

## On the Duality of Chinese Complex Wh-Object Fronting

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This study mainly investigates the “duality” property in Chinese Complex Wh-Object (CWO) fronting. In our observation, CWOs have the duality in two senses: first, they conduct “separate” operations in multiple domains (CP and DP) for fronting; second, their constructions show the “split” structure (with finer DP-internal hierarchy). The “separateness” factor can be analyzed by the SubMove (Boeckx & Grohmann 2004) account (as targeting the topicP). For the “splitness” property (in line with Aboh 2004), we propose a DP-internal movement approach to analyze “possessor extraction and further raising” constructions. We report that modification elements within CWOs are with restrictions, which specify a very strict referentiality relation among determiner, classifier, modification phrase, and head noun. Also, CWOs in Chinese after DP-internal movement result in deviated interpretations.

**Keywords:** Complex Wh-Object, SplitDP, DP-internal movement

### Introduction

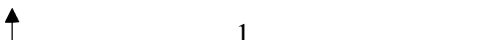
This paper mainly investigates the “duality” property in Chinese Complex Wh-Object (CWO) fronting, which exhibits the “separate” and “split” features in movement and constructions. In this study, the Introduction section discusses these two properties. The Theories and the Proposal section reviews related literature and states our proposal for CWO fronting. We test the account in the Constructions for Analysis section. The Summary concludes our investigation.

### Separateness in CWOs

CWO fronting shows one peculiarity that is illustrated by the data in (1). There are two “parts” of dislocation involved: (I) the derivation of the whole Which Wh-phrase (e.g. the process marked with 1 in (1a) and (II) the fronting of the modification elements (e.g. the process marked with 2 in (1b)). The reason for this study to lay focus on the “object” but not the “subject” is because the dislocations of subjects are not directly shown. Object-fronting is immediately apprehensible in the overt syntax. We are interested in why there is the apparent operation of movement in this wh-in-situ language.

#### (1) CWO with adjective modification

a. na xie jin-kou de shui-guo<sub>i</sub> ni zui xi-huan na yi zhong t<sub>i</sub> ?

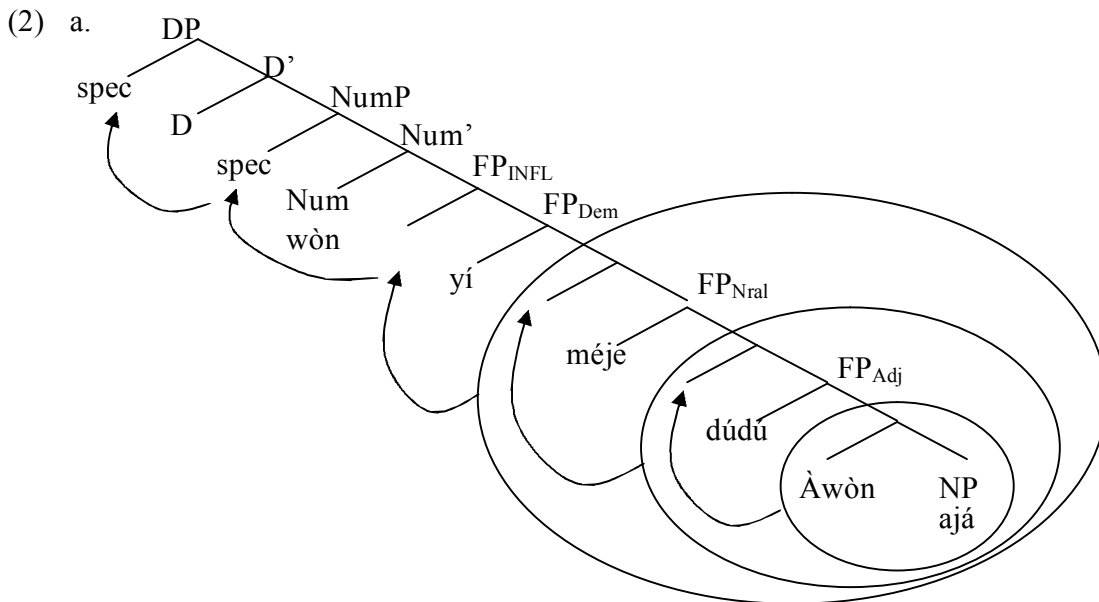


- that Cla. imported DE fruit    you most like    which one Cla.  
 ‘Among those imported fruits, which one do you like the most?’
- b. jin-kou de<sub>j</sub> na xie t<sub>j</sub> shui-guo<sub>i</sub> ni zui xi-huan na yi zhong t<sub>i</sub> ?
- 
- imported DE that Cla.    fruit    you most like    which one Cla.  
 ‘Among those imported fruits, which one do you like the most?’

Based on the examples as mentioned, we sense that movements in CWO fronting involve two domains. Both (1a) and (1b) have the CP-domain fronting (the whole Which NP is preposed to the front). That is to say, CWOs have the option to front or stay in situ. We propose that the CP-domain fronting is of the SubMove operation. The DP<sub>resumptive</sub> (*na yi zhong* ‘which one Cla.’ in (1a)) stays in situ while the DP<sub>functional</sub> (*na xie jin-kou de shui-guo* ‘imported fruits’ in (1a)) move to the topicP position (please see the CWO Fronting in Chinese section for more detail). In this study, we place explicit focus on the derivations that occur DP-internally.

**Splitness in CWOs**

Aboh (2004) first proposed a SplitDP account. The Yuroba examples in (2a) and (2b) illustrate the DP-internal structure. There are the numberP and other different functional projections (from the bottom up, there are AdjectiveP, NumeralP, DemonstrativeP, InflectionP, and then the NumberP) in between the highest D and the lexical head noun.



- b. Àwòṅ ajá dúdú méje wòn-yí (Aboh 2004, who adapted from Ajiboye 2005)  
 NUM dog black seven NUM-DEM  
 ‘These seven black dogs’

Bernstein (1997, cited from Nicolis 2009) shows that both in Romance and Germanic a demonstrative (Dem) can be “reinforced” as locative adverbs (i.e. the proximal “here” or the distal “there”) as (3) and (4) show.

(3) The Germanic pattern:

- a. This guy here (English)  
 b. Den har mannen (Swedish)  
 The there man-the  
 ‘That man there’

(4) The Romance pattern:

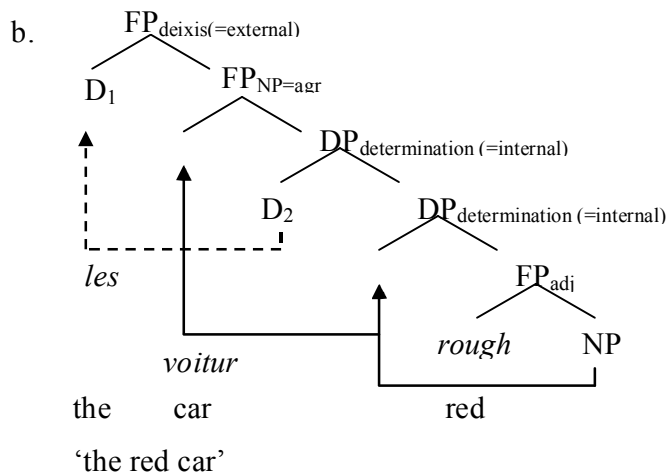
- a. Ce livre-ci (French)  
 This book-here  
 ‘This book here’  
 b. Questo libro qui (Italian)  
 This book here  
 ‘This book here’ (from Nicolis (2009) and Bernstein (1997))

Chinese also demonstrates the use of reinforcers. However, the position of the reinforcer in Chinese influences the interpretation. In (5a) and (6a), the reinforcers (*na-li* ‘there’ and *li-mian* ‘inside’) are at Pre-N position. When reinforcer is at the Pre-N position, *de* must be in place. The reinforcers in (5b) and (6b) are at the post-N position, the reinforcers are used to indicate the “scope” of the N, rather than the locative relation of the N. If we look at “reinforcers” as modifications, the movement as (5c) and (6c) show they have slightly different interpretations compared to (5a) and (6a). The scopes of the lexical head noun seem to have different delimitations. (5c) and (6c) are more “specific” indications than (5a) and (6a).

- (5) a. na xie na-li de ren bu-jian le  
 that Cla. there DE people missing Perf.  
 ‘Those people there have left.’  
 b. dong-xi fang zai na xie ren na-li  
 items placed at that Cla. people there  
 ‘Those items are at those people’s hand.’  
 c. na-li de na xie ren bu-jian le  
 there DE that Cla. People missing Perf.  
 ‘Those people there have left.’

- (6) a. na xie li-mian de shu hen-duo  
 that Cla. inside DE book many  
 ‘There are many of those books that are placed inside.’  
 b. na xie shu li-mian yo da-an  
 that Cla. book inside existential answer  
 ‘There are answers inside the book there.’  
 c. li-mian de na xie shu hen-duo  
 inside DE that Cla. books many  
 ‘There are many of those books inside (some place).’

- (7) a. D > Adjquant > Adjqual > Adjsize > Adjform > Adjcolor > Adjnationality > N



Laenzlinger (2000) proposes that French also conducts DP-internal movement to agreement-related projections as (7a) has the lexical head noun moving to FPs. In addition, there are multiple adjective projections in French DP structure as (7b) shows.

- (8) a. *une femme seule*  
 a woman lonely  
 ‘a lonely woman’  
 b. *une seule femme*  
 an only woman  
 ‘only one woman’

In addition, the relative DP-internal positioning also influences the interpretations. Laenzlinger (2000) analyzes the situation by the examples in (8):

“The post-nominal *seule* in (8a) is an adjective of quality, merged with FP<sub>quality</sub> as its specifier. The noun raises to FP<sub>NP<sub>agreement</sub></sub> past the adjective (an instance of NP-movement). As a result, the nominal head precedes the adjective. In (8b) the pre-nominal adjective is assigned a quantificational (=numeral) value. Therefore, this adjective is merged as the specifier of FP<sub>quantif</sub>. It is either merged at the root in this position or simply raised to this position. The word *seule* ‘alone, single’ has different meanings in the two constructions.”

Similar situations are also found in DP-internal construals in Chinese. The difference between (9a)/(10a) and (9b)/(10b) are minimal and sometimes hard to comprehend. However, we can sense a distinction that DPs with the modification elements fronted (i.e. *duo-yu de* ‘that is excess’ and *yan dian-ying de* ‘who is a movie star’) refer to entities with more specific referentiality. By the discussions of these examples, we say the DP-internal construction hosts multiple functional projections that show the property of “splitness.” Further discussions are made in the next section.

- (9) a. *wo diu le na yi jian duo-yu de yi-fu*  
 I lose Perf. that one Cla. excess DE cloth  
 ‘I lost that excess cloth.’  
 (I have some other excess clothes.)

b. wo diu le duo-yu de na yi jian yi-fu

I lose Perf. excessive DE that one Cla. cloth

‘I lost one cloth that is excess.’ (I have no other excess clothes.)

(10) a. na yi wei yan dian-ying de ming-xing zou le

which one Cla. act movie DE star go Perf.

‘Which movie star has left?’ (and the TV star is still here.)

b. yan dian-ying de na yi wei ming-xing zou le

act movie DE which one Cla. star go Perf.

‘Which star who makes movies has left?’ (and no other stars are here.)

### Theories and the Proposal

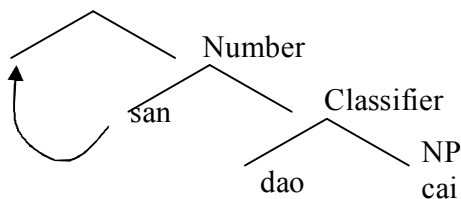
To approach CWO fronting, we draw in conceptualizations including “SplitDP” and DP-internal movement. CWO fronting can be approached by the interaction and synergy of these two accounts.

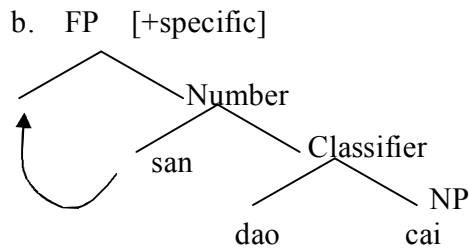
#### SplitDP

In addition to the Yuroba and French data as mentioned, Aboh (2004) and Haegeman (2010) state that the DP-internal structure maps, to some degree, that of CP. We follow this line of thought to assume the existence of functional projections within DP as well.

Also, Tang (2007) distinguishes the two options for Chinese DP by a “feature” analysis. According to her, Chinese nominals can take either “DP > NumberP > ClassifierP > NP” or the “FP > NumberP > ClassifierP > NP” forms as (11a) and (11b) show. Both of the two nominals have the same order and structure, yet the number *san* ‘three’ can check either a “DP” (with [-specific] feature) or a “FP” (as [+specific]).

(11) a. DP [-specific]





The options of checking DP/FP can be noted by the difference in the readings of (12a) and (12b). The modification elements *ni chang tui-jian de* ‘that you often recommend’ along with *san dao* ‘three (cla) dishes’ in (12a) check the FP, which bears the [+specific] feature. The reading for (12a) is ‘I ate the three dishes you often recommended.’ The number of dishes in recommendation is just “three.” For (12b), only the *san* ‘three’ checks the DP (without the modification) that has the [-specific] feature. (12b) actually means ‘I ate three dishes among those you often recommended.’ The number of dishes in the recommendation is “more than three.” The speaker chose three.

(12) a. wo chi le ni chang tui-jian de san dao cai (+specific, Tang 2007)

I eat Perf. you often recommend DE three Cla. dish  
 ‘I ate three dishes that you often recommended.’

b. wo chi le san dao ni chang tui-jian de cai (-specific)

I eat Perf. three Cla. you often recommend DE dish  
 ‘I ate three dishes among those you often recommended.’

The data indicate that there is the possibility for SplitDP structure in Chinese as well. When elements move within DP, the alternations in structure influence the interpretation. The reason is that they check different features that are embedded in particular projections.

### DP-internal Movement

To better understand CWO, we explore DP-internal movements. Dobrovie-Sorin and Giurgea (2006) notice a type of configuration called “inverted split DP.” The SplitDP is shown by having the NP entity preposed to the front, stranding the “NumberP” element. The preposed NP has the “topic interpretation” as (13a) and (13b) show. Chinese has also this kind of similar

constructions and interpretations; the NPs are preposed to the front in (13c) and (13d), stranding NumberP elements (*hen-duo* ‘many’ and *yi-xie* ‘some’) in situ.

- (13) a. CarNi am cumparat multe (Romanian, Dobrovie-Sorin & Giurgea 2006)  
 books I-have bought many
- b. Bucher habe ich viele gekauft (German)  
 books have I many bought
- c. shu wo mai le hen-duo (Chinese)  
 book I buy Perf. many  
 ‘As for books, I bought a lot.’
- d. zhun-bei kao-shi de shu wo mai le yi-xie (Chinese)  
 prepare exam DE book I bought Perf. some  
 ‘As for books for test preparation, I bought some.’

In addition to Laenzlinger’s (2000) analysis on DP-internal movement in French, several other languages are reported to have the same DP-internal movement. For instances, Bhattacharya (1998) used the Bangla examples in (14) to illustrate DP-internal “NP” movement (Bernstein 1993 and Longobardi 1994 also discusses “N movements” within DP). He claims that:

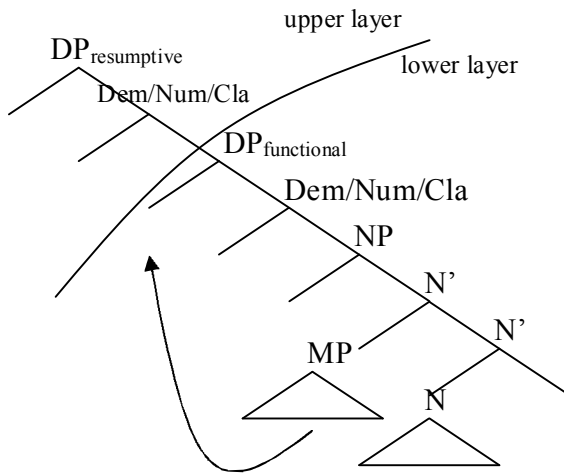
“whenever there is a Poss (possession, ‘my GEN’ in (14a)) preceding the Dem (demonstrative, ‘this’ in (14a), the nature of deixis obtained is contrastive (as in (14a). That is, apart from performing its deictic function of ‘pointing’, the Dem seems to contribute a contrastive meaning to the phrase as well. The deixis obtained in (14b) is non-locative. That is, there is no ‘here and now’ interpretation of the Dem in the latter.”

- (14) a. ama-r ei du-To chele (contrastive)  
 my-GEN this two-CLA son  
 ‘these two sons of mine’
- b. ama-r ei chele du-To (non-locative)  
 my-GEN this son two-CLA  
 ‘these two sons of mine’



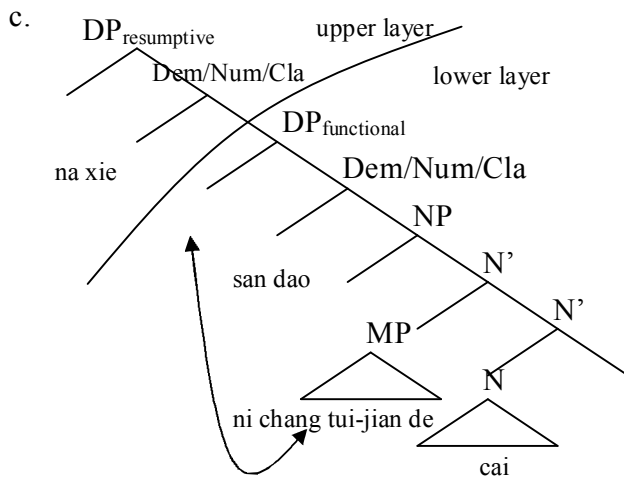
By the examples above, we see that the Chinese data in (12) share some similarity with data of (14) in terms of “movement.” In (12), elements undergoing movement are the “modifications” along with the lexical head noun. In (14), the numeral and classifier elements have the “pre head noun” and the “post head noun” options of positioning. Our analysis for DP-internal movement in CWO fronting is illustrated by (15).

(15) DP-internal movement



(16) a. [DP na xie [DP/FP san dao [NP [MP ni chang tui-jian de [N cai]]]]]  
 that Cla. three dish you often recommend DE dish  
 ‘I ate three dishes that you often recommended.’

b. [DP na xie [DP/FP ni chang tui-jian de<sub>i</sub> [D san dao [MP t<sub>i</sub> [N cai]]]]]  
 that Cla. you often recommend DE three Cla. dish  
 ‘I ate three dishes among those you often recommended.’



Integrating with Tang's (2007) DP/FP account, we regard that the DP<sub>functional</sub> has the DP/FP option (the DP<sub>resumptive</sub> is applied only when necessary). In the DP-internal (the DP<sub>functional</sub>) structure, the MP (modification phrase) can move to DP<sub>functional</sub>. Examples in (16) are our analysis and proposal for DP-internal movements in Chinese. (16a) is the canonical order with demonstrative/number/classifier information taking the two layers of DP. (16b) has the modification element moved to the DP<sub>functional</sub>. The diagram (16c) illustrates the options of the MP movement. Again, the movement of the modification elements is not initiated by "agreement-related" purpose. It is not for interrogative or gender/number agreement at all. The dislocation of the modification to the DP<sub>functional</sub>, by adopting Tang's (2007) analysis, is to express the "specificity" feature.

To apply the same analysis to some peculiar cases in Mandarin Chinese, a special construction can be resolved by this account as shown by data in (17). Illustrating the examples in (17) and (18), there are also two layers of DP. (17a) and (18a) are cases with CP-domain SubMove. (17b) and (18b) are the cases after DP-internal movement. The modifications move from the NP-adjunct position to the DP<sub>functional</sub> position, illustrated by (19a). We propose that the MP has the option to stay in situ or to move to DP<sub>functional</sub>. When MP stays in situ, the DP<sub>functional</sub> acquires the [-specific] feature/meaning. When MP moves to DP<sub>functional</sub>, the interpretation acquires the [+specific] status. Therefore, (17a)/(18a) is different from (17b)/(18b) by the [specific] feature. (17b) and (18b) are more "specific" because the [+specific] feature is obtained.

(17) a. [DP na xie yi-jing hai-shi ying-xiang-guan de dian-shi]<sub>i</sub> ni yao mai [DP na yi tai t<sub>i</sub> ]?

that Cla. LCD or CRT DE TV you want buy which one Cla.

'Which digital or traditional TV of those do you want to buy?'

b. [[FP yi-jing hai-shi ying-xiang-guan de]<sub>j</sub> [DP na xie t<sub>j</sub> dian-shi]]<sub>i</sub> ni yao mai [DP na yi tai t<sub>i</sub> ]?

LCD or CRT DE that Cla. that Cla. TV you want buy which one Cla.

'Which digital or traditional TV of those do you want to buy?'

(18) a. [DP na yi zhong ming-pai de yi-fu ]<sub>i</sub> ni yao mai [DP yi-xie t<sub>i</sub> ]?

which one Cla. branded DE cloth you want buy some

‘Which branded cloth you want to buy some?’

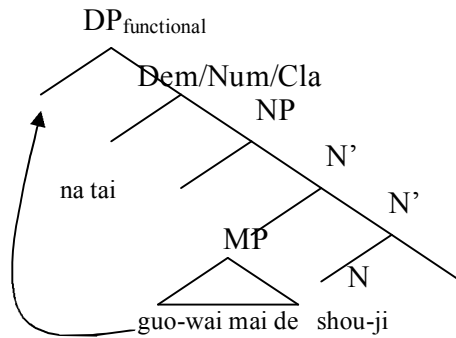
b.  $[[_{\text{FP}} \text{ ming-pai de}]_j [_{\text{DP}} \text{ na yi zhong t}_j \text{ yi-fu}]]_i \text{ ni yao mai } [_{\text{DP}} \text{ yi-xie t}_i ] ?$

branded DE which one Cla. cloth you want buy some

‘Which branded cloth you want to buy some?’

(19b) and (19c) are more examples to illustrate that the modification base-generates at the N’ adjunct position within the DP like (19a). It can also move to DP<sub>functional</sub> position as the contrast in (19b) and (19c) shows. The highest position can be assigned with either [+specific] or [-specific] feature.

(19) a. Mandarin DP-internal Movement



b. na tai guo-wai mai de shou-ji [-specific]

which Cla. overseas buy DE cell phone  
 ‘which cell phone that is bought overseas’

c. guo-wai mai de na tai shou-ji [+specific]

overseas buy DE which Cla. cell phone  
 ‘which cell phone that is bought overseas’

Some constrains are noted for the “relation” between the DP<sub>functional</sub> and the MP. The MP must strictly relate to the lexical head noun, and the modifications must also be “property-describing” but not “attribute-denoting.” In (20), *hong-se* ‘red’ and *la-feng* ‘eye-catching’ are both “property-describing,” but *yan-se* ‘color’ and *chang-pai* ‘brand’ are “attribute-denoting.” The attribute-denoting cases (20b) and (20e) are not acceptable because the “attributes” cannot be modifications to the head noun.

- (20) a. na yi jian hong-se de yi-fu => hong-se de na yi jian yi-fu  
 which one Cla. red DE cloth red DE which one Cla. cloth  
 ‘Which red cloth’
- b. \*na yi jian yan-se de yi-fu ≠> \*yan-se de na yi jian yi-fu  
 which one Cla. color DE cloth color DE which one Cla. cloth
- c. na yi ge yan-se de yi-fu => \*yan-se de na yi ge yi-fu  
 which one Cla. color DE cloth color DE which one Cla. cloth
- d. na yi tai la-feng de pao-che => la-feng de na yi tai pao-che  
 which one Cla. attractive DE sports car attractive DE which one Cla. sports car  
 ‘which attractive sports car’
- e. \*na yi tai chang-pai de pao-che ≠> \*chang-pai de na yi tai pao-che  
 which one Cla. make DE sports car make DE which one Cla. sports car
- f. na yi ge chang-pai de pao-che => \*chang-pai de na yi ge pao-che  
 which one Cla. make DE sports car make DE which one Cla. sports car

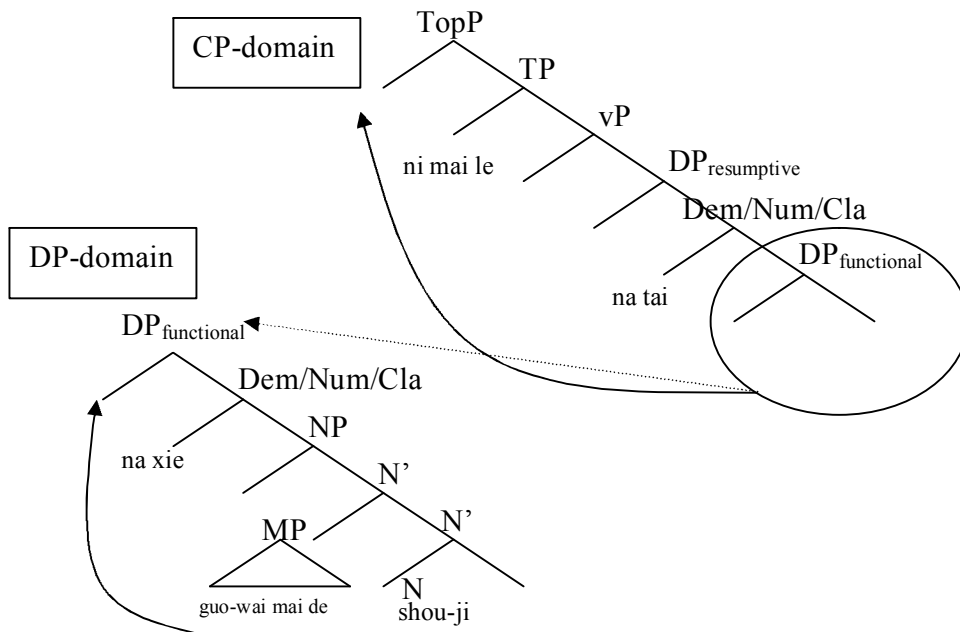
That is to say, the adjective, choice phrase, and relative clause modifications must be truly “descriptive” to the head noun. If we change the classifier into *ge* as (20c) and (20f), the phrases in canonical order are allowed, but this is a result of “coincident mismatching.” The *ge* classifier is compatible with the “attribute-denoting” modification (the “brand” and the “color”). However, the coincident mismatching cannot survive the modification movement as the second part of (20c) and (20f) show. To summarize, the relationship between D element, classifier, modification and the head noun must meet two conditions. First, the classifier must refer to the head noun. Second, the MP must be truly ‘property descriptive’ to the head noun.

### CWO Fronting in Chinese

Based on the discussions as made, we have following claims on DP-internal derivation within CWOs: (I) CWOs fronting is CP-domain SubMove plus DP-internal movement; (II) DP-internal MPs take the adjunct position to lexical head noun; (III) The DP-internal structure demonstrates the “Split” construction; (IV) DP-internal movements (of MP) result in deviated interpretations. As for detail derivation of CWO fronting, The processes are illustrated by (21).

For the CP-domain, the SubMove operation fronts the “DP<sub>functional</sub>” while stranding the DP<sub>resumptive</sub> elements (the “which word” as well as the “numeral/classifier elements”). Therefore, the *na tai* ‘which Cla. (cell phone)’ stays. The DP<sub>functional</sub> then is able to conduct DP-internal derivation. The DP-internal movement is allowed both when the whole DP<sub>functional</sub> is in situ and when the whole DP<sub>functional</sub> is fronted. For the DP-domain, the MP *guo-wai mai de shou-ji* ‘the cell phone bought overseas’ can stay at its DP-internal base-generated position. The MP can also conduct DP-internal movement to the DP<sub>functional</sub> position. Therefore, there are four possibilities with the DP<sub>functional</sub> in situ or at fronted position, and with DP-internal MP in situ or at DP-internal fronted position. All constituting orders are acceptable as (22a) to (22d) illustrate.

## (21) CP SubMove and DP movement

(22) a. ni mai le na tai na xie guo-wai mai de shou-ji ?

You buy Perf. which Cla. those overseas buy DE cell phone

‘Which one of the cell phones bought overseas did you buy?’

b. ni mai le na tai guo-wai mai de na xie shou-ji?

You buy Perf. which Cla. overseas buy DE those cell phone

‘Which one of the cell phones bought overseas did you buy?’

c. na xie guo-wai mai de shou-ji ni mai le na tai ?

those overseas buy DE cell phone you buy Perf. which Cla.

‘Which one of the cell phones bought overseas did you buy?’

d. guo-wai mai de na xie shou-ji ni mai le na tai ?

overseas buy DE those cell phone you buy Perf. which Cla.

‘Which one of the cell phones bought overseas did you buy?’

### Constructions for Analysis

In this section, we use two types of constructions to discuss the influences of DP-internal movement after CWOs have conducted SubMove to the front.

#### Possessor Extraction

The first peculiar construction to test our analytic framework is called “possessor extraction” (c.f. Hsu 2009<sup>1</sup>). Examples in (23) have a null DP<sub>resumptive</sub> and the DP<sub>functional</sub> in subject position (For simplicity, we use DP<sub>res</sub> and DP<sub>fun</sub> for denotation). (23a) is a canonical sentence with *xian-ran* ‘apparently’ as CP-adjunct adverb. The “possessor” is denoted by elements at MP with the adjunct position to N. In (23b), the possessor denoting MP conducts movement to the SpecDP<sub>functional</sub> position. (23c) has the whole DP<sub>functional</sub> fronted to the topP higher than the *xian-ren* ‘apparently’ adverb.

- (23) a. [CP *xian-ran* [DP<sub>res</sub> null [DP<sub>fun</sub> *na zhi* [MP *Zhang-san de*] *shou-bei*] *hen-chang* ]]
- apparently that Cla. Zhangsan DE arm very long
- ‘Apparently, that Zhangsan’s arm is a very long.’
- b. [CP *xian-ran* [DP<sub>res</sub> null [DP<sub>fun</sub> *Zhang-san de*]<sub>i</sub> [D *na zhi*] *t<sub>i</sub> shou-bei*] *hen-chang*]]
- apparently Zhangsan DE that Cla. arm very long
- ‘Apparently, that Zhangsan’s arm is a very long.’

<sup>1</sup> Hsu (2009) proposes three kinds of possessor extraction. “A possessor of a subject can be realized at the sentence-initial position (a), but sentences with a possessor of an object sitting at the sentence-initial position show variable judgments (b-c).” Subject possessors:

a. *Zhangsan<sub>i</sub> xianran [e<sub>i</sub> shoubi] hen chang*  
 Zhangsan obviously arm very long  
 Zhangsan obviously has very long arms.’

Object possessors: b. *?\*Zhangsan<sub>i</sub>, wo renshi [e<sub>i</sub> baba ]*.  
 Zhangsan I know father  
 ‘Zhangsan, I know [his] father.’

c. *Na zhi tuzi<sub>i</sub>, wo mingming kanjian le [e<sub>i</sub> erduo]*!  
 that Cla. rabbit I obviously see Perf. ear  
 It is true of that rabbit that I saw its ears!’

- c. [<sub>topP</sub> na zhi [Zhang-san de shou-bei]<sub>i</sub>] [<sub>CP</sub> xian-ran [<sub>DPres</sub> null [<sub>D<sub>P</sub>fun</sub> t<sub>i</sub> hen-chang]]]  
 that Cla. Zhangsan DE arm                      apparently                      very long  
 ‘That Zhangsan’s arm, apparently, is a very long.’

(24a) and (24b) are examples with CWOs, both have DP fronted to topP by SubMove. The difference between (24a) and (24b) lies in that the latter has DP-internal movement. What should be noted is that the “possessor” should be denoted by the “MP.” That is to say, the entity to show the descriptive or genitive relation in the MP must be the “host” to the lexical head noun. If the possessor is not contained in the MP, the logical relation of the belongingness cannot be established. (i.e. \**na zhi er-duo de tu-zi* ‘that ear’s rabbit’ is perfect in form but absolutely not acceptable in meaning). The contrast of (24a) and (24b) indirectly support the SplitDP account. Adopting Tang’s (2000) account, (24a) is [-specific] while (24b) is [+specific]. (24a) implies that there might be other kinds of animals in mind. (24b) does not have the implication, it refers to one of the rabbits’ ear only.

- (24) a. [<sub>topP</sub> na zhi tu-zi de er-duo]<sub>i</sub> ni kan-jian le [<sub>DP</sub> na yi ge t<sub>i</sub> ]?  
 that Cla rabbit DE ear    you see    Perf. which one Cla.  
 ‘Which ear of that rabbit’s did you see?’  
 b. [[tu-zi de]<sub>j</sub> na zhi t<sub>j</sub> er-duo]<sub>i</sub> ni kan-jian le [<sub>DP</sub> na yi ge t<sub>i</sub> ]?  
 rabbit DE that Cla ear    you see    Perf. which one Cla.  
 ‘Which ear of that rabbit’s did you see?’

In addition, classifier and modification elements must link to the head noun. That is to say, both the *ge* and *zhi* classifiers must link to the ear (of rabbit). If we use the *zhi* (隻) classifier, *na zhi tu-zi de er-duo* ‘that rabbit’s ear’ is an example of “coincident mismatching” because the classifier 隻 refers to the rabbit, not the ear. This cannot survive DP-internal movement.

Data in (25) are more possessor extraction cases with CWOs. (25a) and (25b) are the cases illustrating before and after DP-internal movements. However, (25b) is not acceptable due to the two conditions as proposed. First, the classifier must refer to head noun. In (25b), *na wei* ‘that Cla. (person)’ refers to the MP-internal entity (the patient), but not the head noun (the leg). Second, the MP is not ‘property-descriptive’ enough. *Shang-huan de* ‘patient’s’ can denote

“possessive” relation for the head noun, but it is still “attribute-denoting” rather than “property-descriptive,” resulting in the ungrammaticality of (25b).

- (25) a. [na wei shang-huan de tui] i yi-sheng bao-zha guo le na tiao ti?  
 that Cla patient DE leg doctor bandage Exp. Perf. which Cla.  
 ‘Which leg of that patient’s did the doctor bind up?’
- b. \*[ shang-huan de]<sub>i</sub> na wei<sub>j</sub> tui<sub>i</sub> yi-sheng bao-zha guo le na tiao t<sub>i</sub>?  
 patient DE that Cla. leg doctor bandage Exp. Perf. which Cla.

### Further Raising

The proposition “*it seems...*” cross-linguistically (Fernandez-Salqueiro 2011) enables the so-called “further raising” construction. In (26), the data show that both subject and object are allowed to conduct further raising, that is, to move across the “it seems...” phrase itself. (26a) is the sentence without any preposing. The “subject” in (26b) and the “object” in (26c) are preposed to the front, higher than the “it seems...” IP. In further raising constructions, the nominals are moved to a position higher than the embedded CP.

- (26) a. kan-qi-lai Xiao-ming hen cong-ming  
 seems Xiao-ming very smart  
 ‘It seems that Xiao-ming is smart.’
- b. Xiao-ming<sub>i</sub> kan-qi-lai [CP t<sub>i</sub> hen cong-ming ] (subject raising)  
 Xiao-ming seems very smart  
 ‘It seems that Xiao-ming is very smart.’
- c. zhe mian-bao kan-qi-lai Xiao-zhang<sub>i</sub> [CP chi guo le t<sub>i</sub> san ci ] (object raising)  
 this bread seems Xiao-zhang eat Exp. Perf. three times  
 ‘It seems that Xiao-zhang have eaten the bread for three times.’

In this section, we use the “further raising” construction to test the cases when the DP<sub>functional</sub> is interrogative as those in (27). Again, (27a) has the DP<sub>functional</sub> at the front without DP-internal movement while (27b) has undergone DP-internal movement.



- (27) a. [<sub>DP</sub> na xie guo-qi-de mian-bao]<sub>i</sub> kan-qi-lai [<sub>CP</sub> Xiao-zhang chi guo le [<sub>DP</sub> san ge] t<sub>i</sub>  
 which Cla. expired DE bread seems Xiao-zhang eat Exp. Perf. three Cal.  
 ‘Which expired brands does Xiao-zhang seem to have eaten three?’
- b. [<sub>DP</sub>[guo-qi-de]<sub>j</sub> na xie t<sub>j</sub> mian-bao]<sub>i</sub> kan-qi-lai [<sub>CP</sub> Xiao-zhang chi guo le [<sub>DP</sub> san ge] t<sub>i</sub>  
 expired DE which Cla. bread seems Xiao-zhang eat Exp. Perf. three Cla.  
 ‘Which expired brands does Xiao-zhang seem to have eaten three?’

What should be noted is that the readings given from (27a) and (27b) are different. (27a) reads that ‘Xiao-zhang only ate three pieces of bread.’ (27b), however, implies that Xiao-zhang ate more “expired” items. What he ate were more than the three pieces of bread. Although the varied readings sometimes are hard to comprehend, we regard this deviation as a result of checking different functional projections by DP-internal elements. As mentioned, checking different projections means varied meanings.

### Summary

In this study, we have tried to exemplify the “duality” property of Chinese CWO fronting. We propose that complex wh-objects be separated into two parts. The separate parts are capable of conducting two times of dislocations. In addition to CP-domain fronting, DP-internal movements are also identified in the fronted DP. This analysis echoes to the “SplitDP” (Aboh 2004) and the “DP-internal movement” accounts. As for the exact derivation processes of CWO fronting, the DP<sub>functional</sub> (along with modification elements) can SubMove to “CP-domain TopicP.” Within the fronted DP<sub>functional</sub>, there is also the option to further front modification element to DP<sub>functional</sub> (thus acquiring the [+specific] feature). In addition, the CWO structure has to observe two conditions: first, the classifier must refer to/match the head noun; second, the modification must be truly “descriptive” to the head noun. We drew in constructions of “possessor extraction and further raising” to examine our proposal. The dual-domain derivation is permitted as long as all related conditions on CWO fronting are met and no contradictions occur.

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## 中文複雜疑問賓語前移結構中的雙重特質

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## 摘要

本文主要討論中文複雜疑問賓語前移結構中的雙重特質，此雙重特質由兩個層面顯現。首先，複雜疑問賓語的移位，可「分離」在兩個（補語詞組與限定語詞組）範疇，其次，複雜疑問賓語的結構呈現「分裂」特質，具有限定語內部更細微層級。此「分離」特質可由 Boeckx & Grohmann (2004)的「次要移位(SubMove)」來解釋。至於「分裂」特質，我們利用限定語詞組內部移位的解釋，以中文「宿主前移(possessor extraction)」及「提升移位(further raising)」的句構來檢驗所提出的解釋。我們並且提出，在複雜疑問賓語內部的修飾語詞組(modification phrase)，具備限制條件，此限制條件主要規範，在限定語、量詞組、修飾語詞組及主要名詞組之間，必須遵守非常嚴格的指涉關係(referentiality)。此外，中文的複雜疑問賓語在前移之後，會造成不同的解讀。

**關鍵字：**複雜疑問賓語, 分裂限定詞組, 限定詞組內部移位