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Syntax and Semantics of Dislocation Focus Construction in Cantonese

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by

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This thesis is dedicated to
Almighty God
who endows each of us with the miraculous gift
of
natural language.

For since the creation of the world God's invisible qualities—
his eternal power and divine nature—
have been clearly seen, being understood from what has been made,
so that men are without excuse.
(NIV Romans 1: 20)

自從造天地以來、
神的永能和神性是明明可知的、
雖是眼不能見、但藉著所造之物、
就可以曉得、叫人無可推諉。
(羅馬書 一章二十節)

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ABSTRACT OF THE THESIS

Syntax and Semantics of Dislocation Focus Construction in Cantonese

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It has been recognized that Dislocation Focus Construction (the DFC) (also called Right Dislocation or Afterthought construction) in Cantonese (and Mandarin) performs some important discourse functions such as parenthetical and so-called conversational repair. Recent studies (Packard 1996, Cheung 1997, Law 2003) show that the DFC possesses a number of interesting and unique syntactic characteristics.

In this thesis, I will first establish some crucial syntactic tests based on reconstruction effects to diagnose the DFC. Although some of these observations have been made in earlier studies, they have not been systematically used as probes to analyze some fundamental issues about the structure of the DFC. In particular, there was some confusion of the DFC with parataxis. I will follow Cheung (1997) in assuming that the main sentence and the so-called afterthought are not only related to each other pragmatically but also governed by grammatical principles. Grammatical principles are

found to play an important role in this parenthetical construction. This thesis also has provided some new findings about the semantic aspects of the DFC. The DFC modifies the focus the sentence and restricts the domain for focus in the Focus Phrase. Unlike syntactic interpretation, the semantic interpretation of the DFC is determined by interpreting the focus in-situ instead of reconstructing it back to its original site. This has been shown by question/answer pairs and the interaction of negation and the DFC.

Towards the end, an account of the DFC has been put forward to explain many of its parallels with Nuclear Stress Rule concerning the GLBC, Visibility Condition and focus property. An abstract focus assignment rule is posited to unify the two phenomena. While the focus property is realized as nuclear pitch accent in English, it is realized as overt movement as the DFC in Cantonese. The findings suggest that focus assignment is not determined purely pragmatically. Grammatical principles also constrain some types of focus assignment.

1. Introduction

This thesis studies a word order phenomenon in Cantonese that has been referred to as "right dislocation", "inversion", "postposing" and "afterthought" in previous studies (Chao 1968, Lu 1980, Tai and Hu 1991, Guo 1999). Like other Chinese languages, Cantonese does not have rich morphology and its order word is relatively fixed. However, it is common to find non-canonical word order in spoken Cantonese. Compare the three sentences in (1).

- (1) a keoi maai-zo jat bou dinsigei lo. (canonical)
he buy-PERF one CL¹ TV SP
'He bought a TV.'
- b maai-zo jat bou dinsigei lo, keoi. (non-canonical)
buy-PERF one CL TV SP he
- c jat bou dinsigei lo, keoi maai-zo (non-canonical)
one CL TV SP he buy-PERF

Henceforth I will use the term DISLOCATION FOCUS CONSTRUCTION (the DFC) to refer to the construction like (1b) and (1c). I will follow Cheung (1997) and Law (2003, 2004) in assuming that that the pre-comma part contains the focus of the sentence. The issue will be elaborated in Section 2.3. The DFC is exclusive to the colloquial spoken form and verbatim report of speech. The DFC is not unique to Cantonese. It has also been found in colloquial Mandarin Chinese (Lu 1980, Packard 1986, Tai and Hu 1991 among others).

¹ Please refer to Appendix A for the list of abbreviations.

Many discourse-functional studies of the DFC find that the part before the comma has been analyzed as carrying the more important message of the sentence. Guo (1992) and Hu (1996) assert that the inverted word order in the DFC is driven by the speaker's decision to deliver the informationally urgent or important message early due to pressure of the immediate discourse context. The rest of the sentence has been described as afterthought, presupposed or contextually implied. The DFC is also reminiscent of parenthetical constructions in English such as include *as*-parentheticals (Potts 2002), slifting ("Sentence lifting") (Ross 1973), adverb parentheticals (Stowell 2005), and right-dislocation (Ward and Birner 1996) in English.

- (2) Ames did not steal the documents, as the senators claimed. (as-parenthetical)
- (3) Max has robbed a bank, I believe. (slifting)
- (4) Max has robbed a bank, perhaps. (adverb parenthetical)
- (5) They really were enormous, those pipes. (right-dislocation)

Both the so-called afterthought part in Cantonese DFC and the English parenthetical can be optionally omitted without resulting in ungrammaticality.

The present study of the DFC will contribute to the following four major issues that have not been substantially addressed in previous studies. First, based on the new findings and some other observations in Cheung (1997) and Law (2003), four diagnostic tests will be established for the DFC. They will be systematically used to diagnose the structure of the DFC and clarify some confusion between the DFC and parataxis. Second, I propose that the sentence particle is generated head-initially. The main

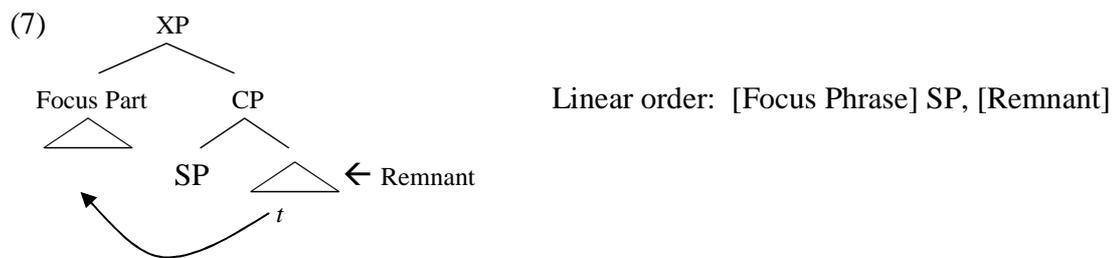
sentence/fragment undergoes leftward focus movement around the particle to produce the surface word order. The findings provide a unified account to both normal word order sentences and DFC sentences. The structural representation will have significant implications to the long-standing puzzle of the syntactic position of sentence particles. None of the previous studies of the DFC explicitly deal with the distribution of the sentence particle, which occurs in the middle of the construction.

Third, the DFC is strictly restricted by what I will call Generalized Left Branch Condition. Essentially, constituents on the left branch are prohibited from undergoing leftward movement to form a DFC. The constraint was first proposed in Cheung (1997). Despite some recent challenges, I will defend for its validity. Further, some new observations about the interaction between the condition and ellipsis will be elaborated Last, to the extent that the DFC functions as a parenthetical construction, the present study raises the theoretical issue of the grammatical status of parentheticals. Since parentheticals are motivated by performance/pragmatic factors, one way of capturing the construction is to assume that only pragmatic principles are involved in the specification of the relation between the parenthetical and the main sentence/fragment. Grammatical principles are irrelevant². Alternatively, one can assume that while the DFC is pragmatically motivated, the construction is still subject to syntactic rules and grammatical constraints. I will demonstrate that the purely pragmatic account is

² This extreme view can be summed up by the following quote from Hu (1996): "the occurrences, and the structuring of inverted sentences [i.e. the DFC] are in fact called upon to fulfill various oral communicative tasks by the characteristics found exclusively in the spontaneous conversational environment, rather than determined by autonomous sentence-internal rules."

- b [_{VP} maai saam bun syu] lo, ngo wui ____ . (DFC)
 buy three CL book SP I will
 [← Focus Phrase →] [← Remnant →]

For convenience, I will refer to the constituent before the sentence particle as the *Focus Phrase (FP)*, which is underlined in all the examples. The rest of the sentence that comes after the sentence particle will be called the *Remnant (RM)*. The comma after the SP does not indicate a pause but is inserted for orthographic clarity⁴. As noted in Packard (1986), Siu (1986) and Cheung (1997), the FP is semantically associated with the gap in the RM. There also exist some sentences which look like DFC. However, the FP is not associated with any gap in the RM⁵. In this paper, I will restrict the discussion to those cases in which the FP is associated with a gap in the RM. I will argue for the syntactic structure for the DFC as shown in (7). The FP which originates from within the remnant undergoes focus movement to the left. It ends up in a landing site that is higher than the SP.



⁴ Lu (1980) comments that in Mandarin, the post-comma part is uttered with faster tempo and low-pitched prosody.

⁵ Here is an example.

- (1) Aaming hou mou noising gaa, Aaming. (Cheung 1997: 13)
 Aaming very have-not patience SP Aaming
 'Aaming is not very patience.'

The underlined part itself constitutes a complete sentence. (1) looks like a DFC but if we reconstruct the underlined part to the position after the second occurrence of *Aaming*, the sentence is bad.

2.2 Syntactic Category of Focus Phrase

In addition to VP and DP in (1), virtually any syntactic category can be a FP in the DFC.

(8) shows examples of NPs, DPs, APs, AdvPs, ModPs, and TPs being the FP.

- (8) a dinsigei lo, keoi maai-zo jat bou (NP)
TV SP he buy-PERF one CL
'He bought a TV.'
- b hou hongoi lo, go go sailouzai (AP)
very lovely SP that CL kid
'The kid is lovely.'
- c saam ci lo, keoi heoi-zo go gaan gaafedim (AdvP)
three time SP he go-PERF that CL coffee-shop
'He has been to the coffee shop three times.'
- d wui maai jat bou dinsigei lo, keoi (ModalP)
will buy one CL TV SP he
'He will buy a TV.'
- e houzoi siufongjyun lei dak zou zaa, go coeng fo. (TP)
fortunate fireman come DAK early SP that CL fire
'As for the fire, it is fortunate that the firemen came early.'

2.3 Focus

Using question/answer pairs as a means to locate focus, Cheung (1997) discovers that the FP must bear the focus of the sentence. The assumption is that the position of focus in the answer correlates with the *wh*-phrase in the question. When the DFC serve as an answer, the element corresponding to the *wh*-phrase must be inside the FP and cannot be located

in the RM. Take (9a) as an example. The object DP is questioned and therefore is in focus. A straightforward answer to (9a) is the normal word order sentence (9b). (9c), (9d) and (9e) are equally felicitous answers to (9a) because the answer “some cheese” is contained in the FP in all cases.

(9) a Zoengsaam wui maai matje aa?

Zoengsaam will buy what SP

'What will Zoengsaam buy?'

b Zoengsaam wui maai zisi lo. (normal word order)

Zoengsaam will buy cheese SP

'Zoengsaam will buy some cheese.'

c zisi lo, Zoengsaam wui maai. (DFC)

cheese SP Zoengsaam wui buy

'Zoengsaam will buy some cheese.'

d maai zisi lo, Zoengsaam wui. (DFC)

buy cheese SP Zoengsaam will

'Zoengsaam will buy some cheese.'

e wui maai zisi lo, Zoengsaam.

will buy cheese SP Zoengsaam

'Zoengsaam will buy some cheese.'

In contrast, when the subject position is questioned, the difference in focus between a normal word order sentence and DFC sentences can be detected. While (9b) can be a good answer to (10), (9c), (9d) and (9e) are no longer felicitous answers.

(10) bingo maai-zo zisi aa?⁶

who buy-PERF cheese SP

'Who bought some cheese?'

Felicitous answer: (9b)

Infelicitous answer: (9c), (9d) and (9e)

The DFC requires that the focus falls on the FP which excludes the subject DP from being in focus. Infelicity results because the answer element (i.e. the subject *Zoengsaam*) is not part of the FP and fails to get the focus. The above test demonstrates that the DFC sentence differs from the normal word order sentence in focus.

Note also that it is not necessary that the entire FP correspond the focus. It can be any phrasal projection contained in the FP. For example, in (9a), what is in focus is the object DP. Even though the respective FPs in (9d) and (9e) are VP and ModalP which are larger than the object DP, they can all serve as well-formed answers to (9a).

2.4 Sentence Particles and Their Syntactic Structure

Sentence Particles (SPs) are a special grammatical category that serves to convey various communicative functions (Matthews and Yip 1994). There are some thirty basic SPs (Kwok 1984). Some of them can be combined to form a cluster of SPs. Table 1 lists some examples of SPs.

⁶ An appropriate answer to (10) is as follows:

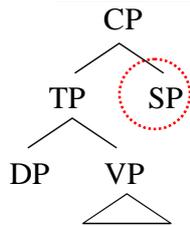
(a) Leisei sikdak Zoengsaam lo.
Leisei know Zoengsaam SP
'Leisei knows Zoengsaam.'

<i>aa3</i> "lively statement, question"	<i>bo3</i> "exclamatory"	<i>gwa3</i> "uncertainty"
<i>lo1</i> "of course"	<i>maa3</i> "obvious"	<i>me1</i> "Yes/No question"
<i>wo3</i> "hearsay, it is reported that "	<i>wo4</i> "noteworthy"	<i>zaa3</i> "only"

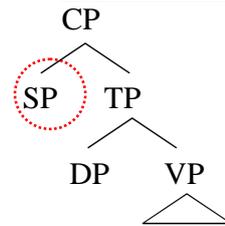
Table 1. Examples of SPs in Cantonese

The SP is not obligatory in Cantonese (but very frequent) in normal word order sentences. The SP always comes at the end of a sentence (see (1a) and (6a)) except in the DFC. As a result, SPs are often referred to as *sentence final particles* or *final particles*. The acceptability of the DFC improves if the SP is used.⁷ Concerning the syntactic position of the SP, the general assumption is that the SP is the head of C. For example, in Cheng's (1991) Clausal Typing Hypothesis, she proposes that "in languages with in-situ wh-words, a wh-question always has a Typing Particle in the C⁰ position to type the sentence as a wh-question [...]. (p. 26)" What is less clear, however, is whether CP is head-initial or head-final.

(11) (a) CP Head-final



(b) CP Head-initial



⁷ Packard (1986) mentioned that Mandarin SPs (e.g. *ba*, *le*, *ma*, etc.) are obligatory in the DFC. However, Lu (1980) also provided some examples of the DFC without SPs.

- (1) a tai gui, nei gangbi
 very expensive that fountain-pen
 'The expensive fountain pen is very expensive.'
 b jintian bijiao leng, wo juede
 today relatively cold I feel
 'I feel it is relatively cold today.'

Since the SP always comes at the end of a normal word order sentence, some studies like Law 1990, Law 2003 assume that CP in Cantonese is head-final, as in (11a)⁸. Cheng (1991) does not specify the directionality of the head.

Many syntactic studies of the DFC (Packard 1986, Siu 1986, Cheung 1997, Law 2003, 2004) argue that the FP and the remnant are integral parts of a sentence. The DFC is the result of leftward movement of the FP. However, none of them⁹ addresses why the SP shows up in sentence-medial position. Guo (1992) questions the validity of these leftward movement proposals for the DFC because the configuration in (11a) predicts that the SP should always appear at the sentence-final position. Here I will depart from the previous analysis of the SP and adopt (11b) as the underlying structure for SP¹⁰ in Cantonese. The implication of the analysis is that in Cantonese, obligatory movement of an XP around the SP is necessary in all Cantonese sentences. In normal word order sentences, it is the entire TP that gets moved; in the DFC, it is some phrasal projection lower than TP. The assumption in (11b) has the advantages of providing a straightforward and unified account for why the SP appears sentence-medially in the DFC and sentence-finally in normal word order sentences. Further, Cantonese is basically a head-initial language. (11b) is consistent with the generalization.

⁸ I assume that sentence particles take matrix scope. For example, the *wh*-question particle *aa*, declarative particle *gaa* and quotative particle *wo* all cannot take embedded scope.

⁹ Siu (1986) deals with it by stipulation.

¹⁰ Similar obligatory movement around SP in normal word order sentences has been put forth for the Min dialect of Chinese (Simpson and Wu 2002).

3. Syntax of the DFC

Many earlier studies examine the DFC from a discourse functional perspective. They use terminologies such as "afterthought", "right-dislocation", "postposing" and "inversion" in the functional sense. Very often they are vague about the precise syntactic implementation. The syntactic characteristics of the DFC have been explored in recent studies (Packard 1986, Packard and Shi 1986, Siu 1986, Cheung 1997, Law 2003, 2004). They all propose that the DFC is derived by leftward movement.

Unfortunately, there is a lack of diagnostic tests for the DFC in these studies. Though Cheung (1997) and Law (2003) have discovered some unique properties pertaining to the DFC, they have not systematically applied these tests to the identification of the DFC. As we will see later, without these tests, confusion between the DFC and fragment juxtaposition may arise, leading to incorrect conclusions. To fill the vacuum, I will first establish in Section 3.1 some syntactic diagnostic tests for the DFC, namely, Principle C violations, *zinghai* test, and *doudai* test. Section 3.2 will be devoted to the discussion of the syntactic structure of the DFC.

3.1 Syntactic Properties

Cheung (1997) and Law (2003)¹¹ show that the DFC displays reconstruction effects using tests like the selectional restriction between matrix verb and *wh*-phrases, interaction of quantifiers, interpretation of *zinghai* 'only', anaphoric binding, and bound reflexive. All of

¹¹ Cheung (1997) has provided the following tests: interpretation of *wh*-phrases, interaction of quantifiers, and *zinghai*. Following Cheung (1997), Law (2003) has added the following tests: anaphoric binding and bound pronoun binding.

them hinge on the reconstruction effects exhibited in the DFC. However, these tests have not been used consistently and systematically in these studies. In this section, three syntactic tests will be established as diagnostic tests for the DFC. They are *zinghai* 'only' test, *doudai* 'wh-the-hell' test, and Principle C violation test. The last two tests have not been reported before. The three tests tend to be robust among speakers. Readers are invited to refer to Cheung (1997) and Law (2003) for details of other possible tests¹². The *doudai* test and *zinghai* test are particularly useful tools to ascertain whether a sentence is a DFC because of the peculiar reconstruction effects that seem not to be shared by other constructions like topicalization, relativization, *wh*-preposing¹³, and parataxis. Principle C violation test is also useful in checking whether the FP and the RM are sentence-bound, which is helpful for distinguishing the DFC from parataxis.

3.1.1 *Zinghai* 'Only'

Zinghai 'only' displays a special out-of-scope focusing property in the DFC. Let us first have a brief review of two properties of English preverbal *only* which are also found in Cantonese *zinghai* 'only.' Jackendoff (1972) proposes a rule "association with focus" for English *only*. The rule says that the focus of *only* can only be associated with an element in its c-command scope¹⁴. Second, following Tancredi (1990) and Beaver and Clark

¹² In fact, some tests used in Cheung (1997) and Law (2003) are not very reliable. For example, quantifier interaction effect (Cheung 1997) can sometimes be obtained across fragments/sentences. Binding facts (Law 2003) in Cantonese and Chinese are complicated by logophoric use and long distance binding.

¹³ For more detailed discussion of *wh*-preposing in Mandarin, please refer to Wu (1999).

¹⁴ The association with focus property correctly predicts that the focus of preverbal *only* cannot be associated with the subject.

(1) John only borrowed the novel.

(2003), it is assumed that the focus of English *only* cannot be associated with the trace of an extracted element even though the trace is in its c-command scope.

- (12) What do you think Kim *only* gives his mother? (p. 346)
 (a) *What is the thing such that Kim gives that thing and nothing else to his mother?
 (b) What do you think Kim gives his mother and no-one else?

What qualifies to be a focused element is an overt element in the scope of preverbal *only*. Association with focus and Beaver and Clark's generalization are also found in Cantonese *zinghai* 'only'. Take (13) as an example. The interpretation of preverbal *zinghai* follows the association with focus rule. Only elements in the scope of *zinghai* can be in focus. It correctly rules out the interpretation in (a) because the subject DP is not in the scope of preverbal *zinghai*.

- (13) Zoengsaam *zinghai* ze-zo go bun siusyut lo.
 Zoengsaam only borrow-PERF that CL novel SP
 (a) *'Zoengsaam only borrowed the novel. (Nobody else did).' (focus = subj)
 (b) 'Zoengsaam only borrowed **the novel**. (and nothing else).' (focus = obj)
 (c) 'Zoengsaam only **borrowed the novel**. (She did nothing else.)' (focus = VP)
 (d) 'Zoengsaam only **borrowed** the novel. (She did not buy it.)' (focus = V)

Beaver and Clark's generalization also holds in Cantonese. The focus of *zinghai* cannot be associated with gap associated with the topic, relativized DP or preposed *wh*-phrase.

-
- (a) *Nobody else borrowed the novel. (focus = subject)
 (b) He bought nothing else. (focus = object)
 (c) He did nothing else. (focus = VP)
 (d) He did not buy it. (focus = V)

In (14)—(16), the (a) sentences are well-formed because the element in focus (boldfaced) is overtly c-commanded by *zinghai*. In (b) sentences, when the focused element has moved out of the scope of the preverbal *zinghai*, the sentences become bad.

Topicalization (Cheung 1997: 66)

- (14)a Aafan zinghai ze-zo **go bun siusyut** lo.
 Aafan only borrow-PERF that CL novel SP
 'Aafan only borrowed **the novel**. (She bought nothing else.)'
- b ***go bun siusyut** le, Aafan zinghai ze-zo __ .
 that CL novel TM Aafan only borrow-PERF
 'Aafan only borrowed **the novel**. (She bought nothing else.)'

Relativization

- (15) [DP [CP Aafan zinghai ze-zo __] ge **go bun siusyut**] hou zingcoi.
 Aafan only borrow-PERF GE that CL novel very exciting
 (a) 'The only **novel** that Aafan borrowed was exciting.' (unavailable)
 (b) 'The novel that Aafan only **borrowed** was exciting.' (ok)

Wh-Preposing

- (16)a Aafan zinghai ze-zo **go bun siusyut** lo.
 Aafan only borrow-PERF that CL novel SP
 'Aafan only borrowed **the novel**. (She bought nothing else.)'

b **bin bun siusyut** le Aafan zinghai ze-zo __ .

which CL novel TM Aafan only borrow-PERF

'***Which novel** did Aafan only borrow?' (unavailable)

What is special about the DFC is that the c-command relation between *zinghai* and the focused element can be violated. The focus of *zinghai* in the RM can be associated with an element in the FP, as in (17).

(17) **go bun siusyut** lo, Aafan zinghai ze-zo __ . (DFC; Cheung 1997: 66)

that CL novel SP Aafan only borrow-PERF

'Aafan only borrowed **the novel**. (She borrowed nothing else).'

The problem can be resolved if we assume that the FP is interpreted at its base position.

The above shows that this reconstruction effect pertains to the DFC.

3.1.2 Doudai (*Cantonese Wh-the-hell*)

This test capitalizes on the *doudai...wh*-phrase expression (Cantonese equivalent of *wh-the-hell*) as a diagnostic. In Mandarin, the *wh-the-hell* expression is formed by the adverb *daodi* [the Mandarin cognate of *doudai*] and the *wh*-phrase/A-not-A phrase. Huang and Ochi (2004) argue that "*daodi* is an adverb occurring in a preverbal or pre-IP adjunct position, while the *wh*-associate occurs in an argument position (in the case of who, what) or non-argument position (why, how or the A-not-A constituent)."

- (18) ta daodi mai-le shenme? (=9a in H&O; Mandarin)
 he DAODI bought what
 'What the hell did he buy?'

Further, *daodi* must c-command a *wh*-phrase (or A-not-A phrase) in the syntax. In (19), *shei* 'who' is higher than *daodi*. The c-command relation does not hold. Ungrammaticality results.

- (19) a daodi shei xiang yao zhe-fu hua?
 DAODI who think want this-CL picture
 'Who the hell wants this picture?'

- b *shei daodi xiang yao zhe-fu hua?¹⁵ (=10b in Huang and Ochi; Mandarin)
 who DAODI think want this-CL picture
 'Who the hell wants this picture?'

In (20b), the *wh*-phrase "which picture" moves out of the scope of *daodi*. *Daodi...wh* expression becomes ill-formed even though *daodi* c-commands the trace.

- (20) a ta daodi xiang yao nei yi fu hua?
 he DAODI think want which one CL picture
 'Which (the hell?!) picture does he want?'

- b *nei yi fu hua ne, ta daodi xiang yao?¹⁶ (*wh*-preposing; Mandarin)
 which one CL picture TM he DAODI think want

¹⁵ To make *wh-the-hell* as the subject, *daodi* must precede the subject.

¹⁶ Without *daodi*, the sentence is good.

Doudai is the Cantonese cognate of *daodi*. It shares all the properties of Mandarin *daodi* discussed above. Interestingly, it is possible to construe a DFC sentence in which *doudai* in the RM is associated with *wh*-phrase in the FP, violating the c-command requirement of *doudai*.

- (21) maai-zo matje aa, doudai nei ___?
 buy-PERF what SP DOUDAI you
 'What the hell did you buy?'

To explain (21), it is necessary to resort to reconstruction that must take place before "*doudai* ... *wh*-phrase" gets interpreted. The unexpected violation of the overt c-command requirement is again a useful test for the DFC because the property is specific to the DFC.

3.1.3 Principle C Violations

The reconstruction effect can be detected by Principle C violations. The FP in (22b) contains a referring expression *Zoengsaam*, and is co-referential with the pronoun *keoi* in the RM. The ungrammaticality of (22b) can be explained as follows. When the FP is reconstructed at its base as the complement of 'worry', *Zoengsaam* becomes c-commanded by *keoi*, triggering Principle C violation.

- (22) a *Zoengsaam* daamsam matje aa?
Zoengsaam worry what SP
 'What does *Zoengsaam* worry about?'

b *Zoengsaam_i honang waan-zo faingaam lo, keoi_i daamsam__.

Zoengsaam probably get-PERF lung.cancer SP he worry

'Zoengsaam believed he probably got lung cancer.'

It is possible to show that the ungrammaticality in (22b) is not due to other pragmatic factors because coreferential reading becomes possible when *Zoengsaam* and *keoi* are switched, as in (23).

(23) keoi_i honang waan-zo faingaam lo, Zoengsaam_i daamsam __.

he probably get-PERF lung.cancer SP Zoengsaam worry

'Zoengsaam believed he probably got lung cancer.'

After reconstruction, Principle C is observed because *Zoengsaam* is not c-commanded by *keoi*. Note that Principle C violation effect is also found in topicalization and *wh*-preposing. For example, Huang (1993: 119) has illustrated the reconstruction effect of VP topicalization with (24).

(24) ?*Zhangsan_i de pengyou, ta_i changchang piping __. (Mandarin)

Zhangsan's friend he often criticize

'Zhangsan's friend, he often criticizes.'

Similar reconstruction effect is also noticed in *wh*-preposing.

(25) ?*Zhangsan_i de nei yi wei pengyou, ta_i changchang piping __. (Mandarin)

Zhangsan's which one CL friend he often criticize

'Which of Zhangsan's friend does he often criticize?'

Although Principle C violation test is not unique to the DFC, it can help distinguish the DFC from parataxis structure. See Section 3.2.1.

3.2 Syntactic Structure of the DFC

Two crucial issues concerning the structure of the DFC will be addressed in this section. The first question concerns the number of sentences involved in a DFC sentence. As mentioned in Section 1, the DFC can potentially be taken as the result of the juxtaposition of two pragmatically related discourse sentences/fragments. Following Cheung (1997), I will argue in Section 3.2.1 that the DFC involves only one sentence. In Section 3.2.2, I will examine the leftward movement proposal and the rightward movement proposal for the DFC.

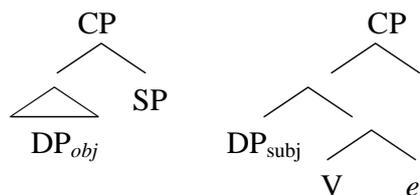
3.2.1 Single Sentence or Parataxis

Some previous studies (Chao 1968, Guo 1992) consider the RM as an afterthought appendage which is a part added to the FP. One possible common interpretation of an afterthought is that the remnant is external to the sentence/fragment containing the FP. For example, Guo (1993) claims that due to the distribution of the SP, the RM is "obligatorily placed outside the scope of the sentence." On this view, the DFC is analyzed as parataxis. McCawley (1988) defines parataxis as "the mere juxtaposition of Ss that may well unite into a phonological unit or some unit of discourse but not into a S."¹⁷ In other words, the FP and the RM belong to two different sentences and are linked pragmatically. Below is an example of how a DFC sentence can be represented as

¹⁷ Similar representation of slifting has been discussed and argued against in Stowell (2005).

parataxis. The gap in the RM contains a null object (in the form of a variable¹⁸ bound by a discourse antecedent (Huang 1984)) (see 26a) or elided VP anaphoric to the FP (see 26b).

(26) a

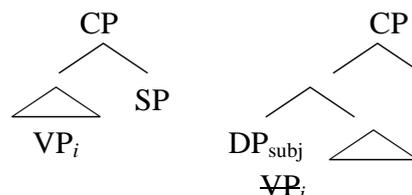


[jat bou dinsigei lo]. [keoi maai-zo e].

one CL TV SP he buy-PERF

'He bought a TV.'

b



[maai-zo jat bou dinsigei lo]. [keoi $\forall P$].

buy-PERF one CL TV SP he

'He bought a TV.'

The paratactic account is refuted by Packard (1986). His arguments are as follows. First, the FP is usually an "incomplete sentence." A parataxis does not have this restriction. Second, the DFC has subcategorization restriction with the "main sentence", as in (27). Here is his Mandarin Chinese example.

(27) Guan shang ba, chuanghu.

close up SP window

'Close the window.'

Third, the so-called afterthought part can be fairly complex structurally. In (28), the verb 'feel' in the RM selects the FP.

¹⁸ The argument still holds if one assumes that the null object is a *pro*.

(28) Ni xianzai shuohua ye dai kouyin ma, ni juede?

you now talk also carry accent SP you feel

'Do you also have an accent now when you talk, do you feel?'

Though Packard's observations are correct, his evidence is not very compelling. Fragments are indeed common and natural in spoken language. His observations are compatible with the hypothesis that the FP and the RM are linked together pragmatically without the need of grammatical principles.

The paratactic analysis has subsequently been refuted on the basis of two observations. Cheung (1997) notes that the DFC is subject to standard Island Constraints and the Dislocation Adjacency Constraint¹⁹. I will discuss them in detail in Section 4.1 and 4.2. If the DFC were simply the results of the juxtaposition of some syntactic units, it would be puzzling (i) why syntactic constraints are observed in the DFC and (ii) why pragmatic principles fail to link the FP and the RM. Second, Cheung (1997) and Law (2003)²⁰ find that certain syntactic dependency relations which generally do not hold across sentences are possible between the FP and the RM. They include *zingshai* 'only' and *doudai* 'wh-the-hell' among others²¹.

We have discussed in Section 3.1 examples of Principle C violations, *zingshai* ... X_{FOC} and *doudai* ... *wh*. All of them involve syntactic dependency in a sentence. For

¹⁹ I will return to the details of these constraints in Section 4.

²⁰ Neither Cheung (1997) nor Law (2003) uses the term "parataxis" but the idea remains the same.

²¹ See Cheung (1997) for discussion of more syntactic dependency relation such as selectional restriction of the matrix verb and the embedded clause, *mai ... lo*, etc.

example, Principle C violation is not triggered when the referring expression and the pronoun are in different sentences, as in (29).

- (29) [Bill_i hai jat go jaucaai]. [keoi_i cat dim faangung]. [Bill_i fuzaak paaisung seongin].
 Bill be one CL postman he seven point go.to.work Bill responsible deliver letter
 'Bill_i is a postman. He_i goes to work at seven. Bill_i is responsible for delivering
 letters.' (No Principle C violation)

The fact that (22b) (repeated as (30)) triggers Principle C violation shows that the FP and the RM are syntactically linked together in a sentence.

- (30) *Zoengsaam_i honang waan-zo faingam lo, keoi_i daamsam__.
 Zoengsaam probably get-PERF lung.cancer SP he worry
 'Zoengsaam believed he probably got lung cancer.'

Let us move on to *zinghai* 'only' test. (31a) and (31b) show that *zinghai* cannot be associated with the focused element in a different sentence. It can focus neither the bound variable in the object position (31a) nor the element in the elided VP (31b).

- (31) a [John soeng ze **go bun siusyut** aa.] *[Bill dou **zinghai** soeng ze e aa.]
 John want borrow that CL novel SP Bill also only want borrow SP
 'Zoengsaam borrowed the novel. Aafan also only borrowed the novel.'
 b [John soeng ze **go bun siusyut** aa.] *[Bill dou **zinghai** soeng ~~VP~~ aa.]
 John want borrow that CL novel SP Bill also only want SP
 'Zoengsaam borrowed the novel. Aafan also **only** borrowed the **novel**.'

Given the above observations, the possibility of *zinghai* associating with 'the novel' in (32a) and (32b)²² renders the paratactic representations in (26a) and (26b) implausible. The FP and the RM must belong to a single sentence.

- (32) a **go bun siusyut** lo, Aafan zinghai ze-zo ___ .
 that CL novel SP Aafan only borrow-PERF
 'Aafan only borrowed **the novel**. (She borrowed nothing else).'
- b ze-zo **go bun siusyut** lo, Aafan zinghai ___ .
 borrow-PERF that CL novel SP Aafan only
 'Aafan only borrowed **the novel**. (She borrowed nothing else).'

The same argument goes with *doudai* 'wh-the-hell.' Similarly, there is no way that *doudai* can be associated with a trace left by a moved wh-phrase or a wh-phrase in an elided VP.

- (33) a [lousi maai-zo **matje** aa?] *[**doudai** di hoksaang maai-zo e aa?]
 teacher buy-PERF what SP DOUDAI these student buy-PERF SP
 'What did the teacher buy? What the hell did the students buy?'
- b [lousi maai-zo **matje** aa?] *[**doudai** di hoksaang ~~VP~~ aa?]
 teacher buy-PERF what SP DOUDAI these student SP
 'What did the teacher buy? What the hell did the students buy?'

The well-formed wh-question in (15) (repeated as (34)) suggests that the two parts cannot be in separate sentences.

²² Note that (31) and (32) are grammatical on the reading that *zinghai* focuses the verb 'borrow.'

(34) a matje aa, doudai nei maai-zo ___?

what SP DOUDAI you buy-PERF

'What the hell did you buy?'

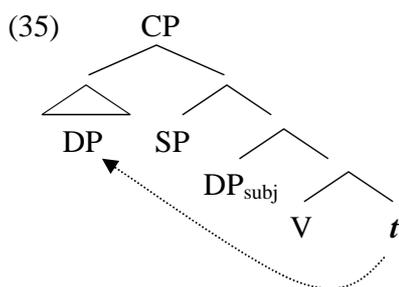
b maai-zo matje aa, doudai nei ___?

buy-PERF what SP DOUDAI you

In the above three tests, without positing the FP and the RM as the integral parts of a sentence, the syntactic relations would go unexplained.

3.2.2 Leftward and Rightward Movement

As the paratactic account of the DFC is not plausible, the next question to ask is how the DFC word order is derived. One possibility is by movement. The leftward movement analysis has been proposed by Packard (1986), Siu (1986), and Cheung (1997). Law (2003) takes one step further by arguing that the FP moves into FocP in the spirit of Rizzi's (1997) split-CP proposal. The structure is shown in (35).



The advantage of the leftward movement analysis is that it explains naturally why the FP is generally a constituent and the part that comes after the SP is a remnant. Following

Cheung (1997) and Law (2003), the support for leftward movement is that the extraction of FP is subject to Island Constraints. I will save the relevant examples until Section 4.1. Even though Law (2003) suggests that the FP lands in the Spec of FocP, I will leave the question open in this study.

As the DFC has been commonly called "right-dislocation", it could potentially be derived by rightward movement of the "afterthought" part (i.e. the RM). The proposal has been considered and rejected by Packard (1986). The basic claim is that the "main sentence" (or FP) is "in all cases a bona fide unitary constituent, that is, [...] immediately dominated by one single phrase structure node. (Packard 1986: 9)" What is right-dislocated (i.e. the RM) is usually not a constituent in the usual sense. For example, in (36), *ni juede* 'you feel' does not form a constituent.

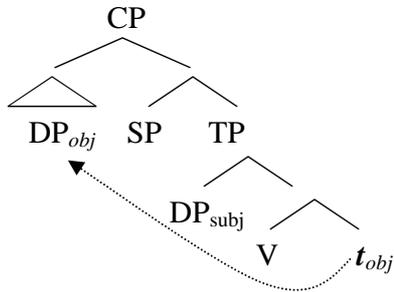
(36) Ni xianzai shuohua ye dai kouyin ma, ni juede? (Mandarin)
you now talk also carry accent Q you feel

'Do you also have an accent now when you talk, do you feel?'

Packard finds it difficult to motivate syntactic movement mechanism to move the non-constituent (i.e. the RM) to the right. However, recent development in remnant movement (Müller 1998) makes it possible for the remnant TP to undergo further movement²³. Samek-Lodovici (to appear), for example, analyzes Italian right-dislocation as topicalization followed by remnant movement to the left. Here I want to sketch in (37) how remnant movement can potentially derive the DFC in two steps.

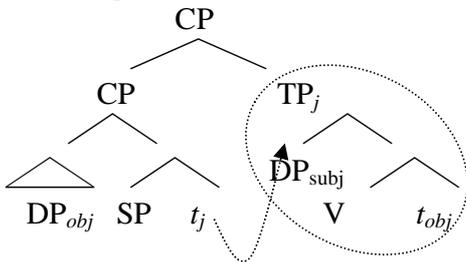
²³ I want to thank Anoop Mahajan for pointing out this to me.

(37) Step 1



Leftward movement of the FP

Step 2



Rightward adjunction of the TP to CP

The first step involves the leftward movement of the FP, as argued before. The second step moves the entire TP containing the trace of the FP to the right by adjunction. Since the second step is string-vacuous, it is difficult to ascertain whether the second step takes place or not. Further, it is doubtful whether rightward movement is tenable because rightward movement is generally not attested in Chinese. I consider the rightward movement more difficult to motivate and will not pursue further in this thesis.

4. Constraints on the DFC

The discussion so far assumes that the DFC can rather freely affect phrases in different syntactic positions. Nevertheless, the DFC is subject to two constraints, namely, Island Constraints and the Generalized Left Branch Condition. Since it has been argued all

along that the DFC is the result of syntactic movement, there comes no surprise that the DFC is sensitive to Island Constraints, as will be discussed in Section 4.1. What is unexpected is the further restriction—the Generalized Left Branch Condition. Section 4.2 will establish the generalization about the constraint.

4.1 Island Constraints

The crucial evidence for leftward movement of the FP is the sensitivity to island constraints (Cheung 1997, Law 2003). (38)—(42)²⁴ indicate that FPs corresponding to gaps in coordinate island, adjunct island, complex NP island and subject island are not possible. (a) sentences show that these sentences are good without extraction. (b) sentences indicate island violations due to movement of the FPs.

Coordinate Structure

(38) a keoi maai-zo [DP [jat bui holok] tungmaai [loeng go honboubaaui]] lo
 he buy-PERF one CL coke and two CL hamburger SP
 'He bought a coke and two hamburgers.'

b *loeng go honboubaaui lo, keoi maai-zo [DP jat bui holok tungmaai __]
 two CL hamburger SP he buy-PERF one CL coke and

(39) a ngo hai jauguk [[VP gei-zo fung seon] tungmaai [VP lo-zo jat gin baugou]] lo
 I at post-office send-PERF CL letter and take-PERF one CL parcel SP
 'At the post-office, I sent a letter and took a parcel.'

²⁴ Sentences (39)—(42) are taken from Law (2003).

- b *lo-zo jat gin baagou lo, ngo hai jauguk [VP gei-zo fung seon tungmaai ___]
 take-PERF one CL parcel SP I at post-office send-PERF CL letter and

Adjunct Island

- (40) a keoi zou loeng fan gung [janwai jiu bong sailou gaau hokfai lo]²⁵.
 he do two CL work because have-to help brother pay fee SP
 'He has two jobs because he has to pay the tuition fees for his/her brother.'
 b *hokfai lo, keoi zou loeng fan gung [janwai jiu bong sailou gaau ___].
 fee SP he do two CL work because have-to help brother pay

Complex NP Island

- (41) a Billy mou zeonsau [DP keoi jiu zeonsi waan cin ge singnok] lo.
 Billy not obey he must on-time return money GE promise SP
 'Billy broke the promise that he would return the money on time.'
 b *cin lo, Billy mou zeonsau [DP keoi jiu zeonsi waan ___ ge singnok].
 money SP Billy not obey he must on-time return GE promise

Subject Island

- (42) a [CP [CP keoi waa m soeng zou jisang] zanghai giksei keoi aamaa] lo.
 he say not want do doctor really irritate his mother SP
 'That he says he doesn't want to be a doctor really irritates his mother.'
 b *jisang lo, [CP [CP keoi waa m soeng zou ___] zanghai giksei keoi aamaa].
 doctor SP he say not want do really irritate his mother

²⁵ Adjunct clauses (e.g. because-clause, if-clause, unless-clause) normally occur at sentence-initial position or preverbal position. However, in colloquial Cantonese, sentence-final adjunct clauses are possible too.

4.2 Generalized Left Branch Condition (GLBC)

Cheung (1997) pointed out that the DFC becomes bad when it affects constituents that are non-sentence-final in the corresponding normal word order sentence. The constraint is called DISLOCATION ADJACENCY CONSTRAINT²⁶ in Cheung (1997). For clarity, I will call it henceforth the GENERALIZED LEFT BRANCH CONDITION (GLBC). The constraint is also implicit in Siu's (1986) rule²⁷ for generating the DFC. Because of the challenge of the constraint in Law (2003), new evidence concerning the DFC under ellipsis will be presented to support the validity of the constraint in Section 4.3.

4.2.1 Motivating the GLBC

Recall in Section 1 that the leftward movement of the DFC can target constituent of any syntactic category. Sentences in (1b, c) and (8a—f) are repeated as (43) below. In all the sentence pairs, the non-prime sentences are the source structure, and the prime sentences are the DFC counterparts.

(43) a keoi maai-zo jat bou dinsigei lo.

he buy-PERF one CL TV SP

'He bought a TV.'

²⁶ The fronted part [i.e. the FP] ... is an XP immediately preceding the SP plus the SP itself [in the underlying structure] (Cheung 1997).

²⁷ Siu writes, "there are many possibilities for preposing since **the constituents from the right** will have a range of XPs. [emphasis mine]" (p. 66) However, Siu did not show non-final constituents cannot undergo leftward movement.

- a' dinsigei lo, keoi maai-zo jat bou ____ . (FP = NP)
 TV SP he buy-PERF one CL
- b keoi maai-zo jat bou dingsigei lo.
 he buy-PERF one CL TV SP
- b' jat bou dingsigei lo, keoi maai-zo ____ . (FP = DP)
 one CL TV SP he buy-PERF
- c keoi maai-zo jat bou dingsigei lo.
 he buy-PERF one CL TV SP
- c' maai-zo jat bou dingsigei lo, keoi ____ . (FP = VP)
 buy-PERF one CL TV SP he
- d go go sailouzai hou hongoi lo.
 that CL kid very lovely SP
 'The kid is lovely.'
- d' hou hongoi lo, go go sailouzai ____ . (FP = AdjP)
 very lovely SP that CL kid
- e keoi heoi-zo go gaan gaafedim saam ci lo
 he go-PERF that CL coffee-shop three time SP
 'He has been to the coffee shop three times.'
- e' saam ci lo, keoi heoi-zo go gaan gaafedim ____ . (FP = AdvP)
 three time SP he go-PERF that CL coffee-shop

f wui maai jat bou dinsigei lo, keoi.

will buy one CL TV SP he

'He will buy a TV.'

f' wui maai jat bou dinsigei lo, keoi __

(FP = ModalP)

will buy one CL TV SP he

'He will buy a TV.'

g go coeng fo houzoi siufongjyun lei dak zou zaa.

that CL fire fortunate fireman come DAK early SP

'As for that fire, it is fortunate that the firemen came early.'

g' houzoi siufongjyun lei dak zou zaa, go coeng fo __.

(FP = TP)

fortunate fireman come DAK early SP that CL fire

All DFC sentences have one thing in common. All the FPs originate from the sentence-final position. The generalization predicts that non-final elements alone cannot occur in the FP. Examples of non-final elements include subject DPs, preverbal PPs, preverbal adverbials and constituents in adjunct clauses. Indeed, as shown in (44), they are prohibited from moving to the left.

(44) a Zoengsaam maai-zo jat bou dinsigei lo.

Zoengsaam buy-PERF one CL TV SP

'Zoengsaam bought a TV.'

a' *Zoengsaam lo, __ maai-zo jat bou dinsigei.

(FP = Subject DP)

Zoengsaam SP buy-PERF one CL TV

- b Zoengsaam bei go gaa focé zongdou lo.
 Zoengsaam by that CL truck hit SP
 'Zoengsaam was hit by the truck.'
- b' *go gaa focé lo, Zoengsaam bei zongdou lo. (FP = Prep. Object)
 that CL truck SP Zoengsaam by hit SP
- c keoi hou faai gaam sik-zo wun min lo.
 he very quick ADV eat-PERF CL noodle SP
 'He quickly ate the bowl of noodles.'
- c' *hou faai gaam lo, keoi __ sik-zo wun min. (FP = Adv)
 very quick ADV SP he eat-PERF CL noodle
- d janwai taitai beng-zo, soji Zoengsaam lau hai ukkei lo.
 because wife be.sick-PERF therefore Zoengsaam stay at home SP
 'Zoengsaam stayed at home because (his) wife was sick.'
- d' *beng-zo lo, janwai taitai __, Zoengsaam soji lau hai ukkei.
 be.sick-PERF SP because weather Zoengsaam therefore stay at home
 (FP = VP in adjunct clause)

The findings can be verified by *doudai* test and *zinghai* test.

- (45) a doudai bin go hoksaang wui gaan jyujinhok aa?
 DOUDAI which CL student will choose linguistics SP
 'Which (the hell?!) student will choose linguistics?'
- b *bin go hoksaang aa, doudai __ wui gaan jyujinhok? (FP = Subject DP)
 which CL student SP DOUDAI will choose linguistics

(46) a Zoengsaam **zinghai** bei **go gaa foce** zongdou lo.

Zoengsaam only by that CL truck hit SP

'Zoengsaam was hit by that truck only (but not other cars).'

b *go gaa foce lo, Zoengsaam zinghai bei __ zongdou lo. (FP = Prep. Object)

that CL truck SP Zoengsaam only by hit SP

Both tests confirm that non-final elements fail to undergo leftward movement.

The pattern is reminiscent of Ross's (1967) Left Branch Condition, which says, "No NP which is the leftmost constituent of a larger NP can be reordered out of this NP by a transformational rule." The extraction pattern in the DFC is even stricter. Any node that is on the left branch and anything inside it cannot be moved. I propose the following condition:

(47) *Generalized Left Branch Condition (GLBC)*

Leftward movement cannot target any constituent that is dominated by a node that is on the left branch.

Let us check if (47) can correctly predict the possible DFC sentences associated with (48).

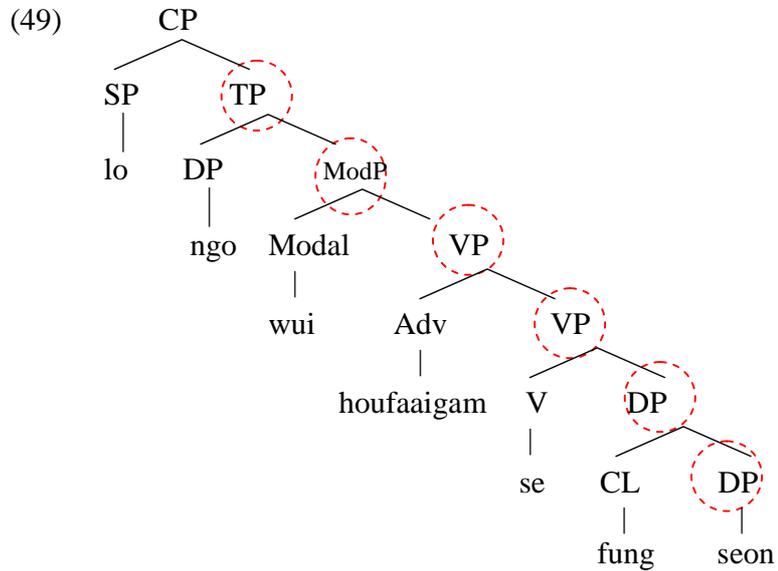
(48) ngo wui houfaaigam se fung seon lo.

I will quickly write CL letter SP

'I will quickly write the letter.'

Diagrammatically, the rule prohibits anything on the left branch from moving in (49).

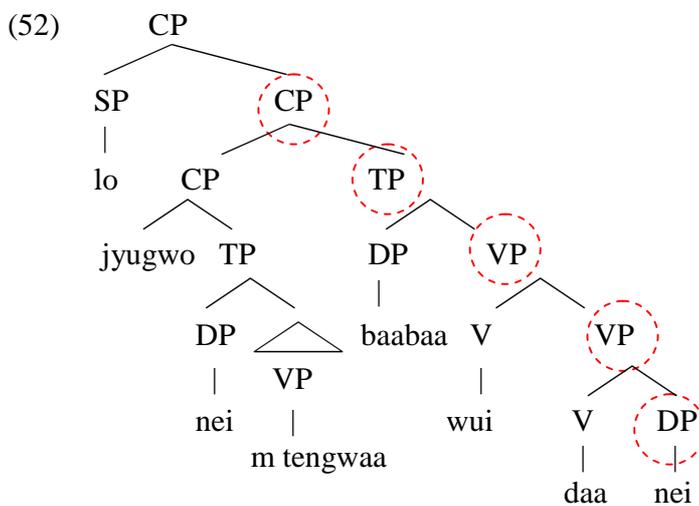
Only the circled nodes in can serve as the FP in the DFC sentences in (50).



- (50) a seon lo, ngo wui houfaaigam se fung __ .
 b fung seon lo, ngo wui houfaaigam se __ .
 c se fung seon lo, ngo wui houfaaigam __ .
 d houfaaigam se fung seon lo, ngo wui __ .
 e wui houfaaigam se fung seon lo, ngo __ .
 f ngo wui houfaaigam se fung seon lo __ .
 g *ngo lo, __ wui houfaaigam se fung seon.
 h *wui lo, ngo __ houfaaigam se fung seon.
 i *houfaaigam lo, ngo wui __ se fung seon.

The GLBC also correctly exclude subject DPs, preverbal PP, preverbal adverbials and adjunct clauses from undergoing leftward movement because all are dominated by a node that is on the left branch.

- (51) jjugwo nei m tengwaa, baabaa wui daa nei lo.
 if you not obedient dad will beat you SP
 'If you don't behave yourself, dad will beat you.'



- (53) a nei lo, jjugwo nei m tengwaa, baabaa wui daa __.
 b daa nei lo, jjugwo nei m tengwaa, baabaa wui __.
 c ??wui daa nei lo, jjugwo nei m tengwaa, baabaa __.
 d baabaa wui daa nei lo, jjugwo nei m tengwaa __.
 e *jjugwo nei m tengwaa lo, baabaa wui daa nei __.
 f *m tengwaa lo, jjugwo nei __, baabaa wui daa nei.
 g *nei m tengwaa lo, jjugwo __, baabaa wui daa nei.

The GLBC denies the *because*-clause or anything inside it from being the FP because the clause is dominated by a left branch node. Similar configuration applies to the aforementioned non-final elements. Consequently, they are ruled out by the GLBC.

4.2.2 *Is the GLBC Correct?*

The GLBC has been called into question in Law (2003). In her proposal, the DFC should be analyzed as the movement of a phrase into FocusP of the split-CP system in the spirit of Rizzi (1997). She tries to do away with the GLBC entirely. Interestingly, she admits that she shares most of the judgments in Cheung (1997) about the ill-formed sentences that are attributed to the GLBC violation. Her major claim against the constraint is that there are quite a number of counter-examples, which, to me, are apparent ones. I selected several of her key counter-examples. (The judgments of (54b), (55b) and (56b) are hers.) They all involve phrases from non-final positions.

Serial Verb Construction

(54) a ngo maai-zo bou dinnou lai sung bei keoi lo.

I buy-PERF CL computer to give to he SP

'The computer, I bought it for him/her.'

b bou dinnou lo, ngo maai-zo __ lai sung bei keoi. (=41c in Law 2003)

CL computer SP I buy-PERF to give to he

Preverbal PP

(55) a Aafan jau Baalai heoi-zo Saibaanngaa aamaa

Aafan from Paris go-PERF Spain SP

'Aafan went to Spain from Paris. (Didn't you know?)'

b jau Baalai aamaa, Aafan __ heoi zo Saibaanngaa (=43 in Law 2003)

from Paris SP Aafan go-PERF Spain

Subject DP

(56) a zoek jyulau go go naamjan laudai-zo go peigip haidou aamaa.

wear raincoat that CL man leave-PERF CL suitcase here SP

'The man who wore a raincoat left a suitcase here.'

b ?zoek jyulau go go naamjan aamaa, __ laudai-zo go peigip haidou.

wear raincoat that CL man SP leave-PERF CL suitcase here

'The man who wore a raincoat left a suitcase here.'

My judgments of these sentences differ from Law's. To me, (54b) and (56b) are slightly marginal, and (55b) is quite bad. I think there is a reason why some of these sentences are not so bad. The trick is that these sentences can become acceptable on parataxis reading. Here the diagnostic tests are important in revealing the identity of these sentences.

(57) a ngo zinghai maai-zo bou dinnou lai sung bei keoi lo.

I only buy-PERF CL computer to give to he SP

'I only bought the computer (but nothing else) for him.'

b *bou dinnou lo, ngo zinghai maai-zo __ lai sung bei keoi. (Zinghai Test)

CL computer SP I only buy-PERF to give to he

'I only bought the computer (but nothing else) for him.' (unavailable)

Unlike genuine the DFC, the focus of *zinghai* fails to associate with the FP 'the computer.' (57b) is likely to involve two sentences. Nor is it possible for *doudai* and *bindou* 'where' to form a *wh-the-hell* expression in (58b).

(58) a doudai Aafan jau bindou heoi zo Saibaanngaa aa?

DOUDAI Aafan from where go-PERF Spain SP

'Where the hell is the place x such that Aafan went to Spain from x ?'

b *jau bindou aa, doudai Aafan __ heoi zo Saibaanngaa? (*doudai* Test)

from where SP DOUDAI Aafan go-PERF Spain

Law (2003) claims that if the subject DP is made heavy like the one in (59), the acceptability of leftward moving the subject DP improves. However, with heavy subject DP, (59b) still fails *doudai* test.

(59) a doudai zoek matje ngaansik saam ge naamjan laudai-zo go peigip haidou aa?

DOUDAI wear what color clothes GE man leave-PERF CL suitcase here SP

Which (the hell) color is x such that the man who wore a clothes with x color left a suitcase here?'

b *zoek matje ngaansik saam ge naamjan aa, doudai __ laudai-zo go peigip haidou?

wear what color clothes GE man SP DOUDAI leave-PERF CL suitcase here

Since Law's counter-examples consistently fail the diagnostic tests, it is quite possible that the acceptability of (54b)—(56b) are due to the availability of parataxis reading. By this, I affirm the validity of the GLBC.

4.2.3 Can the GLBC be Derived from Other Syntactic Constraints?

The natural question to raise is whether the GLBC can be further reduced to some more basic syntactic or semantic principles. In this section, I will consider some superficially plausible explanations. However, they will be shown to be unsatisfactory. In Section 6, a proposal based on Nuclear Stress Rule will be discussed. Let us now examine three kinds of non-final phrases, namely, subjects, adjunct clauses, and pre-verbal prepositional objects.

Subjects

Cross-linguistically, preverbal subjects are not as extractable that objects (Rizzi 1982). Subject-object asymmetry has been often noted in various extraction phenomena. For instance, in English, *that*-trace effect is only found in subject traces.

(60) a *Who did you say that ___ left the party?

b Who did you say ___ left the party?

They are often explained by the fact that while objects are lexically governed by the verb, subjects are not. The failure of subjects to undergo the dislocation focus movement can

potentially be attributed to such generalization. However, such an analysis will be shown infeasible in the DFC.

The GLBC predicts that subjects or anything in the subject phrases cannot be extracted because subjects are normally followed by other materials. However, these materials can be elided in fragment answers. Consider (62a-d) as answers to (61).

(61)Q: John ge bingo cancik lei-zo LA aa?

John GE who relative come-PERF LA SP

'Which of John's relative came to LA?'

(62) a John ge suksuk lei-zo LA lo. (normal word order + no ellipsis)

John GE uncle come-PERF LA SP

'John's uncle came to LA.'

a' *suksuk lo, John ge ___ lei-zo LA lo. (DFC + no ellipsis)

uncle SP John GE come-PERF LA SP

b John ge suksuk lo. (normal word order + ellipsis)

John GE uncle SP

'John's uncle.'

b' suksuk lo, John ge ___. (DFC + ellipsis)

uncle SP John GE

Extraction from the possessive DP subject is bad in (62a'). However, the sentence becomes good when the materials after the subject DP are deleted, as in (62b'). If subject-object asymmetry holds, (62b') should be ungrammatical. This shows that the asymmetry principle is not relevant in the DFC.

Adjunct Clauses

Adjunct clauses (e.g. because-clause, if-clause, unless-clause) in Cantonese occur at sentence-initial position or preverbal position. As a result, they do not constitute a contiguous part of the final part of a sentence. The extraction of, say, the VP of the adjunct clause is ill-formed. Compare (63) and (64).

(63) a Zoengsaam janwai taitai beng-zo, lau hai ukkei lo. (preverbal)

Zoengsaam because wife be.sick-PERF stay at home SP

'Zoengsaam stayed at home because (his) wife was sick.'

b janwai taitai beng-zo, Zoengsaam zau lau hai ukkei lo. (S-initial)

because wife be.sick-PERF Zoengsaam so stay at home SP

'Zoengsaam stayed at home because (his) wife was sick.'

(64) a *beng-zo lo, Zoengsaam janwai taitai __, lau hai ukkei. (preverbal)

be.sick-PERF SP Zoengsaam because weather stay at home

'Zoengsaam stayed at home because (his) wife was sick.'

b *beng-zo lo, janwai taitai __, Zoengsaam zau lau hai ukkei. (S-initial)

be.sick-PERF SP because weather Zoengsaam so stay at home

'Zoengsaam stayed at home because (his) wife was sick.'

One might want to argue that (64a) and (64b) are bad because of adjunct island constraint. However, the removal of the materials after the adjunct clause can salvage the sentence.

- (65) Zoengsaam janwai taitai matje si lau hai ukkei aa?
 Zoengsaam because wife what matter stay at home SP
 'What happened to Zoengsaam's wife so that he had to stay at home?'
- (66) a beng-zo lo, Zoengsaam [janwai taitai __] {VP}
 be.sick-PERF SP Zoengsaam because wife
 'Because Zoengsaam's wife was sick.'
- b beng-zo lo, [janwai taitai __], {TP}
 be.sick-PERF SP because wife
 'Because (Zoengsaam's) wife was sick.'

Preposition Stranding

The extraction of the preverbal coverb (or preposition) object is generally impossible in the DFC, as can be seen in (67) and (68).

- (67) a keoi bei go gaa foce zongdou lo.
 he by that CL truck hit SP
 'He was hit by the truck.'
- b *go gaa foce lo, keoi bei ___ zongdou.
 that CL truck SP he by hit
- (68) a ngo jyun hobin paaubou lo.
 I along river.bank run SP
 'I ran along the river bank.'

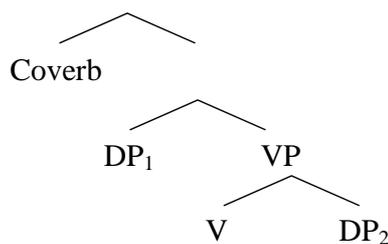
b *hobin lo, ngo jyun ___ paaubou.

river.bank SP I along run

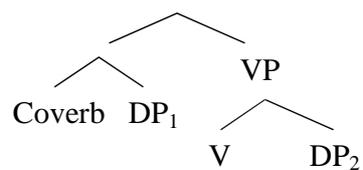
'I ran along the river bank.'

Chinese does not have the category of preposition per se. Instead, coverbs are used to perform the function of prepositions. Coverbs have mixed properties of verbs and preposition (Li and Thompson 1981). For example, some coverbs can take verbal aspectual markers. Historically, most coverbs are derived from verbs. The coverb phrase is pre-verbal. There is some evidence that at least some coverbs like *ba* should be analyzed like a serial verb construction, as in the tree (a), instead of (b).

(69) (a)



(b)



For example, Li (1998) found that the coverb object DP₁ and the VP together form a constituent with coordination test. If this is indeed the case, the ill-formedness of (67b) and (68b) can be explained in the same way as that in serial verb construction (see Section 4.2.2). For the sake of argument, let us assume that at least some coverbs have the structure in (69b). With this assumption, it is not unreasonable to think that (67b) and (68b) is ruled out by preposition stranding. In fact, the prohibition of preposition stranding can be found in topicalization, relativization and *wh*-preposing, shown in (70)—(72).

(70) *go gaa foce le, keoi bei ___ zongdou. (Topicalization)

that CL truck TM he by hit

'He was hit by the truck.'

(71) *_{[DP [TP keoi bei ___ zongdou]} ge go gaa foce] (Relativization)

he by hit GE that CL truck

'The truck that he was hit by it ...'

(72) *bin gaa foce le, keoi bei ___ zongdou aa? (*Wh*-preposing)

which CL truck TM he by hit SP

'Which truck *x* is such that he was hit by *x*?'

However, preposition stranding is not relevant in (67b) and (68b). First, the preposition stranding account makes the prediction that prepositional objects should always be prohibited from extraction no matter whether the PP is followed by a VP or not. The GLBC, however, will permit extraction when the preverbal PP is at the sentence final position. Preverbal PPs can be made to be sentence-final if the verb phrase following it gets elided. Consider (73b). Without ellipsis, the extraction of prepositional object is bad.

(73)Q: Zoengsaam bei matje zongdou aa?

Zoengsaam by what hit SP

'What is the thing *x* such that Zoengsaam was hit by *x*?'

a Zoengsaam bei go gaa foce zongdou lo. (normal word order)

Zoengsaam by that CL truck hit SP

'Zoengsaam was hit by the truck.'

b *go gaa foce lo, Zoengsaam bei ___ zongdou. (DFC + no ellipsis)

that CL truck SP Zoengsaam by hit

c go gaa foce lo, Zoengsaam bei ____.²⁸ (DFC + ellipsis)

that CL truck SP Zoengsaam by

'Zoengsaam ~~was hit~~ by that truck

d go gaa foce lo bei _____. (DFC + ellipsis)

that CL truck SP by

'By the truck.'

Surprisingly, extraction becomes fine in (73d, d) when the verb is elided. Although Cantonese does not allow preposition stranding, the grammaticality of (73c, d) shows that the failure to extract the preverbal prepositional object is not due to preposition stranding²⁹. The unexpected grammaticality of (73c, d) is not an idiosyncratic property of *bei*. Similar phenomenon is observed across different prepositions. Here are a few examples.

(74) a Lokcaamgei lo, jau. (jau 'from')

Los Angeles SP, from

²⁸ Note that the following is slightly marginal.

(?)Zoengsaam bei go gaa foce [zongdou] lo. (normal word order + ellipsis)

Zoengsaam by that CL truck hit SP

'Zoengsaam (was hit) by the truck.'

²⁹ Exceptional preposition stranding is in some way similar to swiping in English (Merchant 2002). However, his head movement account does not work in Cantonese. There is no lightness constraint in the DFC.

a. Lois was talking, but I don't know who to.

b. *Lois was talking, but I don't know which student to.

c. This opera was written by someone in the 19th century, but we're not sure who by. (Chung et al. 1995: (4d))

d. *This opera was written by someone in the 19th century, but we're not sure which playwright by.

'From Los Angeles.'

b keoi neoipangjau lo, tung. (tung 'with')

his girlfriend SP with

'With his girlfriend.'

c go go faazeon lo, zoeng. (zoeng similar to *ba* in Mandarin)

that CL vase SP ZOENG

Sentences in (74) become unacceptable when these PPs are placed in full sentences.

The second piece of evidence is that though most of the PPs in Cantonese are preverbal, some verbs select for a postverbal PP. Unlike preverbal prepositional objects, postverbal ones can be freely moved. The contrast can be seen in (75) and (76).

Preverbal PP

(75) a ngo hai go zoeng cong fan lo. (normal word order)

I at that CL bed sleep SP

'I slept on the bed.'

b *go zoeng cong lo, ngo hai __ fan. (DFC)

that CL bed SP I at sleep

Postverbal PP

(76) a ngo fan hai go zoeng cong lo. (normal word order)

I sleep at that CL bed SP

'I slept on the bed.'

b go zoeng cong lo, ngo fan hai ____ . (DFC)³⁰

that CL bed SP I sleep at

Apparently, preposition stranding fails to explain why (76b) is fine. Before leaving the section, I would like to briefly draw readers' attention to the fact that Merchant (2001) find that ellipsis can salvage Left Branch Condition violations in sluicing. Here are two examples.

(76') a She bought an expensive car, but I don't know how expensive. (p. 167)

b Your brother is a smart doctor, but it's not clear how smart. (p. 167)

It is possible that similar principle also applies to the exceptional DFC extraction.

4.3 Remarks

Before moving on, I want to give some brief remarks on the competence/performance issue raised in Section 1. What is surprising about the findings in Section 3 and 4 is that the FP and the RM exhibit some syntactic restrictions. Recall the ungrammaticality of (22b) (repeated as (77)).

(77) *Zoengsaam, honang waan-zo faingam lo, keoi_i daamsam. (Principle C)

Zoengsaam probably get-PERF lung.cancer SP he worry

Intended: 'Zoengsaam believed he probably got lung cancer.'

³⁰ If the postverbal PP is followed by other lexical items, the extraction of the prepositional object is bad.

(a) ngo zinghai fan hai zoeng cong soengmin lo. (normal word order)

I only sleep at CL bed on-top SP
'I slept on the top of the bed.'

(b) *go zoeng cong lo, ngo zinghai fan hai ____ soengmin. (DFC)

that CL bed SP I only sleep at on-top
'I slept on the top of the bed.'

If one thinks of the RM as an afterthought pragmatically linked to the FP, it is rather puzzling why 'he worries' cannot be a well-formed repair or why it cannot be related to the FP pragmatically. There seems to be nothing wrong, either semantically or pragmatically, about making such an afterthought or repair. One would, in fact, expect (77) to be good because a pronoun is normally used to refer to an antecedent in the prior discourse. The evidence presented in Section 4 is even more revealing. On the pure pragmatic account of the DFC, there is no reason why syntactic island constraints should be relevant. If the pragmatic view is correct, it is mysterious why the GLBC which is purely syntactic denies prepositional object clause from moving to the left. It is equally mysterious why ellipsis should salvage some cases of extraction that are impossible without ellipsis. All these have provided strong support that although the DFC is closely related to or motivated by discourse functions, the construction is subject to the restrictions of the formal grammar.

5. Semantics of the DFC

5.1 More on Focus

The discussion in Section 2.3 has shown that the focus of a DFC sentence is different from a normal word order sentence. Another piece of evidence that the DFC modifies the focus of a sentence can be found in the interaction between focus and negation. Negation can often apply to different parts of a sentence (Jackendoff 1972). This is called "negation of focus." Take (78) as an example.

(78) Maxwell didn't kill the judge with a silver hammer.

(79) a It wasn't with a silver hammer that Maxwell killed the judge. (focus = PP)

b What Maxwell did is kill the judge with a silver hammer. (focus = VP)

c It's not the case that Maxwell killed the judge with a silver hammer. (focus= TP)

(78) is multiply ambiguous. The readings are spelt out by the paraphrases in (79a—c). Negation goes with the focus and is not part of the original clause in (78) or "presupposition" in Jackendoff's term. Jackendoff pointed out that there is another set of what I call "Neg-in-situ readings." Negation stays in the original clause.

(80) a ??It was with a hammer that Maxwell didn't kill the judge. (focus = PP)

b What Maxwell did not do is kill the judge with a silver hammer. (focus = VP)

He attributed the oddity of (80) to the unusual presupposition in which the listener has to assume that Maxwell used some instrument not to kill the judge. The Neg-in-situ readings can be improved if they serve as an answer to a negated question, "Which of these weapons didn't Maxwell use?" In this case, it is easier to get the presupposition that there is a weapon among others that Maxwell did not use in the killing.

Interestingly, when the negation and its negated element are in the RM and FP respectively, the DFC only allows neg-in-situ reading. Negation of focus reading is unavailable. Consider (81).

(81) sik go gin saammanzi aa3, keoi m hoji.

eat that CL sandwich SP he not can

'You cannot eat that sandwich.'

(81) sounds rather unacceptable if it is uttered out of the blue or as an answer to (82a) because the negation is not part of the presupposition. However, (81) becomes very acceptable as an answer to (82b), in which negation forms part of the presupposition.

(82) a keoi hoji zou matje aa3?

he can do what SP

'What is the thing that he can do?'

[(81) is a felicitous answer.]

b keoi m hoji zou matje aa3?

he not can do what SP

'What is the thing that he cannot do?'

[(81) is an infelicitous answer.]

The test tells us that only neg-in-situ readings are available to the DFC.

Recall in Section 3 and 4 that the syntactic interpretation of Principle C violations, *zinghai*, and *doudai* in the DFC is mediated by reconstruction. One would expect that the reconstruction requirement would extend to the interpretation of focus in the DFC. However, it turns out not to be the case. If reconstruction is possible for focus interpretation, we would expect that a DFC sentence would share all the possible readings of a normal word order sentence. However, the DFC sentence only has a subset of readings available to the normal word order sentence. For example, subject focus reading is excluded in the DFC. The interaction between the DFC and negation also shows that the focus interpretation of the DFC cannot refer to the reconstruction. Otherwise, both negation-of-focus readings and the neg-in-situ readings should be available like normal word order sentences.

5.2 Accent-Focus Correspondence

Another issue related to focus is the correspondence between sentence accent and focus. Cantonese can indicate informational or contrastive focus using an emphatic accent. Given the appropriate context, an accent can virtually be put on any word in normal word order sentences to indicate informational or contrastive foci. In the DFC, when an emphatic accent is used, the accent can only occur in the FP but not the RM³¹. The emphatic accent in the examples below is marked by small capital letters below.

- (83) a jat bou DINSIGEI lo, keoi maai-zo.
one CL TV SP he buy-PERF
'He bought a TV.'
- b JAT bou dingsigei lo, keoi maai-zo.
one CL TV SP he buy-PERF
- c * jat bou dingsigei lo, **KEOI** maai-zo.
one CL TV SP he buy-PERF
- d * jat bou dingsigei lo, keoi **MAAI**-zo.
one CL TV SP he buy-PERF

The restriction of accent assignment can be seen as a consequence of the general accent-focus correspondence. For example, Selkirk (1984) proposes the following.

- (84) Basic Focus Rule: A constituent to which a pitch accent is assigned is a focus.

³¹ Lu (1980) also noted that in Mandarin the DFC sentences, only the front part (i.e. the FP) can receive the sentence stress. Words in the postposed part (i.e. the remnant) must be unstressed.

Since the FP contains the constituent that is the focus of the sentence, it follows that the pitch accent has to fall inside the FP but not the RM.

6. An Account of the DFC

Despite the previous efforts in explaining the DFC, the GLBC seem to be specific to the DFC. It is the aim of this section to relate these properties to more general principle of natural language. Because of the parallels between the DFC and Nuclear Stress Rule (NSR), I propose that the DFC and the rule are different instantiations of the same focus assignment rule. In English, the effect of the rule is realized as nuclear pitch accent in phonology. In Cantonese, rule is realized as leftward focus movement as the DFC in the syntax. The account has the advantage of bringing together a cluster of apparently isolated properties, namely, (a) the GLBC, (b) the unexpected extraction under ellipsis, and (c) accent placement. Further, it will provide a unified account of the DFC and the NSR, which may represent a universal focus assignment rule.

6.1 Nuclear Stress Rule and Focus

Nuclear Stress Rule (NSR) was first proposed in Chomsky and Halle (1968). Nuclear pitch accent (NPA) (or nuclear stress) refers to the main accent assigned to "the rightmost sonority peak of the string under consideration. (p. 102)" Typically, it is the rightmost

word that receives the accent. The rule captures the fact that in many "unmarked"³² cases, when words are combined to form a larger phrase, the default phrasal or sentential accent falls on the rightmost word. Here are some examples. (NPA is indicated by small capital letters.)

(85) a [DP black BOARD]

b [PP with a black BOARD]

c [CP John was hit over the head with a black BOARD.]

Cinque (1993) takes one step further by arguing that the NPA is determined by syntactic structure. The default NPA falls on the most embedded element on the recursive side of the tree as defined by syntactic structure³³. In a head-initial language, the recursive side is on the right branch. In a head-final language, the recursive side is on the left branch. What is special about NPA is that all the constituents that contain the word with the NPA can be the focus of a sentence (Chomsky 1971). Consequently, with the NPA in the default rightmost position, the sentence is a well-formed response to a set of different questions (Chomsky 1971, Jackendoff 1972, Reinhart 1995, to appear among others). (86a) is a felicitous answer to all the questions in (86b—d).

(86) a My neighbor is building a DESK. (Reinhart 1995, to appear)

b Speaker A: What's this noise?

Speaker B: [F My neighbor is building a DESK] (TP)

c Speaker A: What's your neighbor doing these days?

³² The "unmarked stress" vs "marked stress" has been a controversial issue. See Bolinger (1972) for an alternative analysis that argue against the dichotomy and the determination of stress by syntax.

³³ This captures the fact that the NPA in SOV languages such as German falls on the object DP which is not the rightmost but is the most embedded.

Speaker B: My neighbor [_F is building a DESK] (VP)

d Speaker A: What's your neighbor building?

Speaker B: My neighbor is building [_F a DESK] (DP)

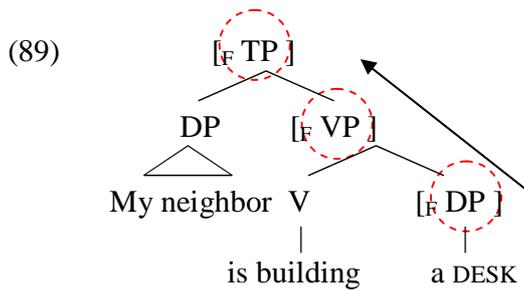
(87) My neighbor is BUILDING a desk.

The NPA is contrasted with shifted "marked" accent³⁴, say, on the verb. In (87), the verb *building* is not the rightmost word. By definition, the accent on it is not the unmarked NPA. Compare (86a) with (87), which differ from each other minimally by the accent position. Unlike (86a), (87) cannot be an acceptable answer to the questions in (86b—d). In other words, the focus in (87) cannot project to a larger phrase containing the "marked" accent, e.g. VP. It can only be good for a question like: "What is your neighbor doing to the desk?" On the basis of these observations, Reinhart (1995, to appear) proposed a focus assignment rule.

(88) The focus set of a sentence comprises all and only subtrees (constituents) which contain the main stress (i.e. the nuclear stress/nuclear accent).

The fact that (86a) can form an acceptable answer to the three questions shows that given the same NPA, the focus projection can be the object DP, VP or TP. Here I use the diacritic [_F] to mark the constituent in focus, as illustrated in (89).

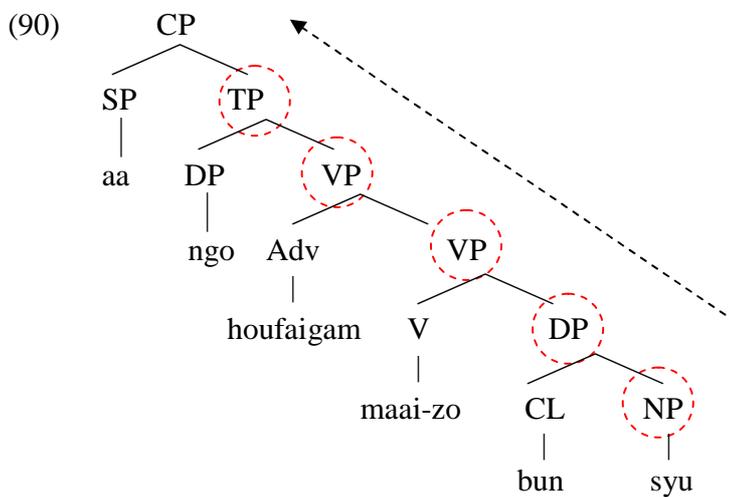
³⁴ On the analyses of Chomsky (1971) and Jackendoff (1972), any stress other than NPA is contrastive stress. It is generated by an independent rule.



6.2 Parallelism between the Nuclear Stress Rule and the GLBC³⁵

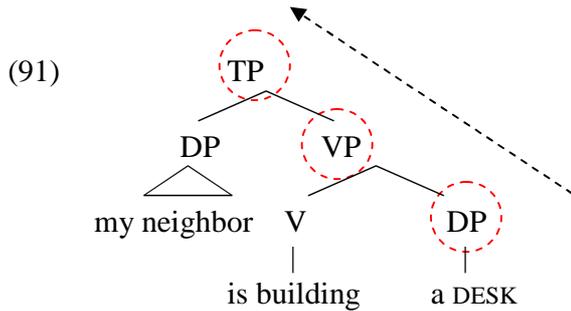
6.2.1 Special Status of the Spine

Though the NSR and the DFC superficially seem unrelated, some striking parallels can be drawn between them. Let us compare the sets of (circled) nodes in the following two trees³⁶. The circled nodes in (90) are the set of constituents that can become the FP in the DFC. Those in (91) are the set of focus projections associated with the NPA in English.



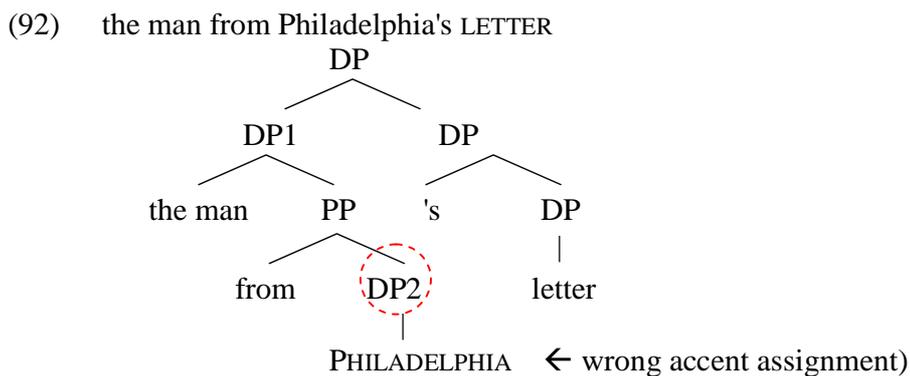
³⁵ In addition to Section 6.2.1 and 6.2.2, there is a third potential point of similarity between the NSR and the DFC. See Appendix B.

³⁶ I want to thank Tim Stowell who first drew my attention to this similarity.



The two sets of circled nodes are similar in the sense that all the circled nodes are on the side of the complement of a phrasal projection. If we examine closely the GLBC and Reinhart's focus assignment rule, they effectively achieve similar results. Both rules target the circled nodes on the right branch, and exclude the nodes on the left branch, for example, subject DPs.

There is a complication involving structures in which the left branch contains more levels of embedding than the right branch. Consider the possessive DP in (92). The possessor DP on the left branch has more levels of embedding than the possessed DP on the right. If the NPA is assigned to the most embedded word, the accent will be incorrectly assigned to "Philadelphia" because it is most deeply embedded.



To handle such cases, Cinque (1993) comes up with the distinction between major and minor path of embedding.

- (93)a The *major path of embedding* is constituted by nodes on the X-bar axis (X, X', XP) or nodes expanded on the recursive side of the tree.
- b The *minor path of embedding* is constituted by nodes on the non-recursive side of the tree.

With (93), since the node DP1 in (92) is neither a node on the X-bar axis nor a node expanded on the recursive side, DP1 is not qualified to be part of a major path. The word "letter" will therefore receive the accent. Incidentally, the notion of X-bar axis in the definition of the major path of embedding essentially produces the same effect as the GLBC requirement that the circled nodes must not be dominated by a node on the left branch. The GLBC requirement appropriately rules out any extraction from within the subject DP.

6.2.2 Invisibility of Elided Structures

Elided structures are invisible to both the DFC and the NSR. Recall in Section 4.2 that fragment answers give rise to unexpected DFC sentences that would not be possible in a complete sentence answer. Because of the deletion, preverbal ***PPs or subjects contain the last word, satisfying the GLBC. As for the NSR, Zubizarreta (1998) comments that descriptively NPA does not always fall on the rightmost word of a sentence. When the rightmost word is anaphoric to a discourse antecedent, they cannot bear NPA. Here are some examples.

- (94) Mary walked in. (= (35) in Ch. 2)
- a. John KISSED *her*.

b. John kissed HER (and not Martha).

(95) Talking about the lid, did you take the lid OFF *it*?³⁷

(96) When you emptied the till, did you count the money IN *the till*?

The three examples above show that the NPA is assigned to the rightmost word before these anaphoric phrases (italicized phrases). She claims that though the accent is not on the rightmost word, they do not result in contrastive interpretation. These observations have led to the following rule for the domain of the NSR application.

(97) The *metrically invisible* constituents for the NSR in English and German are defocalized constituents and anaphoric constituents, as well as empty categories (the latter are metrically invisible in all languages). (Zubizarreta 1998: 72)

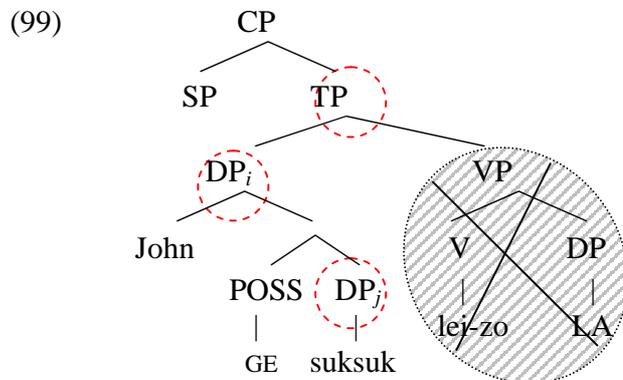
Similarly, the exceptional extraction under ellipsis can also be explained by invisibility condition. Recall that the GLBC requires that the leftward movement rule must not target a constituent that is dominated by a node on the left branch.

(98) Visibility Condition: Elided structures are invisible. (i.e. nodes that exclusively dominate elided structures are not counted as a daughter to the mother node).

In effect, the condition prunes all the nodes that exclusively dominate elided structures. Even though the Visibility Condition is not exactly the same as Zubizarreta's visibility condition on NSR, the rules share the same spirit that anaphoric elements are invisible to these rules. With ellipsis, those constituents that are originally on the left branch can

³⁷ (95) and (96) are examples in Gussenhoven (1984) cited in Zubizarreta (1998).

become the sole daughter of the parent node. Consequently, they are no longer a constituent on a non-left branch after deletion. Take a look at (99).



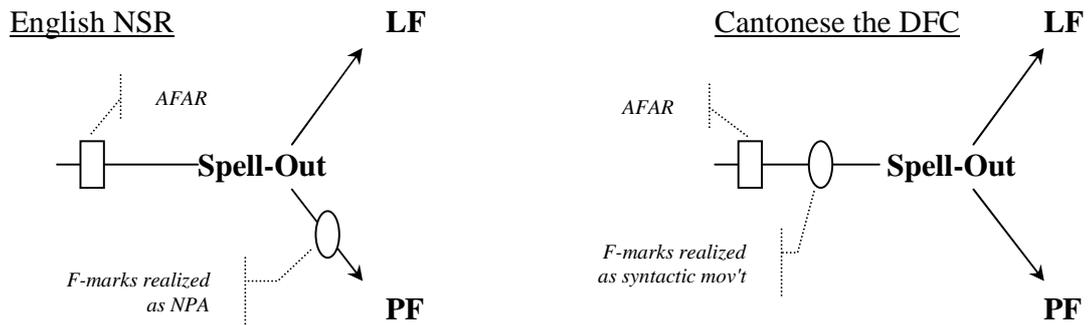
After the deletion of VP, the right daughter under TP becomes invisible. The subject DP will become the sole daughter of CP. As a result, the movement of the whole subject DP_i 'John's uncle' or the DP_j 'uncle' no longer violates the GLBC. They can undergo leftward movement. Similar derivation applies to other cases like preverbal PPs and adjunct clauses.

6.3 Abstract Focus Assignment Rule

Because of the parallels between the DFC and the NSR, I propose that both phenomena are results of what I call the Abstract Focus Assignment Rule (AFAR). The major difference between the DFC and NSR is that the former is realized in the syntax but the latter in phonology. This idea is not a novel one. Xu (2003) put forth a similar idea to account for the sentence-final focus in Mandarin using NSR. Let me first formulate AFAR as follows.

- (100) AFAR: The most embedded word on the major path of embedding is F-marked.
- (101) The *major path of embedding* is constituted by nodes that
- (a) are either on the X-bar axis (X, X', XP) or expanded on the recursive side, and
 - (b) do not contain exclusively elided materials in Cantonese, or defocalized constituents and anaphoric constituents, and empty categories in English.
- (102) Focus Projection Rule: F-marking of a phrase can license F-marking of mother node that immediately dominates it.

In effect, (100) and (101) identify the node to be F-marked. (102) projects the focus to a larger phrase recursively up the spine. As the DFC results in overt syntactic movement, F-marking must occur before spell-out. The difference between the DFC and the NSR lies in the specific grammatical module where F-marks are realized overtly. In English NSR, the F-mark feature has no effect on syntax. Instead, the F-mark is picked up by PF. A PF rule puts an NPA on the most embedded F-marked word. In Cantonese the DFC, the F-mark is interpreted in syntax. The F-marked constituent gets moved to the left. There is a slight complication here. It is mentioned earlier that the FP can be a larger phrase that contains the focus of the sentence. Hence the moved constituent can be any constituent that contains the focus of the sentence.



Semantically, the focus of a sentence is determined by the following rule.

- (103) Focus of a sentence (FOC): An F-marked constituent that is not dominated by any other F-marked constituent.

To independently verify the interpretation, the question/answer test can be applied. The constituent that corresponds to the *wh*-phrase is the FOC(us) of the sentence. The formulation above requires that F-marking can only be associated with constituents on the spine. However, it does not mean that constituents other than the circled nodes (e.g. subject DPs) cannot be focused. It would be rather implausible if a language does not allow the speaker to focus anything other than the constituents on the spine. Here I assume along with Cinque (1993) and Reinhart (1995) that a distinction between the "unmarked" sentence focus and "marked" contrastive focus is made. The assignment of contrastive focus should fall under different grammatical principles. Cinque (1993) asserts that "the formal sentence grammar procedure that determines where the prominence of a phrase will be located" (e.g. NSR) must be distinguished from "the discourse grammar procedure that determines that the prominence of the phrase in focus" (the assignment of contrastive stress).

7. Conclusion

In conclusion, despite the parenthetical nature of the DFC in the discourse functional sense, the DFC has been shown to possess a number of interesting syntactic and semantic properties. The results strongly support the fact that the FP and the RM are not only related to each other pragmatically but also governed by grammatical principles. The study has demonstrated that grammatical principles have an important role to play in parenthetical construction. Similar conclusion has been drawn in various English parenthetical construction studies (Ross 1973, Potts 2002, Stowell 2005).

Syntactically, the DFC shows reconstruction effects with respect to Principle C violations, *zhanghai* test and *only* test among others. The effects in the latter two tests are unique to the DFC. The three tests have been established as diagnostics for the DFC to systematically argue against paratactic analysis and topicalization analysis of the DFC. These tests are important in clarifying the confusion between DFC and parataxis. In addition to standard Island Constraints, the GLBC have been discussed and defended on the basis of new evidence from ellipsis and diagnostic tests. Semantically, the DFC modifies the focus the sentence and restricts the domain for focus in the FP. Unlike syntactic interpretation, the semantic interpretation of the DFC is not determined by reconstructing the FP back to its original site. This has been shown by question/answer pairs and the interaction of negation and focus.

Towards the end, a unified account of the DFC and the NSR has been put forward to explain a cluster of properties between the two constructions, namely, the GLBC, accent assignment, Visibility Condition and focus property. An abstract focus assignment rule is posited in the syntax. It identifies the most embedded element as an F-mark element. The focus can be projected upward along the spine. The difference between English and Cantonese is that while the F-marks of constituents become realized as the nuclear stress and unmarked focus in English, the F-marked constituents are subject to leftward movement as the FP in Cantonese. The formulation makes a distinction between marked and unmarked focus in natural languages. The findings suggest that focus assignment is not determined purely pragmatically. Grammatical principles also constrain some types of focus assignment.

Appendix A

Abbreviations

CL	classifier
DFC	Dislocation Focus Construction
FP	Focus Phrase
GE	genitive marker
PERF	perfective marker
SP	sentence particle
TM	topic marker particle

Appendix B

Sentence-Final Focus Position in Mandarin Chinese

The proposal of collapsing the DFC and NSR can potentially be linked to other observations of focus in Chinese. Xu (2004) finds that "the sentence-final position, also the most deeply embedded position on the recursive side of branching is the default position for informational focus in Chinese."

(104) Ni gangcai he-le shenme?
you just-now drink-PERF what
'What did you drink just now?'

(105) a Wo he-le kafei.
I drink-PERF coffee

'I drank coffee.'

b Wo ba kafei he-le.

I PREP coffee drink-PERF

Xu analyzed the phenomenon using Cinque's theory. He suggests that Nuclear Stress Rule can be recast as a rule of focus assignment. Focus is realized in phonology as stress (in English and German) and in syntax (in Chinese).

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