of different modifier categories, as well as the internal-head/external-head issue (Cinque 2020) with the RCs.

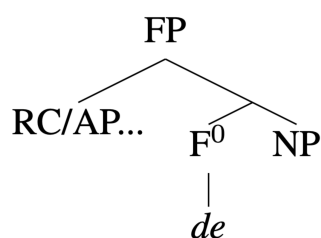


Figure 2 E-type

These two types of analysis make different predictions to the whole DP structure.

The I-type as in Figure 1 implies that the modifier and the marker *de* form a constituent, when a certain derivation of some marked word orders requires movements of the modifiers, they can and should be moved as a unit. In addition, it also implies that simple APs have the same underlying structure as RCs when they appear with the marker *de*, i.e., as an indirect modifier with an “accessory” reading. This method intuitively fits the fact that out of the DP context, *de* can behave like a non-root sentence-final particle: it is nothing else than a subordinator C^0 that triggers the movement of the IP from its complement to its specifier, the only difference is the place where this CP appears – in a DP as a relativizer or in a subordinate clause as a non-root sentence-final particle.

The E-type as in Figure 2 treats *de* separately from the modifier and predicts that a modifier and *de* can be moved together without the NP only via remnant movement, since they are not bound in a strict constituent. When modifiers are stacked in a single DP, we should allow multiple *de*’s as functional heads on the DP spine, as $AP1^0$, $AP2^0$, $RC1^0$, $RC2^0$, etc. In this way, the modifier hierarchy must be strictly respected as the modifier-specifier cannot be moved independently away from the *de*-head.

Based on these two options, we can now try to depict the situation of *de*-omission. If the asyndetic coordination explanation of *de*-omission is reasonable, they can be represented respectively as Figure 3 and Figure 4 (“CoP” stands for “Coordination Phrase”):

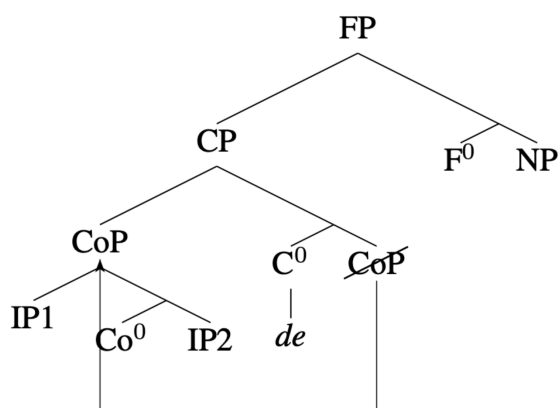


Figure 3 I-type *de*-omission

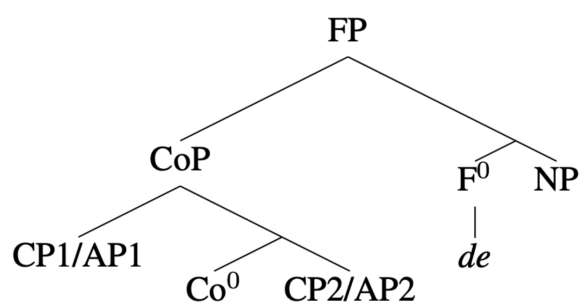


Figure 4 E-type *de*-omission

According to this analysis, the so-called *de*-omission consists of the sharing of one *de* of two similar constituents. Notice that I-type *de*-omission also has the option to coordinate from the CP-level, but in that case the first *de* should be eliminated for some reason, but at least a classical Ellipsis method à la Merchant (2001) cannot account for it because: i). there is no c-command relation between the two copies; ii). the elided one is always the higher copy without a proper antecedent; and iii). no movement is involved here.

Naturally, the coordinated elements should meet the syntactic and semantic requirements of the functional head.⁷ From this assumption, according to the result shown in Table 1, we can reach the conclusion that when the modifiers come with the same stage-/individual-level interpretation, simple APs are structurally different from modified APs, and modified APs are analyzed as S-RCs; S-RCs are instead kept separately from O-RCs.

In the next sections, I attempt to illustrate how these conclusions can affect the syntactic analysis of the internal structure of nominal modifiers, and what could be the implications to the syntax of the marker *de*.

2. Simple APs vs. Modified APs⁸

As anticipated before, in a post-demonstrative position, a simple AP and a modified AP (with a degree adverb or a negator) cannot appear with only one *de* after the second modifier in neither

⁷ An anonymous reviewer suggests that in English a phrase like “an old but closed door” is grammatical and this is probably because two bigger chunks are coordinated instead of two simple APs. I think this is exactly the case, considering the fact that the translation of this phrase in Mandarin “*yi-shan hen jiu dan guan-zhe de men*” (lit. ‘one-CL very old but close-PROG DE door’) involves a modified AP and a subject RC. In addition, given that here I exclusively talk about asyndetic coordination, it is still unclear how an explicit coordinator can change the syntax of it. I will leave it for future research.

⁸ As for “simple APs” I refer to the first type of Zhu Dexi’s (1999) classification of adjectives, which includes monosyllabic and disyllabic adjectives without any reduplication or modification; “modified APs” instead only cover a subgroup of his second type adjectives, i.e., complex adjectives, for the reason that an [adverb/negator + adjective] phrase has a simpler syntactic structure than other complex adjective forms investigated in his work.

of the two possible relative orders, even when the two modifiers are both disyllabic and of the same stage-/individual-level reading:

(8) Individual-level:

a. *Modified AP > Simple AP

<i>*Zhe-ge</i>	<i>[hen/bu shuai]</i>	<i>[gaoda]</i>	<i>de</i>	<i>nansheng</i>
This-CL	very/NEG handsome	tall	DE	boy

b. *Simple AP > Modified AP

<i>*Zhe-ge</i>	<i>[gaoda]</i>	<i>[hen/bu shuai]</i>	<i>de</i>	<i>nansheng</i>
This-CL	tall	very/NEG handsome	DE	boy

Intended ‘this tall boy who is very/not handsome’

(9) Stage-level:

a. *Modified AP > Simple AP

<i>*Zhe-ge</i>	<i>[hen/bu lei]</i>	<i>[fennu]</i>	<i>de</i>	<i>nansheng</i>
This-CL	very/NEG tired	angry	DE	boy

b. *Simple AP > Modified AP

<i>*Zhe-ge</i>	<i>[fennu]</i>	<i>[hen/bu lei]</i>	<i>de</i>	<i>nansheng</i>
This-CL	angry	very/NEG tired	DE	boy

Intended ‘this angry boy who is very/not tired’

As a contrast, a modified AP can appear with a S-RC with *de*-omission, even when the stage-/individual-level interpretation is mismatched:

(10) (modified) AP_{stage-level} > S-RC_{individual-level}:

<i>Na-ge</i>	<i>[tebie fennu]</i>	<i>[xihuan shuxue]</i>	<i>de</i>	<i>nansheng</i>
that-CL	very angry	like mathematics	DE	boy

‘the boy who is very angry and who likes mathematics’

(11) S-RC_{stage-level} > (modified) AP_{individual-level}:

<i>Na-ge</i>	<i>[he-ni shuohua]</i>	<i>[tebie gaoda]</i>	<i>de</i>	<i>nansheng</i>
that-CL	with-you talk	very tall	DE	boy

‘the boy who talked with you and who is very tall’

The incompatibility of simple APs with modified APs and the compatibility of modified APs and S-RCs guide us to consider that a modified AP is structurally an IP-like construction, like a S-RC, while a simple AP should have a largely reduced structure which cannot be deemed as an IP.

2.1 Modified AP

Once equipped with an adverb or a negator, an AP transforms into a clausal structure, i.e., at least an IP structure, which fits the long-discussed topic that in Mandarin an AP alone cannot be a predicate while [*hen* ‘very’ + AP] can. In this sense, the modifier containing a modified AP is nothing else than a S-RC with an intransitive predicate. Ignoring the double-headed problem, the structure can be represented in the following figures, according to the two types of analysis of *de*:

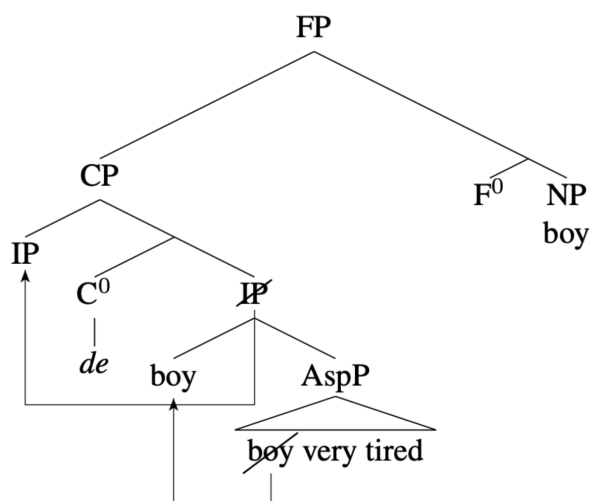


Figure 5 I-type *de* with Modified AP/S-RC

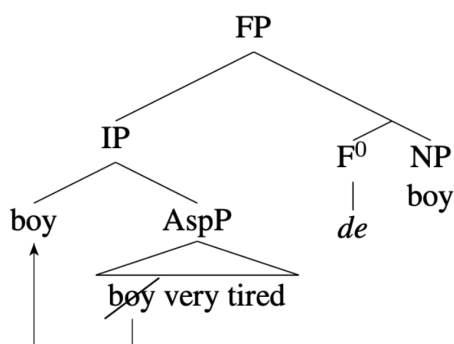


Figure 6 E-type *de* with Modified AP/S-RC

As mentioned before, the two options can be different in terms of constituency: Figure 5 predicts that the C head *de* forms a constituent with the IP, while Figure 6 predicts that the IP is free.

Suppose that when this modified AP/S-RC is focused, it can be moved to a pre-demonstrative Focus position⁹ and get a contrastive/corrective and restrictive reading. In this case, the pre-demonstrative *de* following the moved modified AP/S-RC must be pronounced, while the post-demonstrative F⁰ *de* (as in Figure 6) must disappear:¹⁰

(12) Modified AP (focused) > Demonstrative > NumP + Classifier > NP

(*Wo shuo de shi*) [*hen LEI* ***(de)**] *na-ge* ***(de)** *nansheng*,
 I say DE be very tired DE that-CL DE boy
 (*bu shi hen FANGSONG de na-ge nansheng!*)
 NEG be very relaxed DE that-CL boy
 ‘(I referred to) the boy who was very TIRED, (not the one who was relaxed!)’

If we adopt an E-type analysis which considers *de* as a functional head, then we must oddly hypothesize that in (12) the head of this FocusP is also *de*, while the F⁰ *de* is in some way phonologically deleted:¹¹

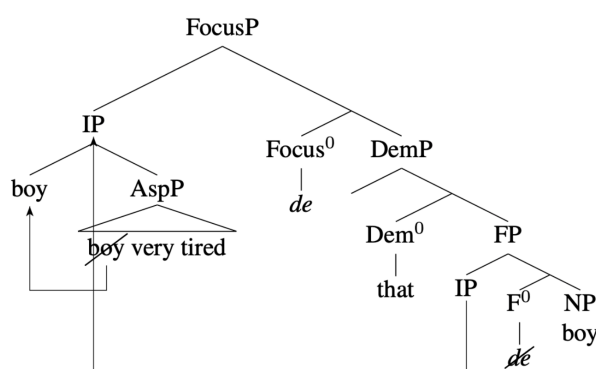


Figure 7 hypothesis of *de* being Focus°

⁹ See §4 for more discussion.

¹⁰ Notice that here to highlight the contrastive reading, I use a pseudo-cleft construction, and for this reason the copula appears in the example. I keep my opinion open to whether a sentential Focus construction (e.g., a cleft) can trigger a DP-internal Focus movement.

¹¹ There is another option to derive this order without assuming a Focus-head *de*: to focalize the whole FP that holds [IP + *de*]. However, it implies that the movement should always be a remnant movement, as the moved node is on the DP spine. When there is more than one FP in the post-demonstrative positions and we only need to move the higher one to the pre-demonstrative Focus position, the derivation would become extremely complex and uneconomic. For this reason, I do not consider this option in this paper, but neither exclude it completely for future research.

Instead, if we hypothesize an I-type analysis, the derivation becomes much more direct and intuitive: we only need to move the modifier CP to SpecFocusP. The relativizer *de* naturally follows the modified AP/S-RC as they form a constituent in a specifier position.

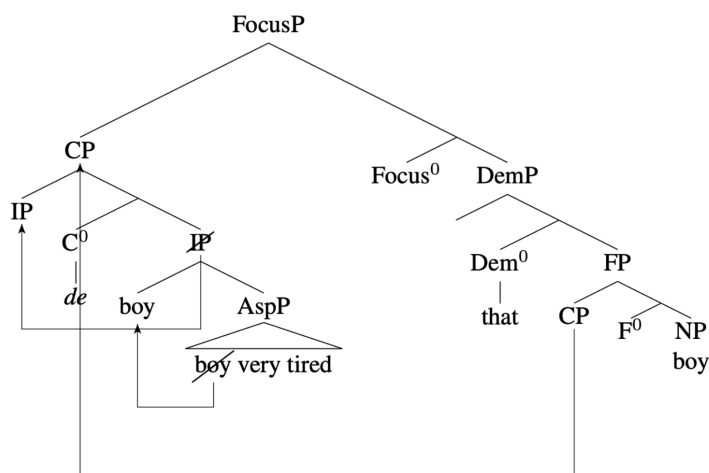


Figure 8 I-type RC Focus movement

Based on this observation, I tentatively argue that at least for modified APs, *de* is better treated as a relativizer C^0 , instead of a functional head on the DP spine.

2.2 Simple AP

De-omission data show that when an AP is bare and not modified by any adverbs or the negator, it cannot be counted as a S-RC. The absence of modifying adverbs or negator implies that simple APs are structurally reduced, i.e., the core AP does not project any extended functional projections above it. The reduced syntactic structure makes it impossible for the AP to coordinate with a RC or a modified AP. We can conjecture that the representation of a [(Num + CL) AP *de* NP] construction has the following two options:

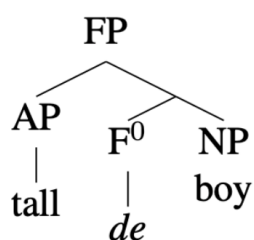


Figure 9 E-type *de* with a simple AP

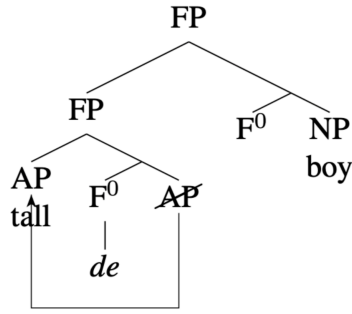


Figure 10 I-type *de* with a simple AP

Different from the case of RCs, the “internal” solution in Figure 10 is problematic in terms of the identity of *de*: it cannot be a C head/relativizer anymore because a C head should not select a simple AP as complement; it looks like a functional head of an extended projection of AP, but unlike adverbs (e.g., *hen* ‘very’) and the negator *bu* that precede the AP (see for example in (8) and (9)), *de* always follows the AP. It cannot be treated as an “adjectivizer” like a suffix, either, for the fact that in the case of direct *de*-less modification (e.g., *gaoda-jianzhu* lit. ‘tall-building’) it is not required to license an adjective to be a modifier.

Furthermore, if we consider the *de*-omission cases, there should be a mechanism that distinguishes stage-level simple APs from individual-level simple APs, since they cannot co-occur with the omission of the first *de* (see also Table 1):

- (13) *(simple) AP_{stage-level}>(simple) AP_{individual-level}>DE>N
**Zhe-ge [fennu] [gaoda] de nansheng*
 This-CL angry tall DE boy
 Intended ‘this tall boy who is angry’
- (14) *(simple) AP_{individual-level}>(simple) AP_{stage-level}>DE>N
**Zhe-ge [gaoda] [fennu] de nansheng*
 This-CL tall angry DE boy
 Intended ‘this tall boy who is angry’

Although individual-level predicates and stage-level predicates are said to differ in argument structure where an extra argument position for events or spatiotemporal locations is available for stage-level predicates (Kratzer 1995), when they appear as simple APs, there is no overt sign that could verify this difference: temporal and spatial expressions cannot be simply added to a simple AP even if it has the potential to have them semantically when it appears as a

predicate (for instance, the following example (15) can be remedied by inserting an adverb *hen* ‘very’ to the left of the AP, which, according to the current discussion, would converge it into a RC).

- (15) **Zhe-ge* [*zuotian* *fennu*] *de* *nansheng*
 This-CL yesterday angry DE boy
 Intended ‘this boy who was angry yesterday’

This suggests that syntactically a stage-level simple AP has the same minimal structure as an individual-level simple AP, with no argument structure or extended projections. A stage-level simple AP is only lexicosemantically different from an individual-level AP (being a temporary property vs. being a permanent property), but not in terms of syntactic structure.

This conclusion, then, raises the question of why a stage-level simple AP cannot be coordinated with an individual-level AP: the coordination should be banned by their different lexicosemantic feature (individual-level vs. stage-level), as it is their only difference, but this should not be a problem to the coordination.

Given this, I propose that for simple APs the marker *de* is external to the modifier,¹² situating along the DP spine as the functional head of an extended projection of NP (i.e., the E-type solution Figure 9), instead of a C⁰-like head within the modifier; individual-level simple APs and stage-level simple APs are kept separated in two projections in the DP cartography,¹³ with one F⁰ *de* in each projection.

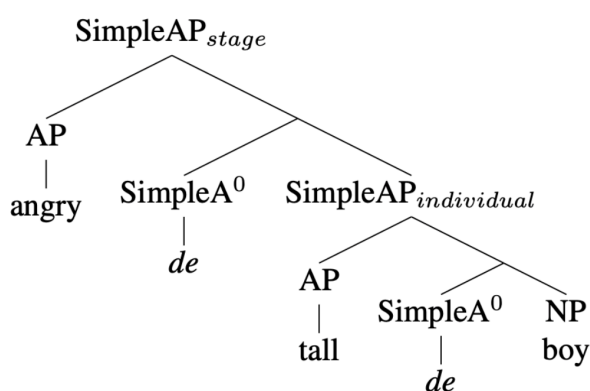


Figure 11

¹² Although, as suggested by an anonymous reviewer, an I-type hypothesis could be explained by proposing that an AP can be selected by a C-head, which is not strange at all given the different clausal sizes in CP. It sounds attractive to me, but the discussion should be made with more details and I will leave it open for now.

¹³ I intentionally ignored the discussion of Restrictiveness of the APs, which could and should play a role in the ordering. I will leave it for future research.

In this way, when a stage-level simple AP co-occurs with an individual-level one, it is inevitable that two *de*'s are used.

3. S-RC vs. O-RC, or Finite vs. Non-finite?

In the other paper (to appear) I argued that between a S-RC and an O-RC there must be a *de* to separate them based on the following evidence:

- (16) a. ?S-RC>O-RC>DE>N:
 ?*Na-ge* [*he-ni shuohua*] [*wo bu-renshi*] *de* *nansheng*
 that-CL with-you talk I NEG-know DE boy
 ‘the boy who I didn’t know and who talked to you’
- b. *O-RC>S-RC>DE>N:
 **Na-ge* [*wo bu-renshi*] [*he-ni shuohua*] *de* *nansheng*
 that-CL I NEG-know with-you talk DE boy

As I argued above, modified APs behave like S-RCs, and this impossibility of using *de*-omission also applies to modified APs:

- (17) a. *(modified) AP>O-RC>DE>N:
 **Zhe-fen* [*shifen-guizhong*] [*ta mai gei-wo*] *de* *liwu*
 This-CL very-expensive he buy to-me DE present
- b. *O-RC> (modified) AP>DE>N:
 **Zhe-fen* [*ta mai gei-wo*] [*shifen-guizhong*] *de* *liwu*
 This-CL he buy to-me very-expensive DE present
 Intended ‘this expensive present which he bought me’

But the conclusion that S-RCs and O-RCs constitute two separate projections in the DP hierarchy (as generalized in (7)) is oversimplified. The RCs used in the examples are not controlled for eventive/stative distinction, and the presence of negation could also alter the result. Consider the following example which contains an O-RC and a S-RC in the post-demonstrative position with *de*-omission but is still acceptable:

(18) Dem>O-RC>S-RC>DE>N:

Zhe-ping [*Zhangsan* *zhencang-le* *hen* *jiu*],
 this-CL Zhangsan treasure-LE very long
 [*feichang* *you* *jinian* *yiyi*] *de* *putaojiu*
 very have memorial meaning DE wine
 ‘This bottle of wine which Zhangsan has treasured for a long time, and which is
 memorable’

Compared to (16) and (17), the O-RC in (18) is obviously more complicated, with a perfective aspectual marker *le* and an adjunct *henjiu* ‘very long (time)’ referring to the duration of the verb. This hints that what allows/bans *de*-omission in the above examples may have to do with the finiteness, instead of the pure separation of S-RCs and O-RCs.

However, S-RCs and O-RCs are not perfectly identical regarding the aspect-marking. In the examples below, DP in (20) and DP in (21) are converted from CP in (19).

- (19) *Na-wei* *chushi* *zuo-*(le)* *zhe-dao* *cai*.
 That-CL cook make-LE this-CL dish
 ‘that cook made this dish.’
- (20) *Na-wei* [*zuo-(le)* *zhe-dao* *cai*] *de* *chushi*
 That-CL make-LE this-CL dish DE cook
 ‘That cook who made this dish’
- (21) *Zhe-dao* [*na-wei* *chushi* *zuo-(*le)*] *de* *cai*
 This-CL that-CL cook make-LE DE dish
 ‘This dish made by that cook’

Hongyuan Sun (2014: 47) claims that in Mandarin, verbs of achievement should be overtly marked for aspect to be interpreted as episodic events. This is reflected in the obligatory use of the aspect marker *le* in (19). Controversially, in the S-RC in (20), *le* is optional; while in the O-RC in (21) it is blocked. Only when the time span is explicitly indicated, can an O-RC incorporate the aspect marker *le* in it, as in (18) above.

It is well-known that Finiteness and Tense are not overtly marked in Mandarin, and ardent debates around this topic are still going on (see for example Paul 2018 and the works mentioned there). I do not intend to inquire too much into this complex issue, but purely for the purpose of explaining the contrast in grammaticality judgement between (16)-(17) and (18), I

hypothesize that Finiteness¹⁴ also plays a role in the ordering of RCs in Mandarin DP, thus contra the conjecture of Cinque (2020: 236) that Mandarin RCs only involve non-finite ones.

Reasonably, we can now suppose that O-RCs with an eventive verb are by default non-finite, which explains the unavailability of the aspect marker *le* in (21), unless when they are overtly provided a time span, as in (18), which promotes the RC to a finite one; S-RCs with a stative verb (e.g., *you* ‘have’ in (18)) and modified APs (as in (17)) are always finite, as they are always imperfective in terms of aspect and can get their tense from the context or time adverbs. These two statements are enough to predict the grammaticality of (18) and the ungrammaticality of the two DPs in (17): *de* in (18) can be attached to a coordination of two finite RCs with the same syntactic scale, while the coordination in (17) cannot form, as the Finiteness, and thus the clausal structure, in the two RCs is mismatched, which causes the impossibility of using *de*-omission.

Notice that, if we are on the right track, *de* indifferently marks both finite and non-finite RCs. This could be considered as a syncretism of two different C heads, probably Force⁰ and Fin⁰ in RCs.

As for the problematic examples in (16), due to the marginal judgement and the use of negation in RCs, more evidence should be provided, and I will leave it for future research.

4. Pre-demonstrative (*de*-less) RCs

4.1 Derived or merged?

Typically, in Mandarin a RC can appear either in a pre-demonstrative position or in a post-demonstrative position:

- (22) a. [ni xuan de] na liang-ge ren lai-le
 You choose DE that two-CL person come-LE
 b. Na liang-ge [ni xuan de] ren lai-le
 That two-CL you choose DE person come-LE
 ‘The two people you chose have been here.’

¹⁴ However, the term “Finiteness” here is not necessarily used in its original meaning, a general revision of Finiteness in Mandarin is a good research topic but it goes beyond the purpose here.

Despite the acceptability of both options, it is reported that post-demonstrative RCs are much more frequently used (Ming 2010, Hsu 2017), which seems to suggest that the pre-demonstrative positions are marked positions, and pre-demonstrative RCs are derived from their post-demonstrative merge positions.

However, in some specific contexts, the pre-demonstrative ones are (strongly) preferred:¹⁵

(23) Wh-element *na* (3rd tone) ‘which’ in place of demonstrative ((23) is preferred):¹⁶

- a. [*Ni mama zuo de*] *na-dao cai ni zui xihuan?*
 Your mom make DE which-CL dish you most like
 b. *Na-dao* [*ni mama zuo de*] *cai ni zui xihuan?*
 which-CL your mom make DE dish you most like
 ‘Which dish made by your mother is your favorite?’

(24) Adjunct RC:

- a. [*Ni shengbing de*] *na liang-ge yue yizhi xiaayu*
 You ill DE that two-CL month always rain
 ‘In those two months when you were sick, it was always raining.’
 b. **Na liang-ge* [*ni shengbing de*] *yue yizhi xiaayu*
 That two-CL you ill DE month always rain

Hsu (2017) explicitly argues that the pre-demonstrative position for RCs in Mandarin is focused. But the examples above put this idea in doubt: why should a wh-element in (23) prefer the presence of a focus instead of banning it? If the post-demonstrative position is unavailable in (24), how can the focused pre-demonstrative RC be derived?

To resolve this contradiction, I suggest that a pre-demonstrative RC can be either derived from a post-demonstrative RC, or externally merged in a pre-demonstrative position. The externally merged pre-demonstrative RCs are not automatically focused, they select a

¹⁵ As a contrast, in some other situations the post-demonstrative RCs are preferred:

- i. NP with a unique reference (Hsu 2017):
 a. ?**wǒ* [*RC1 jiānchí zhù zài xiāngxià de*] *nà gè lǎobà*
 my insist live at countryside DE that CL father
 ‘my father, who insists on living in the countryside’
 b. *wǒ nà gè* [*RC2 jiānchí zhù zài xiāngxià de*] *lǎobà*
 my that CL insist live at countryside DE father
 ‘my father, who insists on living in the countryside’

¹⁶ Given the complementary distribution and the obvious etymological relation to the 4th tone demonstrative *na* ‘that’, I assume that it occupies the same syntactic position as demonstratives.

DemP instead of a NP (or dP) as their “head noun”. This is to say that the RC in (22) can either be derived from that in (22) to be focalized, or merge in that pre-demonstrative position, while the RC in (24) which obligatorily occurs in a pre-demonstrative position does not have the choice to be derived from (24). The two clauses in (23) could be analyzed as two possible instances which convey the same (or similar) semantics (probably with (23) translated as ‘Among the dishes that your mother can make, which one is your favorite?’ and (23) as ‘Which dish made by your mother is your favorite?’).

The possibility to put a DemP as the internal head in a pre-demonstrative RC I am proposing here would predict that the demonstrative cannot get any matrix features related to the extralinguistic context. Sun and Lai (2019) propose that Mandarin demonstratives can be deictic (when the speaker is pointing to the reference of the DP) or anaphoric (when the DP is coreferential to a precedence in the discourse), and when the demonstrative is used deictically, a pre-demonstrative RC can only be appositive but not restrictive, while when it is anaphoric, a pre-demonstrative RC can be either appositive or restrictive. This perfectly fits (*albeit* does not logically prove) the fact that the pointing action (an extralinguistic action) is inappropriate to a case like (24) where the RC is obligatorily pre-demonstrative.

4.2 the omission of *de* in pre-demonstrative RCs

Different from post-demonstrative RCs, pre-demonstrative RCs have the possibility of omitting *de* (although it is not a case of *de*-omission, given the definition I provide above). Unsurprisingly, this kind of omission of *de* is also bound by some rules.

The three groups of examples (22), (23) and (24) above only involve bare verbs in O-RCs, thus the basic internal syntactic structure of these RCs should be identical. Now we can consider the following observations:

First, while *de* in (25) and (27) can be omitted, in (26) it must appear:

(25) = (22)

[*ni xuan (de) na liang-ge ren lai-le.*

You choose DE that two-CL person come-LE

(26) = (23)

[*Ni mama zuo *(de) na-dao cai ni zui xihuan?*

Your mom make DE which-CL dish you most like

(27) = (24)

[*Ni shengbing (de) na liang-ge yue yizhi xiayu*

You ill DE that two-CL month always rain

This suggests that the omission of *de* may only be compatible with a definite DemP.

Second, when *de* is omitted in (25) and (27), the demonstrative must be overt, while in the presence of *de* the demonstrative can be silent / absent, without changing the definite reference of the DP. In other words, at least one of them (*de* and the demonstrative) must appear.

- (28) a. [ni xuan de] (na) liang-ge ren lai-le.
 You choose DE that two-CL person come-LE
 b. *[ni xuan] liang-ge ren lai-le.
 You choose two-CL person come-LE
- (29) a. [Ni shengbing de] (na) liang-ge yue yizhi xiaoyu
 You ill DE that two-CL month always rain
 b. *[Ni shengbing] liang-ge yue yizhi xiaoyu
 You ill two-CL month always rain

Given the possibility of having externally merged RCs in the pre-demonstrative positions as I propose above, it can be explained if we suppose that the *de*-less RCs and the RCs with *de* occupy at least two different positions: one of them only holds structurally reduced RCs and is directly conditioned by a definite demonstrative; the other is independent from the demonstrative but requires that the RC is overtly marked by a relativizer. These two positions for RCs are just like those for direct *de*-less simple APs, which are supposed to be direct modifiers occupying the specifier of NP, and indirect simple APs with *de*, which have their own projections.¹⁷ Therefore, only when the demonstrative is overt and activates the DemP, can a *de*-less RC appear in SpecDemP, otherwise it must be inserted in an independent projection as an “indirect modifier” to the DemP, see Figure 12.

¹⁷ Curiously, simple APs can never appear in a pre-demonstrative/pre-numeral position without *de*.

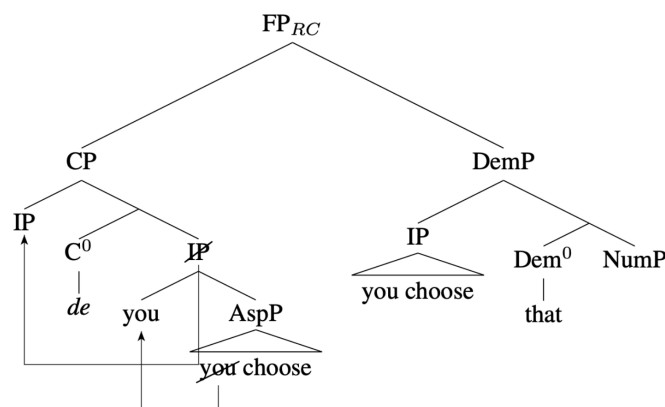


Figure 12

Finally, and most importantly, *de* cannot be omitted if the RC is finite according to the criterion of Finiteness discussed in the last section:

- (30) [ni xuan-le henjiu *(de)] na liang-ge ren lai-le.
 You choose-LE very.long DE that two-CL person come-LE
 ‘The two people who took you a long time to choose have been here.’

This further proves that the structure represented in Figure 12: SpecDemP can only hold a non-finite RC (or probably only an IP without the C-layer), parallel to SpecNP which can only hold a simple AP; finite RCs and in general RCs with *de* must appear in independent projections.

To sum up, the pre-demonstrative positions in Mandarin could also be abundant and hierarchically organized as the post-demonstrative positions. I propose that RCs appearing in the pre-demonstrative area could be either externally merged or derived from a lower post-demonstrative position. In addition, there could be a parallelism between the “DemP zone” and the “NP zone”, where direct modifiers and indirect modifiers appear in different positions.

5. Conclusion and discussion

In this paper, I show some “unclassical” cases of nominal modifiers (APs and RCs) in Mandarin and provide my conjectures that: simple APs do not have any argument structure or extended projection, and the marker *de* attached to them merges as the head of the functional projection on the DP spine; modified APs and RCs, instead, have a clausal structure and *de* appearing with them should be better analyzed as a C-head, internal to the modifier constituent, which can be

Force⁰ when the RC is finite or Fin⁰ when the RC is non-finite; pre-demonstrative RCs can be either derived from a post-demonstrative position, or merged higher than the demonstrative, and the pre-demonstrative area has a similar hierarchical structure as the post-demonstrative area.

The proposal of a double identity for *de* raises some interesting questions: is there any mechanism (e.g., agreement) that connects the “outer F⁰” with the “inner C⁰”? Is there any historical evidence that shows a derivational relation between the two *de*’s? Can this idea further offer new perspectives to the analysis of markers in DP in other languages, for instance the distributional similarities/differences between Mandarin *de* and Japanese *no* (Kitagawa and Ross 1982), or the nominative-genitive alternation (*ga/no* conversion) phenomenon in Japanese?

The research on the pre-demonstrative modifiers is also far from exhaustive. The proposals I make in this paper are intuitive and lack firmer evidence. More linguistic tests can be conducted to confirm or refute my hypotheses, but I hope that in either way more future works could be inspired by this paper.

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