On the fine structure of Topic and Focus projections in Cantonese

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1. Introduction

This chapter has two major objectives. The first concerns the syntax and semantics of *wh*-fronting constructions in Cantonese. Investigating the syntactic and semantic properties of these constructions is important because they have counterparts in Mandarin whose status has been a point of contention in the literature. Specifically, while most previous studies analyze *wh*-fronting constructions in Mandarin as a type of Topic structure (Wu 1999, Pan 2006, 2011), recent studies argue that they should be analyzed as a type of Focus construction (Hoh and Chiang 1990, Cheung 2008, 2012, 2014). Hence, one goal of this chapter is to provide additional rationale for analyzing *wh*-fronting constructions as a type of Focus construction. In particular, it will be demonstrated that Cantonese *wh*-fronting constructions are best analyzed as a type of Identificational Focus (IdentF) construction (in the sense of É. Kiss 1998) that must be distinguished from Topic structures. Once the syntax and semantics of Cantonese *wh*-fronting constructions are clarified, a number of questions arise concerning the inventory of Topics and Foci and their hierarchical order relative to IdentF in the left periphery of Cantonese.

This brings us to the second, theoretical goal of this chapter: to explore the topography of different types of Topics and Foci in the left periphery of Cantonese and its implications for two prominent lines of research on the distribution of Topics and Foci. One line of research, championed by Rizzi (1997, 2004), considers Topic as a set of recursive projections, which can be located above or below a single Focus projection. The other line of research, initiated by Benincà and Poletto (2004), analyzes Topic and Focus as "fields," each containing a set of contiguous and semantically related projections whose hierarchical order is determined by their semantic and pragmatic functions. My findings regarding the topography of Topics and Foci in the left periphery of Cantonese provide empirical support for Benincà and Poletto's (2004) proposal that Topic and Focus are fields—and more importantly, they reveal that the inventory of Topics and Foci available in individual languages and their hierarchical order are the result of the interplay between language-specific and universal principles.

This chapter is organized as follows. In section 2, I unravel the properties of *wh*-fronting constructions in Cantonese to show that *wh*-fronting is a strategy for licensing IdentF in the sense of É. Kiss (1998). In section 3, I examine the key

differences between *wh*-fronting constructions and Topic structures in Cantonese, and I argue that *wh*-fronting constructions must be distinguished from Topic structures. In section 4, I offer syntactic analyses of *wh*-fronting constructions in Cantonese. In section 5, I reveal the fine structure of the left periphery in Cantonese by investigating the inventory of Topics and Foci available in the CP domain and their hierarchical order. Section 6 concludes the chapter.

2. Unraveling the properties of *wh*-fronting constructions in Cantonese

While Cantonese is generally recognized as a *wh*-in-situ language (Cheung 1972, 2007, Matthews and Yip 1994, 2011, among others), a *wh*-phrase can be fronted to presubject position, optionally preceded by *hai*, as exemplified in (1) (Matthews and Yip 2011: 384).[1] Similar examples are found in Mandarin, where the fronted *wh*-phrase is optionally preceded by *shi*, as shown in (2) (Hoh and Chiang 1990, Shyu 1998, Cheung 2008, 2014). For ease of exposition, I refer to sentences like (1)–(2) as *wh-fronting constructions*.[2,3]

(1)   (Hai) bingo$_i$, Siufan zeoi zungji t$_i$ aa?   (Cantonese)
        HAI who   Siufan most like   Q
        'Who is it that Siufan likes most?'

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[1] The abbreviations used in this chapter are as follows: AT: Aboutness Topic; Cl: classifier; ContrF: Contrastive Focus; ContrT: Contrastive Topic; CT: Canonical Topic; Exp: experiential aspect; Foc: Focus; FP: functional projection; GCR: Generalized Control Rule; HT: Hanging Topic; IdentF: Identificational Focus; InfoF: Information Focus; IP: inflectional phrase; LD: Left-Dislocated Topic; LI: List Interpretation; Perf: perfective aspect; PG: parasitic gap; PPT: Prepositional Phrase Topic; Prt: particle; Q: question particle; RC: relative clause; Res: resultative marker; SFP: sentence-final particle; TM: topic marker; and Top: Topic.

[2] Besides being produced by native speakers of Cantonese, *wh*-fronting constructions are produced by Cantonese-English bilingual children, as reported in Yip and Matthews (2007: 121–122) and Yip and Matthews (2009: 10–13).

[3] While this chapter focuses on the syntax of *wh*-fronting constructions such as (1), it is worth mentioning that Cantonese has two other types of *wh*-fronting constructions. One involves the echo question marker *waa*, as in (i) (see Matthews and Yip 1994: 318–319 for a detailed discussion of echo questions in Cantonese and the pragmatic functions of *waa*; see also Matthews and Yip 2011). The other involves the particle *aa* that immediately follows the fronted *wh*-phrase, as in (ii) (this was brought to my attention by Sze-Wing Tang, p.c.).

(i)   (Hai) bingo$_i$, Siufan zeoi zungji t$_i$ waa?
       HAI who   Siufan most like   Q
       'Siufan likes who?'
(ii)   (Hai) bingo$_i$ aa, Siufan zeoi zungji t$_i$?
       HAI who   Prt Siufan most like
       'Who does Siufan like?'

I leave the syntax of these two types of *wh*-fronting constructions open for future study. (See footnote 9 for some discussion of the syntactic properties of *wh*-fronting constructions such as (i).)

(2)   (Shi) shei$_i$, Xiaofen zui   xihuan t$_i$ ne?   (Mandarin)
        SHI   who Xiaofen most like   Q
        'Who is it that Xiaofen likes most?'

In the literature, *wh*-fronting constructions in Mandarin have been analyzed as a type of Topic structure (see Xu and Langendoen 1985, Li 1996, Wu 1999, Pan 2006, 2011, among others); some scholars in fact explicitly treat *wh*-fronting on a par with topicalization, which results in the movement of the *wh*-phrase to Spec-TopP (Wu 1999, Pan 2006, 2011). In contrast, other scholars argue that *wh*-fronting constructions involve focalization (Hoh and Chiang 1990, Cheung 2008, 2012, 2014). Building on the analysis of *wh*-fronting constructions in Mandarin in Cheung (2014), I propose that *wh*-fronting in Cantonese is best analyzed as a strategy for licensing Identificational Focus (IdentF) in the sense of É. Kiss (1998), in line with *wh*-fronting in Mandarin.[4] Specifically, following Cheung (2014), I apply the diagnostics for IdentFs put forth by É. Kiss (1998) and Zubizarreta and Vergnaud (2006) to show that the fronted *wh*-phrase exhibits twoproperties that are typically associated with IdentFs: exhaustive identification and the ability to occupy a scope position. In addition, following É. Kiss's proposal that IdentFs can be realized as the clefted constituent in English, I show that *wh*-fronting constructions in Cantonese share many striking similarities with cleft questions in English, suggesting that *wh*-fronting constructions should be analyzed on a par with cleft questions as a type of IdentF construction.

2.1 Exhaustivity

According to É. Kiss (1998), an IdentF expresses exhaustive identification; that is, it specifies an exhaustive set of discourse entities for which a given proposition holds true and excludes all other possibilities (see also Szabolcsi 1994, Zubizarreta and Vergnaud 2006, among others). In English, IdentF may be manifested as a *wh*-phrase in cleft questions like (3a) or a clefted DP in cleft sentences like (3b), as witnessed by the following paraphrases ((3b) is adapted from É. Kiss 1999: 219).[5]

(3) a. **Who** is it that Mary likes?
        ≈ Of a set of relevant persons, who is x such that it is true of x and no one else that Mary likes x?

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[4] Identificational Focus (IdentF) is sometimes referred to as *Contrastive Focus* (see Zubizarreta and Vergnaud 2006, among others) or *Narrow Focus* (Rochemont 1986). However, as É. Kiss (1998) notes, the interpretation of these terms varies from one author to another. To avoid confusion, I follow É. Kiss and use the term *IdentF* throughout this chapter.

[5] For clarity, in (3) and all of the examples that follow, the IdentF is set in boldface.

b. It is **John** that Mary likes.

  ≈ Of a set of relevant persons, it is true of John and no one else that Mary likes him.

Note that the cleft questions come with a presupposed set; for example, the paraphrase of (3a) shows that it is among a set of relevant persons in the discourse that the identity of *who* is questioned. This is consistent with the semantics of *wh*-fronting constructions: *wh*-fronting constructions can be used felicitously only if there is a presupposed set that has been established in the previous discourse, and it is from this set that the value assigned to the *wh*-word is taken (see Wu 1999 for the same observation regarding *wh*-fronting constructions in Mandarin). On this view, *wh*-fronting constructions in Cantonese can be paraphrased in a fashion similar to cleft questions in English.

(4) (Hai) bingo$_i$, Siufan m zungji t$_i$ aa? (Cantonese)
  HAI who Siufan not like Q
  'Who is it that Siufan doesn't like?'

  ≈ Of a set of relevant persons, who is x such that it is true of x and no one else that Siufan does not like x?

Apart from being associated with a presupposed set, IdentF expresses exhaustive identification. This is evident from the fact that the identity of *who* under question in (3a) must be exhaustive; that is, the value assigned to *who* must be the exhaustive set for which the proposition holds true, excluding all other possibilities. To verify that IdentF expresses exhaustive identification, Zubizarreta and Vergnaud (2006) devise a conjunction test as a diagnostic for exhaustivity. Specifically, they note that cleft questions in French such as (5Q) unambiguously give rise to exhaustivity, which requires "uniqueness of description." This requirement is violated in (5A), which contains IdentFs in two separate conjoined clauses.

(5) Q: C'est **qui** qui a écrit un livre sur les rats? (French)
    'It is who that wrote a book about rats?'
  A: *C'est **le chat** qui a écrit un livre sur les rats, et c'est aussi **la chauve-souris**.
    'It is the cat that wrote a book about rats, and also the bat.'
                    (Zubizarreta and Vergnaud 2006: (9))

Similar observations hold of English cleft questions. Consider the following question-answer pairs (judgments from Stephen Matthews, p.c.).

(6) Q: **What** was it that you bought?

    A1: It was **a hat**.

    A2:*It was **a hat**. It was **a coat**, too.

(6A1) is a felicitous and natural answer to (6Q), as it expresses exhaustive identification. Concretely, (6A1) means that it was a hat and nothing else that I bought, as *a hat*, being a clefted constituent, functions as an IdentF. In contrast, (6A2) is ill-formed because it violates exhaustivity. More precisely, since the first clause in (6A2) expresses exhaustivity, meaning that it was a hat and nothing else that I bought, the addition of the second clause violates exhaustivity, as it means that it was a coat and nothing else that I bought, contradicting the exhaustive identification expressed by the first clause. Put differently, that (6A2) violates exhaustivity can be attributed to the presence of two IdentFs, *a hat* and *a coat*, on a par with the French example in (5A).

    Similar observations hold in Cantonese. The *wh*-fronting construction, as in (7Q), can be felicitously answered by a single IdentF introduced by *hai*, as in (7A1). In contrast, when there are two IdentFs introduced by *hai*, as in (7A2), the answer is severely deviant. In (7A2), *gai* 'chicken' is interpreted as an IdentF through the presence of *hai* in the first clause; that is, the first clause means that it was a chicken and nothing else that I bought. The introduction of the second clause violates exhaustivity, as the second clause means that it was a fish and nothing else that I bought, contradicting the exhaustive identification expressed by the first clause. In other words, (7A2) violates exhaustivity on a par with (6A2).

(7) Q: (Hai) **matje sung**, nei maai-zo aa?

       HAI what food you buy-Perf Q

       'What food was it that you bought?'

    A1: Hai **gai**.

       HAI chicken

       'It was a chicken.'

    A2:*Hai **gai**. Hai **jyu** tim.

       HAI chicken HAI fish too

       Intended: 'It was a chicken. It was a fish, too.'

    In light of the fact that *wh*-fronting constructions in Cantonese behave in the same way as cleft questions in French and English in that both can give rise to exhaustive identification, I conclude that *wh*-fronting constructions in Cantonese are a type of IdentF construction.

According to É. Kiss (1998), another characteristic of IdentF is that it occupies a scope position. More precisely, an IdentF takes the part of the sentence it c-commands as the scope of exhaustive identification. This becomes more transparent when an IdentF enters into a scope relation with another operator, such as the universal quantifier, as exemplified in (8a–b).

(8) a. Minden fiú **Marival** akart táncolni. (Hungarian)
every boy Mary.with wanted to.dance
'For every boy, it was Mary [of the relevant persons] that he wanted to dance with.' (every > Mary; *Mary > every) (É. Kiss 1998: (22a))

b. **Marival** akart táncolni minden fiú.
Mary.with wanted to.dance every boy
'It was Mary [of the relevant persons] that every boy wanted to dance with.' (Mary > every; *every > Mary) (É. Kiss 1998: (22b))

According to É. Kiss (1998: 254), the two sentences in (8a) and (8b) describe different situations. Specifically, when the universal quantifier takes scope over the IdentF, as in (8a), the sentence is only compatible with a situation in which every boy wanted to dance with one of all the girls present and did not want to dance with anyone else. In contrast, when the IdentF takes scope over the universal quantifier, as in (8b), the sentence is compatible with a situation in which Mary was the only one of all the girls that every boy wanted to dance with and in which, the other girls may have been asked to dance by a smaller subset of all of the boys present.

If an IdentF can occupy a scope position, we expect that the clefted *wh*-phrase in English cleft questions will behave the same way. This expectation is fulfilled, as illustrated by the unavailability of the pair-list reading in (9). In a simple *wh*-question, like (10), by contrast, both pair-list and individual readings can be obtained.

(9) **What** was it that everyone bought for Sue?
a. *'For every x, for which y, x bought y for Sue?'
b. 'For which y, for every x, x bought y for Sue?'

(10) What did everyone buy for Sue?
a. 'For every x, for which y, x bought y for Sue?'
b. 'For which y, for every x, x bought y for Sue?'

Similarly, the *wh*-phrase licensed by *wh*-fronting occupies a scope position in Cantonese, as shown by the contrast between (11) and (12) in terms of the (un)availability of a pair-list interpretation: while a pair-list interpretation is absent in a *wh*-fronting construction, as in (11), both pair-list and individual interpretations can be obtained in a simple in-situ *wh*-question, as in (12).

(11)   (Hai) **matje je**,   muigojan dou   maai-zo bei Siufan aa?
        HAI   what   thing everyone DOU buy-Perf for Siufan Q
        a. *'For every x, for what thing y, x bought y for Siufan?'
        b. 'For what thing y, for every x, x bought y for Siufan?'

(12)   Muigojan dou   maai-zo   matje je   bei Siufan aa?
        everyone   DOU buy-Perf what thing for Siufan Q
        a. 'For every x, for what thing y, x bought y for Siufan?'
        b. 'For what thing y, for every x, x bought y for Siufan?'

The fact that the fronted *wh*-phrase can occupy a scope position thus further supports the view that it should be analyzed as an IdentF. Moreover, the fact that *wh*-fronting constructions pattern with cleft questions in English but with neither simple *wh*-questions in English nor in-situ *wh*-questions in Cantonese indicates that *wh*-fronting constructions cannot be derived the same way as simple *wh*-questions in English, nor can they be treated on a par with in-situ *wh*-questions in Cantonese.

2.3 Similarities between cleft questions and wh-fronting constructions
2.3.1 Restrictions

Not all types of *wh*-phrases can serve as the clefted constituent in cleft questions in English, as the *wh*-phrase in a simple *wh*-question can. In particular, while *wh*-arguments and the majority of *wh*-adjuncts can serve as the clefted constituent in cleft questions in English and be interpreted in the trace position, *how* cannot, as the contrast between (13)–(14) and (15)–(16) shows (judgments from Richard Larson and Barry Schein, p.c.).

(13)   *Wh*-arguments
        a. **Who** is it that John likes **t**?
        b. **To whom** was it that John spoke **t**?

(14)   *Wh*-adjuncts

      a. **When** was it that John left **t**?

      b. **Where** was it that John saw Mary **t**?

(15) Q: ***How** was it that John went to Beijing **t**?   [Instrumental]

    A: By train.

(16) Q: ***How** was it that John criticized you **t**?   [Manner]

    A: Severely.

Specifically, (15) and (16) show that the use of *how* in cleft questions results in severe deviance when *how* is intended to yield an instrumental reading (15Q) or a manner reading (16A) by serving as a modifier belonging to the relative clause of the cleft question.[6]

Similar restrictions hold in Cantonese *wh*-fronting constructions, which can involve *wh*-arguments (17) and *wh*-adjuncts (18), but not 'how' (19). 'How' can be manifested as either *dimjoeng* or *dim* (Matthews and Yip 1994: 330–332). Both *dimjoeng* and *dim* 'how' can yield an instrumental reading (19a′) or a manner reading (19b′) when they remain in situ. However, when they are fronted, the resulting sentences are ill-formed, as shown in (19a–b).[7,8]

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[6] As Marcel den Dikken (p.c.) notes, *how* can serve as the clefted constituent in English cleft questions as long as it is interpreted as a modifier of the copular clause rather than as a modifier of the relative clause, as illustrated by the well-formedness of the following examples (judgments from Stephen Matthews, Richard Larson, and Barry Schein, p.c.):

(i) **How** was **t** it that John went to Beijing?
(ii) **How** was **t** it that John criticized you?

Furthermore, as Richard Larson (p.c.) points out, (i)–(ii) are interpreted as *why*-questions, especially if an element within the relative clause is focalized. For instance, if *John* is focalized in (i) and (ii), (i) can be paraphrased as *How did it happen/turn out that JOHN went to Beijing?*, and (ii) as *How did it happen/turn out that JOHN criticized you?*. However, Stephen Matthews (p.c.) notes that *how* can also be interpreted as instrumental in (15Q), but cannot yield a manner reading, as in (16Q). I am not sure if the different judgments are related to whether the informants are native speakers of American English or British English. I leave this question open for future study, along with the question of why *how* can be interpreted as a modifier of the copular clause but not as a modifier of the relative clause.

[7] Note that unlike the appearance of *how* in English cleft questions, which is acceptable as long as *how* is construed as a modifier of the copular clause and interpreted as a *why*-question (see footnote 6), the appearance of *dimjoeng* or *dim* 'how' in Cantonese *wh*-fronting constructions always results in severe deviance. I leave this difference to future study.

[8] The scope of "*" in (19a–b) should be understood as the whole sentence. That is, (19a) should be understood as indicating that the sentence is severely deviant, whether *hai* (parenthesized to indicate optionality) is present or not. In other words, "*" should *not* be understood with narrow scope so that (19a) is taken to indicate that the sentence is acceptable only if *hai* is present. The same applies to (19b) and all other examples involving parenthesized sentence-initial *hai* in this chapter.

(17) *Wh*-arguments

(Hai) **bingo$_i$/matje je$_i$/bin-go   tungsi$_i$**, Siufan zeoi   zungji **t**$_i$ aa?
HAI who/what   thing/which-Cl colleague Siufan most like   Q
'Who/What thing/Which colleague is it that Siufan likes most?'

(18) *Wh*-adjuncts

(Hai) **hai bindou$_i$/hai geisi$_i$**, Siufan **t**$_i$ gindou   Siuming aa?
HAI at   where/at   when Siufan see   Siuming Q
'Where/When was it that Siufan saw Siuming?'

(19) *Dimjoeng/Dim* 'how'

a.* (Hai) **dimjoeng$_i$/dim$_i$**, Mingzai daasyun   **t**$_i$ heoi Toibaak aa?
   HAI how/how   Ming   intend   go   Taipei   Q
   Intended: 'By what means is it that Ming plans to go to Taipei?'

a.′ Mingzai daasyun **dimjoeng/dim** heoi Toibaak   aa?
   Ming   intend   how/how   go   Taipei   Q
   'How does Ming plan to go to Taipei?'

b.* (Hai) **dimjoeng$_i$/dim$_i$**, Mingzai **t**$_i$ paiping   nei aa?
   HAI how/how   Ming   criticize you Q
   Intended: 'In what manner was it that Ming criticized you?'

b.′ Mingzai **dimjoeng/dim** paiping nei   aa?
   Ming   how/how   criticize you   Q
   'How did Ming criticize you?'

To summarize, *wh*-fronting constructions in Cantonese and cleft questions in English are subject to similar restrictions: while *wh*-arguments and most *wh*-adjuncts can appear in both constructions, 'how' cannot when it is intended to yield an instrumental or manner reading. The fact that these constructions share similar restrictions further teases them apart from simple *wh*-questions in English and in-situ *wh*-questions in Cantonese.

2.3.2 Presupposition failure

Recall from the discussion in section 2.1 that English cleft questions are partitioned into IdentF and presupposition. Further evidence that presupposition is encoded in the semantics of cleft questions comes from presupposition failure. Specifically, denying the content of the presupposition results in presupposition failure; witness the infelicity of (20A) as an answer to (20Q). (Here and throughout, "#" indicates infelicity.) In

contrast, presupposition failure is not observed with simple *wh*-questions: (21A) can be used as a felicitous answer to (21Q).

(20) Q: **What** was it [CP that John bought]?
    A: #Nothing.
(21) Q: What did John buy?
    A: Nothing.

The same observation holds in Cantonese: presupposition failure is found with *wh*-fronting constructions (note the infelicity of (22A) as an answer to (22Q)), but not with their in-situ counterparts (see (23Q), which can take (23A) as a felicitous answer).

(22) Q: (Hai) **bingo**, Mingzai caau-zo   aa?
         HAI who   Ming   fire-Perf Q
         'Who was it that Ming fired?'
    A: #Keoi   mou   caau jamho jan.
         he   not   fire   any   person
         'He didn't fire anyone.'

(23) Q: Mingzai caau-zo bingo aa?
         Ming   fire-Perf who   Q
         'Who did Ming fire?'
    A: Keoi mou caau jamho jan.
         he   not   fire   any   person
         'He didn't fire anyone.'

In sum, I have shown that the fronted *wh*-phrase in *wh*-fronting constructions in Cantonese exhibits two properties typically associated with IdentFs: exhaustive identification and the ability to occupy a scope position. Neither of these properties is observed with in-situ *wh*-questions in Cantonese, suggesting that *wh*-fronting constructions must be differentiated from in-situ *wh*-questions. Furthermore, I have demonstrated that *wh*-fronting constructions share two striking similarities with cleft questions in English (i.e., the unacceptability of 'how' when it is construed as instrumental or manner, and presupposition failure), indicating that *wh*-fronting constructions should be analyzed on a par with cleft questions as IdentF constructions. The fact that neither simple *wh*-questions in English nor in-situ *wh*-questions in Cantonese exhibit these properties corroborates the fact that *wh*-fronting constructions can neither be derived in the same way as simple *wh*-questions in English nor be

treated on a par with in-situ *wh*-questions in Cantonese. All these findings point to the conclusion that *wh*-fronting in Cantonese can neither be analyzed as *wh*-movement to Spec-CP, like simple *wh*-questions in English, nor be analyzed as optional movement. Rather, it should be analyzed as focalization, with the fronted *wh*-phrase serving as an IdentF.

3. Distinguishing *wh*-fronting constructions from Topic structures

As mentioned in section 1, previous studies predominantly analyze *wh*-fronting constructions in Mandarin as a type of Topic structure (Xu and Langendoen 1985, Li 1996, Wu 1999, Pan 2006, 2011, among others), with some explicitly postulating that the fronted *wh*-phrase undergoes topicalization to Spec-CP (Li 1996) or Spec-TopP (Wu 1999, Pan 2006, 2011). Most of these analyses share the view that movement of the fronted *wh*-phrase is triggered by a [+Topic] feature in C (Li 1996) or Top (Wu 1999, Pan 2006). These analyses predict that Topic structures and *wh*-fronting constructions have exactly the same properties, since both constructions are assumed to be derived in the same way. In this section, I will adduce two pieces of evidence that *wh*-fronting constructions should be distinguished from Topic structures in Cantonese.

3.1 Compatibility with topic markers

One characteristic property of Topics is that they can be optionally followed by a topic marker (TM) and a slight pause (indicated by a comma below). According to Fung (2007), Cantonese has a number of topic markers, including *aa3*, *aa4*, *gaa3*, *ne1*, and *laa1*, whose presence is optional in Topic structures, as shown in (24a–d) (see also Matthews and Yip 2011: 83–91, 393–394).

(24) a. Faan (aa3), janjan   dou jiu   sik gaalaa.
          rice   TM   everyone DOU need eat SFP
          'Rice, everyone needs it.'
     b. Bun-zidin   (aa4), ngo dam-zo   laa.
          Cl-dictionary TM   I   throw.away-Perf   SFP
          'The dictionary, I have thrown it away.'
     c. Ni-go   mantai   (ne1), ngodei haa-ci   zoi   gong laa.
          this-Cl question TM   we   next-time again talk SFP
          'This question, let's talk about it next time.'
     d. Seoi-fai (laa1), din-fai   (laa1), hok-fai   (laa1), keoi joeng-joeng
          water-fee TM   electricity-fee TM   school-fee TM   he   Cl-Cl
          dou   mou gaau.

DOU not pay

'Water fee, electricity fee, school fee, he hasn't paid any of them.'

If the *wh*-phrase licensed by *wh*-fronting serves as a Topic, we expect that it can be followed by a topic marker. This expectation is not fulfilled, as the ill-formedness of (25) shows.

(25) * (Hai) **bingo** aa3/aa4/ne1/laa1, Siufan zeoi zungji aa?
      HAI who TM/TM/TM/TM Siufan most like Q

The stark contrast between (24) and (25) supports the view that *wh*-fronting constructions cannot be analyzed on a par with Topic structures.

3.2 Resumption

Another characteristic property of Topic structures is that a Topic derived by topicalization can be linked to a gap, a pronoun, or an epithet, as shown in (26).

(26) Mingzai$_i$ (aa), Siufan hou zungji t$_i$/keoi$_i$/ni-go sozai$_i$ gaa.
      Ming TM Siufan very like him/this-Cl idiot SFP
      'Ming$_i$, Siufan likes t$_i$/him$_i$/this idiot$_i$ very much.'

If the fronted *wh*-phrase serves as a Topic in *wh*-fronting constructions, we expect that it can be linked to a gap, a pronoun, or an epithet. In contrast, if the fronted *wh*-word is an IdentF—that is, an operator, according to É. Kiss (1998)—it should only be able to link to a gap, which hosts the variable bound by the IdentF.[9]

(27) a. (Hai) **bingo**$_i$, Siufan hou zungji t$_i$ aa?
        HAI who Siufan very like Q
        'Who is it that Siufan likes very much?'
    b. * (Hai) **bingo**$_i$, Siufan hou zungji keoi$_i$/ni-go sozai$_i$ aa?
        HAI who Siufan very like him/this-Cl idiot Q

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[9] Interestingly, while resumption results in ill-formedness in a *wh*-fronting construction with the question marker *aa*, it is allowed when a *wh*-fronting construction is used as an echo question, as signaled by the echo question marker *waa* (see (i) in footnote 3 above). Nonetheless, the fronted *wh*-word cannot be linked to an epithet even with the use of *waa*.

(i) (Hai) **bingo**$_i$, Siufan hou zungji keoi$_i$/*ni-go sozai$_i$ waa?
     HAI who Siufan very like him/this-Cl idiot Q
     'Siufan likes who very much?'

Intended: 'Who$_i$ is it that Siufan likes him$_i$/this idiot$_i$ very much?'

The contrast between (27a) and (27b) shows that the fronted *wh*-phrase behaves like an IdentF and not like a Topic because it can only be linked to a gap. It follows that *wh*-fronting constructions should be analyzed as IdentF constructions, which are distinct from Topic structures.

In sum, we have seen that *wh*-fronting constructions crucially differ from Topic structures in terms of compatibility with topic markers and availability of resumption. These differences not only call for distinguishing between *wh*-fronting constructions and topic structures, but also provide important evidence against equating *wh*-fronting with topicalization.

4. The syntax of *wh*-fronting constructions

In this section, I offer syntactic analyses of *wh*-fronting constructions in Cantonese. In light of the striking similarities between *wh*-fronting constructions in Cantonese and cleft questions in English, *wh*-fronting constructions are best analyzed on a par with cleft questions as a type of IdentF construction (see section 2.3). In section 4.1, I review two major approaches to IdentF constructions advanced by É. Kiss (1998): the biclausal and monoclausal approaches. In section 4.2, I present evidence for the movement analysis of *wh*-fronting constructions. In section 4.3, I turn to *wh*-fronting constructions linked to a *pro* or a resumptive pronoun in island contexts, and I argue that these are base-generated. In section 4.4, I investigate the syntactic status of *hai* in *wh*-fronting constructions, arguing that *hai* is best analyzed as a focus marker. In section 4.5, I offer detailed syntactic analyses of *wh*-fronting constructions, showing that those in island-free contexts are derived by movement and those in island contexts employ the base-generation strategy.

4.1 Previous analyses of IdentF constructions

On the basis of a detailed cross-linguistic investigation of the syntax and semantics of IdentF constructions, É. Kiss (1998) proposes two different approaches to these constructions: a biclausal analysis of English *it*-clefts[10] and a monoclausal analysis of Hungarian IdentF constructions.

Before discussing É. Kiss's analyses, I would like to mention two major reasons for reviewing her analyses of *it*-clefts rather than other analyses available in the

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[10] Most early analyses of *it*-clefts were in fact biclausal. See Akmajian (1970) and Chomsky (1977), among many others. For a more recent biclausal analysis of *it*-clefts, see Authier and Reed (1999, 2001) and Frascarelli and Ramaglia (2009).

literature. First, to my knowledge, É. Kiss's paper is the most comprehensive study of the syntactic and semantic properties of IdentF, and her proposal that the clefted constituent of *it*-clefts serves as an IdentF and occupies Spec-FocP is well-motivated on theoretical and empirical grounds. Second, unlike many previous works on English *it*-clefts, which posit that *it*-clefts are derived from pseudoclefts (see Akmajian 1970, Emonds 1976, Meinunger 1998, among others), É. Kiss's study assumes that the two are *not* derivationally related; this is more in line with the Cantonese data (see É. Kiss 1998 for a detailed discussion of the problems that arise in previous works that treat *it*-clefts and pseudoclefts as derivationally related; see also É. Kiss 1999). Specifically, following Huang's (1988) analysis of Mandarin pseudoclefts as being composed of a headless relative clause (RC) linked to the object via the copula *shi* 'be', whose presence is obligatory, as in (28a), it is clear that Cantonese pseudoclefts, as in (28b), essentially have the same structure. However, as (29a–b) show, a fronted *wh*-phrase cannot be followed by a headless relative clause in Mandarin and Cantonese regardless of the availability of *shi* or *hai*. Recall that the presence of *shi* or *hai* in *wh*-fronting constructions is optional in Mandarin and Cantonese, as in (30a–b). If *wh*-fronting constructions in these two languages are derived from pseudoclefts, we expect the presence of *shi* or *hai* to be obligatory, contrary to fact.

(28) a.　[RC Mali zuotian kandao de] *(shi) shei ne?　　　(Mandarin)
　　　　　　Mary yesterday see　　DE　be　who　Q
　　　　Literally: 'The one whom Mary saw yesterday was who?'
　　b.　[RC Siufan camjat gindou ge] *(hai) bingo aa?　　(Cantonese)
　　　　　　Siufan yesterday see　　GE　be　who　Q
　　　　Literally: 'The one whom Siufan saw yesterday was who?'

(29) a. * (Shi) shei, [RC Mali　zuotian　kandao de] ne?　　　(Mandarin)
　　　　　SHI　who　　Mary　yesterday see　　DE　Q
　　b. * (Hai) bingo, [RC Siufan　camjat　gindou ge] aa?　　(Cantonese)
　　　　　HAI　who　　　Siufan　yesterday see　　GE　Q

(30) a.　(Shi) **shei**, Mali zuotian　kandao ne?　　　　　(Mandarin)
　　　　　SHI　who　Mary yesterday　see　　Q
　　　　'Who was it that Mary saw yesterday?'
　　b.　(Hai) **bingo**, Siufan camjat　gindou aa?　　　　(Cantonese)
　　　　　HAI　who　　Siufan yesterday see　　Q
　　　　'Who was it that Siufan saw yesterday?'

Moreover, as (31a–b) show, *wh*-adjuncts are not allowed in pseudoclefts in

Cantonese. This is further evidence that *wh*-fronting constructions like (32a–b) cannot be derived from pseudoclefts.

(31) a. * [$_{RC}$ Siufan gindou   Siuming ge]   hai hai bindou aa?
           Siufan see   Siuming GE be at where Q
      Intended: 'The place that Siufan saw Siuming was where?'
   b. * [$_{RC}$ Siufan gindou   Siuming ge]   hai   hai geisi aa?
           Siufan see   Siuming GE be   at when Q
      Intended: 'The time that Siufan saw Siuming was when?'

(32) a.   (Hai) **hai bindou**$_i$,Siufan **t**$_i$ gindou   Siuming aa?
        HAI at   where Siufan   see   Siuming Q
        'Where was it that Siufan saw Siuming?'
   b.   (Hai) **hai geisi**$_i$, Siufan **t**$_i$ gindou   Siuming aa?
        HAI at   when Siufan   see   Siuming Q
        'When was it that Siufan saw Siuming?'

All these facts point to the conclusion that *wh*-fronting constructions in both Cantonese and Mandarin cannot be derived from pseudoclefts.

4.1.1 Biclausal approach

É. Kiss (1998) proposes that *it*-clefts in English have a biclausal structure (see also É. Kiss 1999). More specifically, adopting Brody's (1990, 1995) focus theory, which requires the head of FocP to be lexicalized in order to check the [+Focus] feature, É. Kiss postulates that the copula originates in a Foc whose Spec is filled by the clefted constituent—that is, an IdentF that also contains a [+Focus] feature. In this way, the head of FocP and Spec-FocP can undergo Spec-head agreement in consonance with cartographic approach. The head of FocP subcategorizes for a CP in English. After the head of FocP is lexicalized, the copula is raised to the head of IP to undergo Spec-head agreement with the expletive *it* in Spec-IP. The clefted constituent itself is dominated by a higher CP, as schematized in (33).

(33)   [$_{CP}$ [$_{IP}$ It [$_{I'}$ is [$_{FocP}$ **IdentF** [$_{Foc'}$ t [$_{CP}$ who/that [$_{IP}$ …]]]]]]]]
                            movement

In É. Kiss's analysis, *it*-clefts clearly have a biclausal structure, since they are analyzed as composed of two CPs, the lower CP being a relative clause subcategorized by Foc. Adopting the biclausal approach to *it*-clefts, in the following sections I will show that

the clefted constituent can be either base-generated in Spec-FocP or moved to Spec-FocP.

4.1.1.1 Base-generation analysis

Under the base-generation analysis, the clefted constituent, being an IdentF, is base-generated in Spec-FocP; it is licensed by establishing a predication relation with a corresponding *wh*-operator (Op) in the lower Spec-CP, which is moved from within the lower IP. An example is an *it*-cleft whose clefted constituent is the subject, as in (34).

(34) $[_{CP} [_{IP}$ It $[_{VP}$ is $[_{FocP}$ **me**$_i$ $[_{CP}$ **Op**$_i$ that $[_{IP}$ **t**$_i$ is sick$]]]]]]$
                                    predication movement

According to É. Kiss, since movement of the subject to Spec-FocP will violate the Empty Category Principle, the base-generation strategy must be employed. In (34), the clefted subject *me* is licensed by establishing a predication relation with the *wh*-operator in the lower Spec-CP, which is moved from the subject position within the lower IP.

4.1.1.2 Movement analysis

Under the movement analysis, É. Kiss proposes that if the clefted constituent is manifested as a PP, it is derived by movement, since it cannot be coindexed with an appropriate *wh*-operator.[11] Furthermore, É. Kiss posits that the PP undergoes successive-cyclic movement to Spec-CP before landing in Spec-FocP, as in (35).

(35) $[_{CP} [_{IP}$ It $[_{VP}$ was $[_{FocP}$ **to Peter**$_i$ $[_{CP}$ **t**$_i$ that $[_{IP}$ I spoke **t**$_i]]]]]]$
                              movement   movement
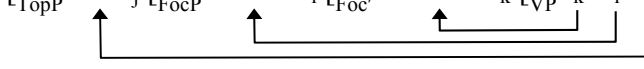
4.1.2 Monoclausal approach

É. Kiss (1998) proposes a monoclausal analysis of Hungarian IdentF constructions. Specifically, she posits that, unlike the head of FocP in English *it*-clefts, which subcategorizes for a CP, the head of FocP in Hungarian, whose Spec houses IdentF, subcategorizes for a VP. The FocP is in turn subcategorized by Top, whose Spec is

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[11] That PPs lack an appropriate *wh*-operator is shown by the deviance of (i).

(i)   *I spoke to a person that Mary spoke.

filled by a Topic. In line with Brody's (1990, 1995) focus theory, the head of FocP is lexicalized by the verb, as a result of V-to-Foc movement, as schematized in (36).

(36) $[_{TopP}$ Mari$_j$ $[_{FocP}$ **Péterre**$_i$ $[_{Foc'}$ szavazott$_k$ $[_{VP}$ t$_k$ t$_i$ t$_j]]]]$

'(As for) Mary, it was Peter that she voted on.'

Furthermore, unlike the clefted constituent in *it*-clefts that can employ the base-generation strategy (see section 4.1.1.1), the IdentF in Hungarian IdentF constructions can only be derived by movement.

　　In brief, there are two major approaches to IdentF constructions: biclausal and monoclausal. The former can be divided into base-generation and movement analyses, while the latter essentially involves a movement analysis.

4.2 Evidence for the movement analysis

In this section, I discuss three main sources of evidence for the movement analysis of *wh*-fronting constructions in Cantonese: connectivity effects, locality conditions, and the parasitic gap construction.

4.2.1 Connectivity effects

Evidence for the movement analysis comes first from connectivity effects. *Wh*-fronting constructions in Cantonese exhibit connectivity effects. This is shown by the fact that a *wh*-phrase containing a *wh*-argument (37) or a *wh*-adjunct (38) can undergo reconstruction in compliance with Principle A, and hence the reflexive *keoizigei* 'himself' can be bound by the proper name *Siuming*.

(37)   (Hai) **[bin-zoeng keoizigei**$_{i/*j}$ **gesoeng]**$_k$, Siuming$_i$ mgin-zo   **t**$_k$ aa?
　　　　HAI   which-Cl   himself   GE photo Siuming lose-Perf   Q
　　　　'Which photo of himself$_{i/*j}$ was it that Siuming$_i$ lost?'

(38)   (Hai) **[hai   bindou jing ge   keoizigei**$_{i/*j}$ **ge   soeng]**$_k$, Siuming$_i$
　　　　HAI   at   where take GE himself   GE photo   Siuming
　　　　mgin-zo   **t**$_k$ aa?
　　　　lose-Perf   Q
　　　　'Which place x such that the photo of himself$_{i/*j}$ taken at x was it that Siuming$_i$ lost?'

Similarly, (37) and (38) show that a *wh*-phrase containing a *wh*-argument or a *wh*-adjunct must undergo reconstruction in accordance with Principle C. This explains why neither the proper name within the *wh*-phrase containing a *wh*-argument in (39) nor the proper name within the *wh*-phrase containing a *wh*-adjunct in (40) can be coindexed with the pronoun *keoi* 'he'.

(39)   (Hai) [**bin-zoeng Siuming**$_i$ **ge   soeng**]$_k$, keoi$_{*i/j}$ mgin-zo **t**$_k$ aa?
        HAI which-Cl   Siuming GE photo   he   lose-Perf   Q
        'Which photo of Siuming$_i$ was it that he$_{*i/j}$ lost?'

(40)   (Hai) [**hai bindou jing ge Siuming**$_i$ **ge soeng**]$_k$, keoi$_{*i/j}$ mgin-zo **t**$_k$ aa?
        HAI at   where take GE Siuming GE photo he   lose-Perf   Q
        'Which place x such that the photo that Ming$_i$ took at x was it that he$_{*i/j}$ lost?'

Further support for the view that *wh*-fronting constructions exhibit connectivity effects comes from idiom chunks. (41a) demonstrates that the idiomatic reading is still available after *wh*-fronting takes place. This becomes evident when (41a) is compared with its in-situ counterpart (41b).[12]

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[12] An anonymous reviewer notes that it would be useful to show that connectivity effects cannot be due to nonmovement strategies such as chain binding (Barss 1986, Cecchetto and Chierchia 1999). The reviewer further points out that the issue of when resumption is possible or obligatory requires careful attention. As I will discuss in section 4.3, while resumption is prohibited in island-free contexts (see section 3.2), it is allowed in island contexts and it can salvage island violations, as shown in (i).

(i)   (Hai) **bin-go   hoksaang**$_i$, Can Sir   tai-gwo [teoizin   **keoi**$_i$/***t**$_i$ ge seon] aa?
       HAI which-Cl student   Chan teacher read-Exp recommend him   GE letter Q
       'Which student$_i$ was it that Mr. Chan had read the letter that recommended him$_i$/*t$_i$?'

Since the fronted *wh*-phrase can be linked to the resumptive pronoun inside the island, a base-generation strategy is required to derive the above sentence.

However, note that when a resumptive pronoun is present, reconstruction effects with respect to binding can no longer be observed, as evidenced by the fact that *Can Sir* 'Mr. Chan' can be coindexed with *keoi* 'he' in (ii) in violation of Principle C.

(ii)   (Hai) **[Can Sir**$_i$ **ge bin-go   hoksaang**]$_k$, **keoi**$_i$ tai-gwo [teoizin   **keoi**$_k$ ge seon] aa?
        HAI Chan teacher GE which-Cl student   he   read-Exp recommend him   GE letter Q
        'Which student of Mr. Chan$_i$ was it that he$_i$ had read the letter that recommended him?'

The lack of reconstruction effects further supports the view that *wh*-fronting constructions involving resumption in island contexts employ the base-generation strategy; that is, the *wh*-phrase, as an IdentF, is base-generated in Spec-FocP and is coindexed with the resumptive pronoun inside the island.

Suppose we adopt Cecchetto and Chierchia's (1999) definitions of chain (iii) and chain binding (iv), adapting original ideas developed by Barss (1986).

(iii)   A chain $<\beta_1,...,\beta_n>$ is a sequence of nodes sharing the same θ-role such that for any i, $1 \le i \le n$, β_i c-commands and is coindexed with β_{i+1}. (p. 140)

(iv)   In a chain $<XP_1,...,XP_n>$ when a phrase YP c-commands a link XP_i of the chain, it counts for the purposes of binding theory as if it c-commanded every link of the chain. (p. 139)

(41) a. (Hai) **bingo ge cou**ᵢ, Mingzai sengjat haap **t**ᵢ aa?

   HAI who GE vinegar Ming often eat Q

   'Who is it that Ming is often jealous of?'

 b. Mingzai sengjat haap bingo ge cou aa?

   Ming often eat who GE vinegar Q

   'Who is Ming often jealous of?'

4.2.2 Locality conditions

Evidence for the movement analysis also comes from locality conditions: *wh*-fronting constructions are subject to island constraints. This becomes more transparent if *wh*-fronting constructions containing *wh*-arguments or *wh*-adjuncts are compared with in-situ *wh*-questions containing *wh*-arguments and *wh*-adjuncts. For instance, (42a) and (43a) show that *wh*-fronting constructions are subject to Complex NP Constraint, regardless of whether the fronted *wh*-phrase is a *wh*-argument (42a) or a *wh*-adjunct (43a). In contrast, the *wh*-arguments or *wh*-adjuncts inside the complex NP in in-situ *wh*-questions do not incur island violations, as illustrated in (42b) and (43b).

(42) *Wh*-argument

 a. *(Hai) **bingo/matje jan/bin-go   lingzau**ᵢ, Siufan tai-gwo

   HAI who/what person/which-Cl leader Siufan read-Exp

   [fungci **t**ᵢ ge syu] aa?

   satirize GE book Q

   Intended: 'Who/What person/Which leader was it that Siufan read the book that satirized?'

 b. Siufan tai-gwo [fungci bingo/matje jan/bin-go   lingzau ge

   Siufan read-Exp satirize who/what person/which-Cl leader GE

   syu] aa?

   book Q

   'Who/What person/Which leader x such that Siufan read the book that satirized x?'

(43) *Wh*-adjunct

 a. *(Hai) **hai bindou**ᵢ/**(hai) geisi**ᵢ, Siufan zeoi zungji [Siuming **t**ᵢ

Following these definitions, *wh*-fronting constructions with and without a resumptive pronoun are wrongly predicted to be able to exhibit reconstruction effects with respect to binding, since a chain will be formed whether the *wh*-fronting constructions are derived by movement or employ the base-generation strategy. The different behaviors of *wh*-fronting constructions with and without resumption in regard to reconstruction effects thus argue strongly against the chain-binding analysis of *wh*-fronting constructions without resumption.

HAI at where/at when Siufan most like Siuming

jing ge soeng] aa?

take GE photo Q

Intended: 'Where/When was it that Siufan likes the photos Siuming took?'

    b. Siufan zeoi zungji [Siuming hai bindou/(hai) geisi jing

Siufan most like Siuming at where/at when take

ge soeng] aa?

GE photo Q

'Where/When is x such that Siufan likes the photos Siuming took at x?'

Following Tsai's (1994) analysis of in-situ *wh*-questions in Mandarin, which treats *wh*-arguments and *wh*-adjuncts such as *nar* 'where' and *shenme shihou* 'what time' as variables unselectively bound by the question operator Q in Spec-CP, the well-formedness of (42b) and (43b) suggests that the same analysis can plausibly apply to *wh*-arguments and the *wh*-adjuncts *bindou* 'where' and *geisi* 'when' in in-situ *wh*-questions in Cantonese. It follows that *wh*-arguments and *wh*-adjuncts in in-situ *wh*-questions in Cantonese can be analyzed as variables unselectively bound by the question operator Q in Spec-CP and that no movement, either at LF or at PF, is involved. If this line of reasoning is tenable, the ill-formedness of (42a) and (43a) can be attributed to overt syntactic movement of the *wh*-arguments and *wh*-adjuncts, which incurs island violations.

    Additional support for the movement analysis comes from adjunct islands. Specifically, (44a) and (45a) show that neither *wh*-arguments nor *wh*-adjuncts can be extracted from an adjunct island. In contrast, the fact that in-situ *wh*-arguments and *wh*-adjuncts in an adjunct island do not incur island violations, as shown in (44b) and (45b), respectively, provides additional support for the proposal that they are unselectively bound in situ with no movement involved.

(44)   *Wh*-argument

    a.* (Hai) **bingo$_i$/bin-go tungsi**$_i$, [loubaan dongzung moujuk **t**$_i$ zihau],

HAI who/which-Cl colleague boss in.public insult after

gogo dou mou saai samgei zouje aa?

everyone DOU not all mood work Q

Intended: 'Who/Which colleague was it that everyone was in no mood to work after the boss had insulted in public?'

    b. [Loubaan dongzung moujuk bingo/bin-go tungsi zihau],

boss in.public insult who/which-Cl colleague after

gogo   dou   mou saai samgei zouje   aa?

everyone DOU not   all   mood   work   Q

'Who/Which colleague x such that everyone was in no mood to work after the boss had insulted x in public?'

(45)   *Wh*-adjunct

a.* (Hai) **hai bindou$_i$/(hai) geisi$_i$**, [janwai   Siuming **t**$_i$ gindou Siufan],

HAI   at   where/at   when because Siuming   see   Siufan

soji gogo   dou   hou   daamsam aa?

so   everyone DOU very worried   Q

Intended: 'Where/When was it that everyone was very worried because Siuming saw Siufan?'

b. [Janwai Siuming hai bindou/(hai) geisi gindou Siufan], soji

because Siuming at where/at   when see   Siufan   so

gogo   dou   hou   daamsam   aa?

everyone DOU very worried   Q

'Where/When was x such that everyone was very worried because Siuming saw Siufan at x?'

4.2.3 Parasitic gaps

Finally, evidence for the movement analysis comes from the parasitic gap (PG) construction. In Cantonese, a PG can only be licensed when the *wh*-phrase undergoes *wh*-fronting; when the *wh*-phrase stays in situ, it fails to license a PG. This is illustrated by the contrast between (46a)–(47a) and (46b)–(47b) (see Lin 2005 for similar data in Mandarin supporting the view that PGs must be licensed by overt syntactic movement of the *wh*-phrase; see also Ting and Huang 2008 for detailed discussion of PG constructions in Mandarin).

(46) a.   (Hai) **bingo$_i$**, Mingzai hai gin *pg* zicin   zau   caau-zo   **t**$_i$ aa?

HAI who   Ming   at meet   before ZAU fire-Perf   Q

'Who was it that Ming fired before meeting?'

b. * Mingzai hai gin   *pg* zicin   zau   caau-zo   bingo aa?

Ming   at meet   before ZAU fire-Perf who   Q

(47) a.   (Hai) **matje mangin$_i$**, Mingzai hai tai-gwo   *pg* zihau zau

HAI what   document Ming   at   read-Exp   after ZAU

dam-zo   **t**$_i$ aa?

21

throw.away-Perf   Q

'What document was it that Ming threw away after reading?'

b. * Mingzai hai tai-gwo *pg* zihau zau dam-zo   matje

Ming   at   read-Exp   after ZAU throw.away-Perf what

mangin   aa?

document Q

Note that the contrast in well-formedness between (46a)–(47a) and (46b)–(47b) strongly favors the movement analysis of *wh*-fronting constructions, since we have seen in section 4.2.2 that *wh*-arguments and *wh*-adjuncts in in-situ *wh*-questions in Cantonese behave like those in Mandarin, which can be captured by Tsai's (1994) analysis of *wh*-arguments and *wh*-adjuncts as variables unselectively bound by the question operator Q in Spec-CP. Following Emonds's (2001) construal of Chomsky's (1982) analysis of PG constructions as a general theory of operator binding, PGs can be taken as a by-product of *wh*-binding, which involves the binding of the *wh*-trace by a c-commanding *wh*-operator. Assuming that Tsai's analysis is applicable to Cantonese, we expect that the question operator Q alone will suffice to license a PG as a by-product of the binding of the in-situ *wh*-phrase without requiring the *wh*-phrase to be fronted, contrary to fact. Thus, I conclude that fronting of the *wh*-phrase in overt syntax is a prerequisite for licensing PGs in Cantonese, which is in line with the movement analysis.

In brief, the fronted *wh*-phrase in *wh*-fronting constructions in Cantonese is subject to connectivity effects and locality conditions and has the ability to license PGs, suggesting that it is derived by movement.

4.3 Evidence for the base-generation analysis

Recall that locality conditions are one important source of evidence supporting the movement analysis of *wh*-fronting constructions (see section 4.2.2). A natural question that arises is whether a base-generation strategy is available to *wh*-fronting constructions to salvage island violations, especially in light of the fact that Cantonese is a *pro*-drop language similar to Mandarin. According to Huang (1982b, 1984, 1989), Mandarin crucially differs from English in that in Mandarin, an empty pronoun (*pro* or PRO) is available and *pro* can appear in all argument positions. Huang further proposes that the distribution of *pro* and PRO is governed by the Generalized Control Rule (GCR), stated in (48).

(48)   Generalized Control Rule (GCR)

        Coindex an empty pronominal with the closest nominal element.

<div align="right">(Huang 1984: (61))</div>

If Huang's proposal can be extended to Cantonese, we expect that in island contexts where a *wh*-phrase is the closest element that can be coindexed with *pro*, the *wh*-fronting construction should be well-formed. This expectation is borne out, as shown by the fact that *wh*-fronting constructions are opaque to sentential subject islands (49a), left branch conditions (49b), complex NP islands (49c), and adjunct islands (49d) when the *wh*-phrase is coindexed with *pro* inside the island.

(49) a.   (Hai) **bin-go   hoksaang**$_i$,[*pro*$_i$ caamgaa   ni-go beicoi]
        HAI which-Cl student   participate.in this-Cl competition
        zeoi hapsik   aa?
        most appropriate Q
        'What student is it that it is most appropriate for (him) to participate in this competition?'

    b.   (Hai) **bin-gaan poutou**$_i$, [*pro*$_i$ di saam]   hou   dai   aa?
        HAI which-Cl shop   Cl clothes very cheap Q
        'Which shop is it that (its) clothes are on sale?'

    c.   (Hai) **bin-go   hoksaang**$_i$, [*pro*$_i$ haausi ge   singzik] zeoi hou   aa?
        HAI which-Cl student   exam GE   score   most good Q
        'Which student is it that (his) scores on the examination are the highest?'

    d.   (Hai) **bin-go   hoksaang**$_i$, [*pro*$_i$ gunghoi paiping haauzoeng
        HAI which-Cl student   openly   criticize school.principal
        zihau], gogo   dou lau dou   zan   aa?
        after   everyone DOU anger Res quake Q
        'Which student was it that everyone was furious after (he) had openly criticized the school principal?'

Adopting Huang's proposal that *pro* can occur in all argument positions and that *pro* is governed by the GCR, I propose that the *wh*-phrases in (49a–d) are base-generated and are coindexed with *pro* in accordance with the GCR. Since the GCR only requires that a *pro* be coindexed with its closest antecedent (the base-generated *wh*-phrases in the above examples), it can naturally explain why no island violations are observed.

    Further evidence for the proposal that a *wh*-phrase can be base-generated and coindexed with a *pro* governed by the GCR comes from the fact that *wh*-fronting constructions show "subject-object" asymmetry. In particular, following Huang's formulation of the GCR, which requires that a *pro* be coindexed with its closest

antecedent, the GCR correctly predicts that a base-generated *wh*-phrase can be properly coindexed with a *pro* when the *pro* is within a subject island but not when it is within an object island, as the contrast between (50a) and (50b) shows. Furthermore, it correctly predicts that when an object island containing a *pro* has undergone object preposing to a position adjacent to a base-generated *wh*-phrase, the *pro* can be properly coindexed with the *wh*-phrase; see (50c).

(50) a.　(Hai) **bin-go** **doujin**$_i$, [*pro*$_i$ paak ge dinjing] zeoi sau-dak aa?
　　　　HAI which-Cl director 　　direct GE movie most receive-can Q
　　　　'Which director is it that the movies that (he) directs are blockbusters?'

　　b. * (Hai) **bin-go** **doujin**$_i$, Mingzai zeoi zungji tai [*pro*$_i$ paak ge
　　　　HAI which-Cl director Ming most like watch 　　direct GE
　　　　dinjing] aa?
　　　　movie Q
　　　　Intended: 'Which director is it that Ming most likes to watch the movies that (he) directs?'

　　c.　(Hai) **bin-go** **doujin**$_i$, [*pro*$_i$ paak ge dinjing], Mingzai zeoi zungji
　　　　HAI which-Cl director 　　direct GE movie Ming most like
　　　　tai aa?
　　　　watch Q
　　　　'Which director is it that the movies that (he) directs, Ming likes to watch most?'

Apart from employing a base-generation strategy when it is coindexed with *pro*, a *wh*-phrase can do so when it is coindexed with a resumptive pronoun inside an island, as shown by the fact that both complex NP islands (51) and adjunct islands (52) are ameliorated by the presence of a resumptive pronoun linked to the *wh*-phrase in a *wh*-fronting construction.

(51)　　(Hai) **bin-go** **doujin**$_i$, Mingzai zeoi zungji tai [keoi$_i$ paak ge
　　　　HAI which-Cl director Ming most like watch he direct GE
　　　　dinjing] aa?
　　　　movie Q
　　　　'Which director$_i$ is it that Ming most likes to watch the movies that he$_i$ directs?'

(52)　　(Hai) **bin-go** **tungsi**$_i$, [loubaan dongzung moujuk keoi$_i$ zihau]**,**
　　　　HAI which-Cl colleague boss in.public insult him after

gogo   dou mou saai samgei zouje aa?
everyone DOU not   all   mood   work Q
'Which colleague$_i$ was it that everyone was in no mood to work after the boss had insulted him$_i$ in public?'

Note that these examples crucially involve a resumptive pronoun in the object position that is either inside a complex NP island in the object position (51) or inside an adjunct island (52). Recall that *pro* is governed by the GCR. If the resumptive pronoun were replaced by *pro*, the sentences would become ill-formed, as *pro* would be wrongly coindexed with its closest antecedent, *Mingzai*, rather than with the *wh*-phrase.

To summarize, a *wh*-phrase in the *wh*-fronting construction can employ a base-generation strategy when it is coindexed with a *pro* inside an island in accordance with the GCR or when it is linked to a resumptive pronoun inside an island. Following my proposal that the *wh*-phrase in the *wh*-fronting construction functions as an IdentF (see section 2) and É. Kiss's analysis of IdentF as situated in Spec-FocP (see section 4.1), a base-generated *wh*-phrase coindexed with a *pro* inside an island can be visualized as in (53a), where the GCR functions to govern the coindexation of *pro* with the *wh*-phrase. In contrast, a base-generated *wh*-phrase linked to a resumptive pronoun inside an island is schematized in (53b).

(53) a.   … [$_{FocP}$ ***wh*-phrase**$_i$ [$_{Island}$ *pro*$_i$ …]…]
                             GCR

    b.   … [$_{FocP}$ ***wh*-phrase**$_i$ …[$_{Island}$ … resumptive pronoun$_i$]…]

4.4 Hai *as a focus marker*

Having established that the fronted *wh*-phrase in *wh*-fronting constructions can be derived by movement in island-free contexts or base-generated when the *wh*-phrase is linked to *pro* or a resumptive pronoun inside an island, I now turn to the status of *hai* in *wh*-fronting constructions. Given its interpretive properties and its sensitivity to island constraints, I argue that *hai* is best analyzed as a focus marker in *wh*-fronting constructions.

4.4.1 Interpretive properties

The first piece of evidence for analyzing *hai* as a focus marker comes from its interpretive properties. As shown in (54a–e), the constituent following *hai* can always be interpreted as an IdentF. Furthermore, *hai* can occur in any preverbal position (54a–

e), but it cannot appear postverbally (54f) (see Huang 1988 for discussion of the distribution of *shi* in Mandarin, which is identical to that of *hai* in (54a–f) in Cantonese; see also Shi 1994, Zhu 1997, among others). When *hai* appears preverbally, the IdentF licensed by *hai* can be a subject (54a), a temporal adverb (54b), a locative PP (54c), a main verb (54d), or an object (54e).

(54) a.　Hai　**keoi** camjat　　hai hokhaau daa-zo　　Mingzai.
　　　　HAI　he　　yesterday　at　school　　hit-Perf　Ming
　　　　'It was him that hit Ming at school yesterday.'

　　b.　Keoi hai　**camjat**　　hai hokhaau daa-zo　　Mingzai.
　　　　he　　HAI yesterday　at　school　　hit-Perf　Ming
　　　　'It was yesterday that he hit Ming at school.'

　　c.　Keoi camjat　　hai　**hai hokhaau** daa-zo　Mingzai.
　　　　he　　yesterday HAI　at　school　　hit-Perf Ming
　　　　'It was at school that he hit Ming yesterday.'

　　d.　Keoi camjat　　hai hokhaau hai　**daa-zo**　　Mingzai.
　　　　he　　yesterday　at　school　　HAI　hit-Perf　Ming
　　　　'It was hitting that he did to Ming at school yesterday.'

　　e.　Keoi camjat　　hai hokhaau hai　daa-zo　**Mingzai**.
　　　　he　　yesterday　at　school　　HAI　hit-Perf　Ming
　　　　'It was Ming that he hit at school yesterday.'

　f. * Keoi camjat　　hai hokhaau daa-zo　　hai　**Mingzai**.
　　　　he　　yesterday　at　school　hit-Perf　HAI　Ming
　　　　Intended: 'It was Ming that he hit at school yesterday.'

Recall that the fronted *wh*-phrase can be optionally preceded by *hai* in *wh*-fronting constructions, and it is always interpreted as an IdentF (see section 2). Suppose that *hai* is responsible for licensing IdentF in Cantonese; then it is plausible to posit that *hai* is selected in the numeration in the formation of *wh*-fronting constructions, and later deleted at PF (see section 4.5 for more detailed discussion). This hypothesis squares with native-speaker judgments. Apart from acknowledging that there is no interpretive difference between *wh*-fronting constructions with and without *hai* (i.e., the fronted *wh*-phrase is always interpreted as an IdentF on the basis of diagnostics for IdentFs used in section 2), the native speakers I have consulted unanimously point out that *hai* is more commonly deleted in fast speech than in normal-rate speech. If this is true, it seems reasonable to postulate that the deletion of *hai* in *wh*-fronting constructions is purely a PF phenomenon triggered by the need to match the flow of the conversation.

4.4.2 Island constraints

The second piece of evidence for analyzing *hai* as a focus marker comes from its sensitivity to island constraints. In-situ IdentFs with *hai* are subject to island constraints, such as the Complex NP Constraint and the Adjunct Island Constraint, as shown by the ill-formedness of (55a–b) and (56a–b), respectively (see Huang 1982a, b for similar observations regarding *shi* in Mandarin). Following Huang's (1982a, b) analysis of in-situ IdentFs with *shi* in Mandarin, I propose that the island violation illustrated in (55)–(56) is due to the covert movement of *hai* and the in-situ IdentF in Cantonese.

(55) a. * Ngo soeng tai [Mingzai hai **maai** ge go-bun syu].
         I   want   read Ming   HAI buy GE that-Cl book
         Intended: 'I want to read the book that it was buying that Ming did.'
     b. * Ngo soeng tai [hai **Mingzai** maai ge go-bun syu].
         I   want   read HAI Ming   buy GE that-Cl book
         Intended: 'I want to read the book that it was Ming that bought.'

(56) a. * [Mingzai hai   **faanlai** zicin], Siufan jiging   zau-zo.
         Ming   HAI return   before Siufan already leave-Perf
         Intended: 'Before it was returning that Ming did, Siufan had already left.'
     b. * [Hai **Mingzai** faanlai zicin], Siufan jiging   zau-zo.
         HAI Ming   return   before Siufan already leave-Perf
         Intended: 'Before it was Ming that returned, Siufan had already left.'

Recall that *wh*-fronting constructions with or without *hai* are subject to island constraints (see section 4.2.2). The fact that in-situ IdentFs licensed by *hai* are also subject to island constraints provides an additional rationale for treating *hai* as a focus marker.

In brief, given the similarities shared by *hai* in non-*wh*-fronting constructions and *wh*-fronting constructions in terms of interpretive properties and sensitivity to island constraints, I conclude that *hai* should be analyzed as a focus marker in *wh*-fronting constructions in Cantonese.

4.5 Syntactic analyses of wh-fronting constructions

Having established that *wh*-fronting constructions can be derived by movement in island-free contexts or base-generated when the *wh*-phrase is linked to a *pro* or a

resumptive pronoun in island contexts, in the following sections I offer syntactic analyses of *wh*-fronting constructions in the two contexts.

4.5.1 A movement analysis

As mentioned earlier, a movement analysis offers the best account of *wh*-fronting constructions in island-free contexts. A natural question that arises is which variant of the movement approach to IdentF constructions is better suited to analyzing *wh*-fronting constructions: the biclausal or the monoclausal variant (É. Kiss 1998; see section 4.1 above). I propose that like Hungarian IdentF constructions, *wh*-fronting constructions with and without *hai* have a monoclausal structure. One piece of evidence for the monoclausal analysis comes from the fact that Cantonese *wh*-fronting constructions, unlike English cleft questions, do not involve a relative clause, as the ill-formedness of (57) shows.

(57)   * (Hai) bingo/matje jan/bin-go   tungsi, [$_{RC}$ Siufan   camjat
          HAI who/what   person/which-Cl colleague   Siufan   yesterday
          gindou ge] aa?
          see   GE   Q

Adopting the analysis of the Mandarin relative marker *de* as a complementizer (Huang 1982b, Ning 1993; see also Cheng 1986) and assuming that it can be extended to *de*'s Cantonese counterpart *ge* in (57), the ill-formedness of (57) suggests that what follows the fronted *wh*-phrase cannot be a CP.

   Another piece of evidence for the monoclausal analysis comes from the fact that Cantonese, like Hungarian, only allows a Topic to precede the fronted *wh*-phrase (see the detailed discussion of the fine structure of the left periphery in Cantonese in section 5), as shown in (58) and (59).

(58) a.   [$_{DP}$ Mingzai]$_i$, (hai) **hai bindou**$_j$,nei t$_j$ zong-gwo   t$_i$/keoi$_i$ houdo
          Ming   HAI at where you run.into-Exp him   many
          ci   aa?
          time   Q
          'Ming$_i$, where was it that you ran into t$_i$/him$_i$ many times?'
     b. * (Hai) **hai bindou**$_j$, [$_{DP}$ Mingzai]$_i$, nei t$_j$ zong-gwo   t$_i$/keoi$_i$ houdo
          HAI at where   Ming   you run.into-Exp him   many
   ci   aa?
          time   Q

(59) a. [PP Hai toi-min]i, (hai) **bingo zoeng soeng**j, Mingzai zeoi soeng

      at table-top HAI who Cl photo Ming most want

baai tj ti aa?

put   Q

'On the table, whose photo is it that Ming wants to put most?'

b. * (Hai) **bingo zoeng soeng**j, [PP hai toi-min]i, Mingzai zeoi soeng

HAI who Cl photo at table-top Ming most want

baai tj ti aa?

put   Q

As these examples show, a Topic can be realized as a DP (58) or a PP (59), and it must precede a fronted *wh*-phrase. Note that the latter fact is unexpected under a biclausal analysis. This is because, as previous studies on the fine structure of the left periphery have shown (Rizzi 1997, 2004, Benincà 2001, Benincà and Poletto 2004), each CP domain hosts a set of (recursive) Topics and a Focus. If *wh*-fronting constructions have a biclausal structure, we expect that the fronted *wh*-phrase, being an IdentF, can be preceded by the Topics in the higher CP domain and followed by the Topics in the lower CP domain, as shown in (60).

(60)   [CP **Topic IdentF** [CP **Topic**]]

    As I will discuss in section 5, that *wh*-fronting constructions have a monoclausal structure is further corroborated by the finding that in the fine structure of the left periphery, the fronted *wh*-phrase is within the CP domain that is immediately above an IP.

    In light of the fact that a Topic must precede *hai* and its associated IdentF (see (58)–(59)) and assuming a monoclausal analysis of *wh*-fronting constructions, I propose that *wh*-fronting constructions with *hai* have the structure in (61).

(61)
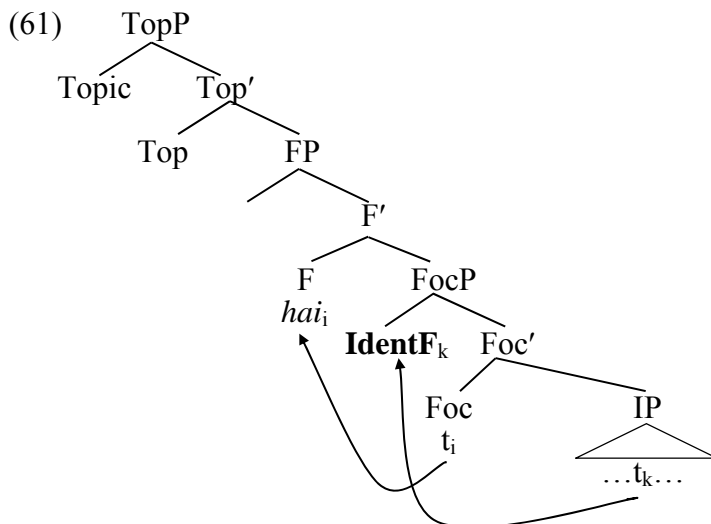
Specifically, assuming that a Topic is located in Spec-TopP and undergoes Spec-head agreement with Top, the fact that a Topic must precede *hai* suggests that TopP must occupy a higher position than the FP hosting *hai*. As for *hai*, I assume that it is base-generated in the head of FocP in order to fulfill the lexicalization requirement of Foc, an assumption consonant with Brody's focus theory and the cartographic approach (Rizzi 1997, 2004; Cinque 1999; Cinque and Rizzi 2008).[13] Once Foc is filled by *hai*, *hai* triggers movement of the *wh*-phrase to Spec-FocP in order to allow the *wh*-phrase to be licensed as an IdentF in a Spec-head configuration. The movement analysis is supported by the fact that *wh*-fronting constructions are subject to connectivity effects and locality conditions and can license PGs, as shown in section 4.2. In addition, following Tsai (1994), I assume that *wh*-phrases in Cantonese are subject to unselective binding, like those in Mandarin, and need not undergo further movement. After Spec-head agreement, *hai* is raised to the head of a higher FP.[14]

That *hai* originates from the head of FocP is motivated on theoretical grounds. In particular, following the standard assumption of the cartographic approach that elements pertinent to information structure such as Topics and Foci are licensed in a Spec-head configuration (Rizzi 1997, 2004, 2006) together with Rizzi's (2006) proposal of "Criterial Freezing," which requires an element moved into a position relevant to information structure (e.g., Spec-FocP and Spec-TopP) to be frozen in place and inaccessible for further movement, we expect that *hai*, being a focus marker (see section 4.4), cannot originate from a position lower than Foc. This is because once *hai* appears, it will license an element within its c-command domain as its associated IdentF, as shown by (54a–e) (repeated below as (62a–e)) as well as by in-situ *wh*-questions with *hai*, as in (63).

(62) a. Hai **keoi** camjat   hai hokhaau daa-zo   Mingzai.
         HAI he   yesterday at school   hit-Perf Ming
         'It was him that hit Ming at school yesterday.'

    b. Keoi hai **camjat**   hai hokhaau daa-zo   Mingzai.
        he   HAI yesterday at school   hit-Perf Ming
        'It was yesterday that he hit Ming at school.'

    c. Keoi camjat   hai **hai hokhaau** daa-zo Mingzai.

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[13] One may ask whether there is any empirical evidence supporting the lexicalization of the head of FocP in Cantonese. While it is difficult to find such evidence for *hai*, given that *hai* always precedes the IdentF (see, e.g., (17)–(18)), Topic structures can potentially provide empirical evidence for the view that the heads of functional projections relevant to information structure must be filled, if we follow Cinque and Rizzi's (2008) proposal that topic markers are morphological realizations of Top (see also Paul 2005 for an analysis of topic markers in Mandarin as located in the head of TopP). A theoretical advantage is that FocP and TopP can be uniformly viewed as requiring Spec-head agreement in Cantonese, in line with the cartographic approach.

[14] I leave the categorial status of the FP hosting *hai* open for future study.

> he   yesterday HAI at   school   hit-Perf Ming
>
> 'It was at school that he hit Ming yesterday.'

    d.   Keoi camjat   hai hokhaau hai **daa-zo** Mingzai.

        he   yesterday at   school   HAI hit-Perf Ming

        'It was hitting that he did to Ming at school yesterday.'

    e.   Keoi camjat   hai hokhaau hai daa-zo **Mingzai**.

        he   yesterday at   school   HAI hit-Perf Ming

        'It was Ming that he hit at school yesterday.'

(63)   Keoi hai   caau-zo **bingo/matje jan/bin-go**   **tungsi**   aa?

        he   HAI fire-Perf who/what   person/which-Cl colleague Q

        'Who/What person/Which colleague was it that he fired?'

Assuming that a Focus can only be licensed in a Spec-head configuration, the fact that *hai* can license an element within its c-command domain as an IdentF suggests that *hai* must be located in Foc, with its associated IdentF undergoing covert movement to Spec-FocP in (62a–e) and (63). If *wh*-fronting constructions were derived from (63), *hai* would be required to move from Foc to a higher Foc, violating Minimality. Furthermore, if *wh*-fronting constructions were derived from (63), the in-situ *wh*-phrase licensed by *hai* would be required to raise from Spec-FocP to a higher Spec-FocP, violating Criterial Freezing. As for Foc-to-F movement of *hai* in (61), it is attributed to the c-command requirement of *hai*, as (62a–e) and (63) have shown that *hai* can only license an IdentF within its c-command domain (see Li 2011 for a similar observation about the focus marker *shi* in Mandarin).

    Having established that *hai* is base-generated in Foc, I turn to *wh*-fronting constructions without *hai*. Recall that *wh*-fronting constructions without *hai* have the same interpretive and syntactic properties as those with *hai* (see sections 2 and 4.2). In view of these facts, I propose that *wh*-fronting constructions without *hai* also have the monoclausal structure schematized in (61). Specifically, like *wh*-fronting constructions with *hai*, *wh*-fronting constructions without *hai* start with *hai* being selected in the numeration and base-generated in Foc. The *wh*-phrase is raised to Spec-FocP to undergo Spec-head agreement with *hai*. *Hai* is then raised to the head of FP in narrow syntax. At PF, *hai* is deleted, resulting in a *wh*-fronting construction without *hai*.[15,16]

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[15] One might wonder why *hai* can be subject to PF deletion. One possibility, suggested by Hoh and Chiang (1990) for *wh*-fronting constructions in Mandarin, is that optional deletion of the focus marker is plausible because it does not violate the Principle of Recoverability of Deletion (Chomsky 1965). This view is corroborated by the fact that *wh*-fronting constructions with and without *hai* have the same semantic and syntactic properties (see sections 2 and 4.2); hence, deletion of *hai* at PF will not violate the Principle of Recoverability of Deletion. This line of reasoning can be extended to account for the optionality of topic markers in Cantonese (see (24a–d)). The optionality of the topic marker suggests that

Crucially, the analysis in (61) envisages the possibility that TopP is located above FocP hosting IdentF, which has important ramifications for two prominent lines of research aiming to determine the positions of Topics and Foci in the left periphery. The first line of research is initiated by Rizzi (1997, 2004), who proposes that Topic constitutes a set of recursive projections that can occur above and below a single Focus projection, as in (64) (taken from Rizzi 2004: 242; recursion is indicated by "*"). Following the analysis of *wh*-fronting constructions in (61), we expect that the single FocP housing IdentF is in the midst of a set of recursive TopPs.
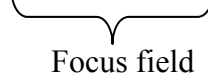
(64)   Force **Top*** Int **Top* Foc** Mod* **Top*** Fin IP

The second line of research is championed by Benincà and Poletto (2004), who convincingly argue that recursion of TopPs as proposed by Rizzi is not an option, by showing that there is a one-to-one mapping between syntactic positions and semantic/pragmatic functions for different types of Topics and Foci. In light of the syntactic properties and ordering restrictions among different types of Topics and Foci in standard and nonstandard varieties of Italian, Benincà and Poletto propose that Topic and Focus are best analyzed as *fields*, each comprising a finite set of distinct Topics and Foci, as shown in (65) (see also Benincà 2001).

(65)   [[HT] [[Scene Setting] [[LD] [[LI] [[ContrF] [[InfoF]]]]]]]

                    Topic field   Focus field

Specifically, contrary to Rizzi's (1997, 2004) claim that TopP is a set of recursive projections that can occur above and below a single FocP, (65) reveals that the Topic field is composed of four types of Topics (Hanging Topic (HT), Scene-Setting Topic (Scene Setting), Left-Dislocated Topic (LD), and List Interpretation (LI)), all of which are located above the Focus field, which is composed of two types of Foci (Contrastive Focus (ContrF) and Information Focus (InfoF)). In addition, (65) shows that within the Topic and Focus fields, the respective sets of Topics and Foci are subject to ordering restrictions. Specifically, within the Topic field, an HT occupies the highest position. Below an HT is Scene Setting, and below Scene Setting is an LD. An LI occupies the

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a Topic is unambiguously interpreted as such whether a topic marker is present or not; hence, deletion of topic markers at PF does not violate the Principle of Recoverability of Deletion.

[16] Note that the optionality of the focus marker is not idiosyncratic to Cantonese; rather, it is attested in a wide range of languages of different genetic affiliations. See, for instance, Cheung (2014) on Mandarin, Zerbian (2007) on Northern Sotho (Bantu), Hartmann and Zimmermann (2007) on Hausa (Chadic), Van der Wal (2009) on Makhuwa (Bantu), and Fiedler et al. (2010) on West African languages from different families (Kwa, Gur, Chadic).

lowest position. Within the Focus field, a ContrF occupies a higher position than an InfoF. If this proposal is on the right track, we expect that an IdentF, being part of the Focus field, will be located below the Topic field, contra Rizzi's proposal that TopP can appear below FocP.

Before investigating the inventory of Topics and Foci available in the left periphery and their ordering restrictions in section 5, I turn to discuss how *wh*-fronting constructions involving a base-generated *wh*-phrase linked to a *pro* or a resumptive pronoun in island contexts are derived.
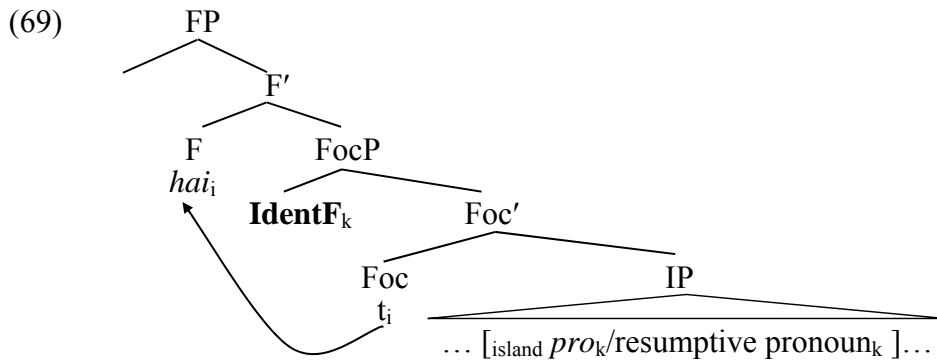
4.5.2 A base-generation analysis

Recall from section 4.3 that a *wh*-phrase linked to a *pro* or a resumptive pronoun inside an island employs the base-generation strategy. Specifically, the base-generated *wh*-phrase linked to a *pro* is governed by the GCR, which requires that the *pro* be coindexed with its closest antecedent (i.e., the *wh*-phrase), as shown in (49a–d) (repeated below as (66a–d)).

(66) a.   (Hai) **bin-go**   **hoksaang**$_i$,[*pro*$_i$ caamgaa   ni-go   beicoi]
    HAI which-Cl student   participate.in this-Cl competition
    zeoi hapsik   aa?
    most appropriate Q
    'What student is it that it is most appropriate for (him) to participate in this competition?'

   b.   (Hai) **bin-gaan poutou**$_i$, [*pro*$_i$ di saam] hou dai   aa?
    HAI which-Cl shop   Cl clothes very cheap Q
    'Which shop is it that (its) clothes are on sale?'

   c.   (Hai) **bin-go**   **hoksaang**$_i$, [*pro*$_i$ haausi ge singzik] zeoi hou   aa?
    HAI which-Cl student   exam GE score   most good Q
    'Which student is it that (his) scores on the examination are the highest?'

   d.   (Hai) **bin-go**   **hoksaang**$_i$, [*pro*$_i$ gunghoi paiping   haauzoeng
    HAI which-Cl student   openly   criticize school.principal
    zihau], gogo   dou lau dou   zan   aa?
    after   everyone DOU anger Res quake Q
    'Which student was it that everyone was furious after (he) had openly criticized the school principal?'

In addition, a base-generated *wh*-phrase can be linked to a resumptive pronoun inside the island, as shown in (51) and (52) (repeated below as (67) and (68)).

(67)   (Hai) **bin-go   doujin**$_i$, Mingzai zeoi zungji tai   [keoi$_i$ paak   ge
         HAI   which-Cl director Ming   most like   watch he   direct GE
         dinjing]   aa?
         movie   Q
         'Which director$_i$ is it that Ming most likes to watch the movies that he$_i$
         directs?'

(68)   (Hai) **bin-go   tungsi**$_i$,   [loubaan dongzung moujuk keoi$_i$ zihau]**,**
         HAI   which-Cl colleague boss   in.public insult   him   after
         gogo   dou   mou saai samgei zouje aa?
         everyone DOU   not all   mood   work Q
         'Which colleague$_i$ was it that everyone was in no mood to work after the boss
         had insulted him$_i$ in public?'

In light of my proposal for *wh*-fronting constructions in (61), I propose that
wh-fronting constructions employing the base-generation strategy have the structure in
(69).

(69)

As in *wh*-fronting constructions derived by movement (see (61)), the focus marker *hai*
is assumed to be base-generated in the head of FocP in (69). Supporting the
base-generation analysis of *hai* in Foc is the fact that *hai* cannot occur within an island,
as the ill-formedness of (55) and (56) shows (see section 4.4.2). Furthermore, the
wh-phrase is base-generated in Spec-FocP, undergoing Spec-head agreement with *hai*
in the head of FocP. After Spec-head agreement, *hai* is raised to the head of FP. As
mentioned earlier, if the base-generated *wh*-phrase is linked to a *pro* inside an island, it
is governed by the GCR. Alternatively, it can be linked to a resumptive pronoun inside
an island.

     As for *wh*-fronting constructions without *hai* that are linked to a *pro* or a
resumptive pronoun inside an island, I propose that they also have the structure in (69),

assuming that *hai* is subject to deletion at PF after being raised to the head of FP in narrow syntax.

5. The topography of Topics and Foci in the left periphery

In this section, I investigate the fine structure of the left periphery in Cantonese, aiming to provide further evidence for the monoclausal analysis by showing that the fronted *wh*-phrase, being an IdentF, is located in the CP domain above an IP. The investigation will also shed new light on the fine structure of the left periphery in Cantonese and have significant implications for the two lines of research on the distribution of Topics and Foci (i.e., Rizzi 1997, 2004 vs. Benincà and Poletto 2004).

5.1 Previous studies of the fine structure of the left periphery in Mandarin

Previous studies of the left periphery of Mandarin reveal that Topics and Foci are ordered hierarchically (Paul 2005, Del Gobbo and Badan 2007, Badan and Del Gobbo 2011, among others). In particular, through a detailed study of the syntactic properties and ordering restrictions among different types of Topics and Foci, Badan and Del Gobbo (2011) propose (70) as the fine structure of the left periphery in Mandarin (see also Del Gobbo and Badan 2007).

(70)   Aboutness Topic (AT) > HT > LD > *lian* 'even' Focus > IP

                        Topic field   Focus field
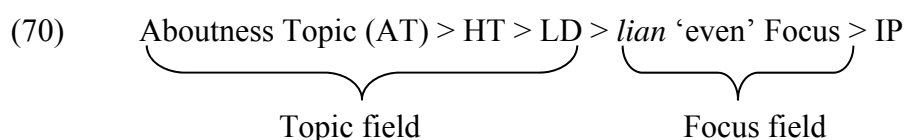
As (70) shows, the topography of Topics and Foci in Mandarin is similar to that in Italian in two respects: in both languages, the Topic field is located above the Focus field, and an HT occupies a higher position than an LD in both languages. (70)–(74), based on examples in Badan and Del Gobbo (2011), illustrate each type of Topic and Focus.

(71)   Hua   (a),   wo zui   xihuan meiguihua.   (AT)
          flower   TM   I   most like   rose
          '(Among) flowers, I like roses most.'

(72)   [$_{DP}$ Lisi]$_i$, Mali bu   xihuan ta$_i$/zhe-ge   shazi$_i$.   (HT)
             Lisi   Mary not   like   him/this-Cl idiot
          'Lisi$_i$, Mary does not like him$_i$/this idiot$_i$.'

(73) a.   [$_{DP}$ Lisi]$_i$, Mali bu xihuan t$_i$.   (LD)
            Lisi Mary not like
            'Lisi, Mary does not like.'

     b.   [$_{PP}$ Cong zhe-jia yinhang]$_i$, women t$_i$ keyi ti ta   jiedao
            from this-Cl bank   we   can for him borrow
            henduo qian.
            much   money
            'From this bank, we can borrow a lot of money for him.'

(74)   Lian zhe-ben shu, Zhangsan dou/ye   mai-le.   (*lian*-Focus)
          even this-Cl book Zhangsan DOU/also buy-Perf
          'Even this book, Zhangsan also bought.'

Specifically, according to Badan and Del Gobbo (2011), an AT is not syntactically related to the rest of the sentence in the sense that an AT is not linked to a gap, a pronoun, or an epithet, as in (71) and (75a–b). Furthermore, Badan and Del Gobbo note that sentences with an AT may show a part-whole (75a) or possessive (75b) relation.

(75) a.   Shi-ge li,   wu-ge lan-le.
          ten-Cl   pear five-Cl spoil-Perf
          'Of the ten pears, five have spoiled.'   (Xu and Langendoen 1985: (75a))
     b.   Nei-ke shu, yezi da.
          that-Cl tree   leaf big
          'That tree, the leaves are large.'   (Li and Thompson 1976: (23))

Similar examples can be found in Cantonese. As discussed in Matthews and Yip (1994), some Topic structures in Cantonese may show a part-whole relation (see also Matthews and Yip 2011). For instance, the ATs *Chiuzauwa* 'Chiuchow dialect' in (76a) and *ng-tiu jyu* 'five fish' in (76b) are construed as the "whole," whereas *jat-geoi* 'one-phrase' in (76a) and *geido* 'how many' in (76b) are construed as the "parts" ((76a–b) are taken from Matthews and Yip 1994: 74; see also Matthews and Yip 2011).

(76) a.   Chiuzauwa   ngo jat-geoi   dou m sik   gaa.
          Chiuchow.dialect I   one-phrase DOU not know SFP
          'I don't know a single word of Chiuchow dialect.'
     b.   Ng-tiu jyu lau   geido   bei Maami sik aa?
          five-Cl fish leave how.many for Mommy eat Q

'Of the five fish, how many shall I leave for Mommy?'

Topic structures that display a possessive relation are exemplified by (77), in which *keoi* 'he', as an AT, is construed as the possessor of *gingin saam* 'all clothes'.[17]

(77)   Keoi gingin saam   dou   hai mingpaai.
        he   every clothes DOU be   brand.name
        'He, all clothes are of famous brand names.'

As for HTs and LDs, Badan and Del Gobbo's classification of these two types of Topics is based on Benincà and Poletto's (2004) study of HTs and LDs in Italian. Specifically, Badan and Del Gobbo claim that like HTs and LDs in Italian, HTs in Mandarin are realized as DPs and are resumed by a pronoun or an epithet (72) (repeated below as (78)), while LDs can be realized as DPs or PPs that are linked to a gap owing to the absence of clitics in Mandarin (73a–b) (repeated below as (79a–b)).[18]

(78)   [$_{DP}$ Lisi]$_i$, Mali bu xihuan ta$_i$/zhe-ge   shazi$_i$.   (HT)
        Lisi   Mary not like   him/this-Cl   idiot
        'Lisi$_i$, Mary does not like him$_i$/this idiot$_i$.'

(79) a.   [$_{DP}$ Lisi]$_i$, Mali bu   xihuan t$_i$.   (LD)
        Lisi   Mary not like
        'Lisi, Mary does not like.'
    b.   [$_{PP}$ Cong zhe-jia yinhang], women t$_i$ keyi ti ta   jiedao
            from   this-Cl bank   we   can   for him borrow
        henduo   qian.
        much   money
        'From this bank, we can borrow a lot of money for him.'

Similar examples can be found in Cantonese. For instance, following Badan and Del Gobbo's definition of HTs, (80) is considered to involve an HT realized by the DP *Mingzai* 'Ming', which can be resumed by a pronoun such as *keoi* 'him' or an epithet such as *ni-go sozai* 'this idiot'. In contrast, (81a–b) are considered to involve LDs, which are realized as the PP *hai ni-gaan poutou* 'in this shop' in (81a) and the DP *Mingzai* 'Ming' in (81b), both of which are linked to a gap.

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[17] As Matthews and Yip (1994: 74) note, examples like (77) are sometimes referred to as "double subject constructions," as they appear to involve two subjects: *keoi* and *gingin saam* 'all clothes' in (77).
[18] To anticipate the later discussion: I will argue in section 5.2 that genuine counterparts of HTs and LDs in Italian do not exist in Mandarin and Cantonese.

(80)   [$_{DP}$ Mingzai]$_i$, ngo mou gindou keoi$_i$/ni-go sozai$_i$ aa.

          Ming   I   not see   him/this-Cl idiot SFP

          'Ming$_i$, I did not see him$_i$/this idiot$_i$.'

(81) a.   [$_{PP}$ Hai ni-gaan poutou]$_i$, ngodei t$_i$ hoji bong keoi maaidou houdo

           at   this-Cl shop   we   can help him buy   many

          saam.

          clothes

          'In this shop, we can help him to buy a lot of clothes.'

    b.   [$_{DP}$ Mingzai]$_i$, ngo mou gindou t$_i$ aa.

          Ming   I   not   see   SFP

          'Ming, I did not see.'

As for the sentence-initial *lian* 'even' phrase in Mandarin, its status is quite controversial, as Badan and Del Gobbo (2011) argue that it is best analyzed as a Topic syntactically and a Focus semantically on the basis of its syntactic and semantic properties (see also Badan and Del Gobbo (this volume)). For present purposes, it suffices to show that Mandarin and Cantonese behave alike in that both allow sentence-initial 'even' phrases (82a)–(83a) and sentence-internal 'even' phrases (82b)–(83b).

(82) a.   Lian Zhangsan, Mali dou bu xihuan.   (Mandarin)

          even Zhangsan Mary DOU not like

          'Even Zhangsan, Mary doesn't like.'

    b.   Mali lian Zhangsan dou bu xihuan.

          Mary even Zhangsan DOU not like

          'Mary doesn't even like Zhangsan.'

(83) a.   Lin Mingzai, Siufan dou m zungji.   (Cantonese)

          even Ming   Siufan DOU not like

          'Even Ming, Siufan doesn't like.'

    b.   Siufan lin Mingzai dou m zungji.

          Siufan even Ming   DOU not like

          'Siufan doesn't even like Ming.'

In section 5.3, I will provide a more comprehensive discussion of the syntactic properties of sentence-initial 'even' phrases in Mandarin and Cantonese, arguing that they are best analyzed as Foci rather than Topics.

Although Cantonese shares the inventory of Topics and Foci available in Mandarin, Tang (2002) shows that Cantonese has another focus marker *dak*, which typically occurs in sentence-initial position and is interpreted as 'only'.[19] According to Tang, *dak* can license a wide range of elements, including a subject (84a), a direct object (84b), an indirect object (84c), a duration phrase (84d), a frequency phrase (84e), a locative phrase (84f), and a temporal phrase (84g) ((84a–g) are taken from Tang 2002: 281–282). For clarity, the constituents licensed by *dak* are enclosed in square brackets.

(84) a.   Dak [ngo] faatbiu jigin.
          only I   express opinion
          'Only I express opinions.'

      b.   Dak [jat-fan bouzi]   ngo hoji teoizin.
          only one-Cl newspaper I   can recommend
          'I can recommend only one newspaper.'

      c.   Dak [ngo] di-tingzung man-gwo ni-di   mantai.
          only I   Cl-audience ask-Exp this-Cl question
          'The audiences have asked only me these questions.'

      d.   Dak [saam-go zung] ngo hoji fan.
          only three-Cl hour   I   can sleep
          'I can sleep only for three hours.'

      e.   Dak [loeng-ci] Wong gaausau hoji sancing jingau   butfun.
          only two-time Wong professor can apply   research grant
          'Professor Wong can apply for the research grant only twice.'

      f.   Dak [ni-go fong] ngo hoji jau   zijau.
          only this-Cl room I   can   have   freedom
          'I can have freedom only in this room.'

      g.   Dak [gamjat] ngo hoji se   ngo ge man.
          only today   I   can   write I   GE paper
          'I can write my paper only today.

Note that the use of *dak* as a focus marker meaning 'only' is a unique feature of

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[19] In addition to appearing in sentence-initial position, Tang (2002) notes that *dak* can appear in postverbal position and serve as a focus operator, taking scope over the elements following it, as shown in (i). For clarity, the focused constituent licensed by the postverbal *dak* is enclosed in square brackets.

(i)   Mingzai tai   dak [saam-bun syu].
      Ming   read   only three-Cl   book
      'Ming read only three books.'

Tang analyzes the postverbal *dak* as a verbal suffix. Since the postverbal *dak* cannot appear in the CP domain, I set it aside in this chapter.

Cantonese. In Mandarin, the sentence-initial focus marker meaning 'only' is *zhiyou*, but the range of elements that can be licensed by *zhiyou* is smaller than the range that can be licensed by the Cantonese *dak*. While *zhiyou* can license a subject (85a), a direct object (85b), an indirect object (85c), a locative phrase (85f), and a temporal phrase (85g), it cannot license a duration phrase (85d) or a frequency phrase (85e) (see Zhang 1997, 2000, Tsai 2004, Kuong 2006, among others, for discussion of *zhiyou* 'only'). For clarity, the constituents licensed by *zhiyou* are enclosed in square brackets.

(85) a. Zhiyou [wo] fabiao-le   yijian.
         only   I   express-Perf opinion
         'Only I expressed opinions.'

   b. Zhiyou   [yi-pian wenzhang] wo kan-guo.
       only   one-Cl   article   I   read-Exp
       'I have only read one article.'

   c. Zhiyou [Zhangsan],   Mali   song-guo yi-fen   liwu.
       only   Zhangsan   Mary   give-Exp one-Cl   present
       'Mary has given only Zhangsan a present.'

   d.^{??/}*Zhiyou [san-ge   xiaoshi] wo keyi   shui.
       only   three-Cl hour   I   can   sleep
       Intended: 'I can sleep only for three hours.'

   e. *Zhiyou [liang-ci] xuesheng keyi shengqing   zhuxuejin.
       only   two-time   student   can   apply   study.grant
       Intended: 'Students can apply for the study grant only twice.'

   f. Zhiyou [zai zhe-ge   fangjian] wo keyi zhuanxinde gongzuo.
       only   at this-Cl   room   I can   attentively work
       'Only in this room can I work attentively.'

   g. Zhiyou [jintian] wo you   kong xie   wo de   wenzhang.
       only   today   I have time write I   DE   paper
       'I have time to write my paper only today.'

In light of the foregoing discussion, I summarize the inventories of Topics and Foci in the left periphery of Cantonese as follows:

(86) a. Inventory of Topics in Cantonese
         AT, HT, LD
   b. Inventory of Foci in Cantonese
       lin 'even' Focus, *dak* 'only' Focus

Given that the inventory of Topics and Foci available in Cantonese is largely different from that in Italian (cf. (86a–b) and (65)), it is important to verify whether Cantonese has genuine HTs and LDs that show the same syntactic properties as those found in Italian. Furthermore, as mentioned earlier, the status of sentence-initial 'even' phrases in Mandarin is controversial. Thus, it is essential to scrutinize and compare the syntactic properties of sentence-initial 'even' phrases in Mandarin and Cantonese to determine whether they should be analyzed as Topics or Foci. I will address these issues in the next two sections.

5.2 The absence of genuine HTs and LDs in Cantonese

According to Benincà and Poletto (2004), HTs and LDs differ from each other in two respects (see also Benincà 2001). First, in terms of categorial status, while HTs can only be DPs (87), LDs can be PPs (88). Second, in terms of the availability of resumption, HTs always require resumption, as in (87), whereas LDs require resumption only when they correspond to direct or partitive objects. Otherwise, resumption is optional, as in (88).

(87)   [DP Mario], non *(ne)   parla più   nessuno.
           Mario   not   of.him talks anymore anybody
         'Mario, nobody talks of him anymore.' (Benincà and Poletto 2004: (33a))

(88)   [PP Di Mario], non (ne)   parla più   nessuno.
            of Mario   not of.him   talks anymore anybody
         'Mario, nobody talks of him anymore.' (Benincà and Poletto 2004: (33b))

Benincà and Poletto further note that HTs can be resumed by an epithet, as in (89), whereas LDs cannot (90) ((89)–(90) are taken from Benincà and Poletto 2004: (37a–b)).

(89)   Mario, non darò più   soldi   a   quell' imbecille.
         Mario not will give anymore money to that   idiot
         'Mario, I won't give more money to that idiot.'

(90)   *A Mario, non   darò più   soldi   a   quell' imbecille.
          to Mario not   will give anymore money to that   idiot

Furthermore, Benincà (2001) notes that when the preposed argument is a direct object, HTs and LDs become indistinguishable, since LDs can also be realized as DPs and they must be resumed by a resumptive clitic like HTs, as in (91).

(91)   Mario, *(lo) rivedrò.

       'Mario, I will see *(him) again.'   (Benincà 2001: (3))

Comparing Italian HTs and LDs with their respective counterparts in Mandarin as identified by Badan and Del Gobbo (2011) (see also Del Gobbo and Badan 2007) immediately highlights three problems. First, recall that a defining feature of HTs in Italian is that they always require resumption (87). However, resumption is optional with a DP Topic in Mandarin (92) and Cantonese (93), as shown by the fact that a DP Topic can be linked to a gap in addition to a pronoun or an epithet.

(92)   [$_{DP}$ Zhangsan]$_i$, wo bu   xihuan t$_i$/ta$_i$/zhe-ge   shazi$_i$.   (Mandarin)

       Zhangsan   I   not like   him/this-Cl idiot

       'Zhangsan$_i$, I do not like t$_i$/him$_i$/this idiot$_i$.'

(93)   [$_{DP}$ Mingzai]$_i$, ngo m zungji t$_i$/keoi$_i$/ni-go   sozai$_i$.   (Cantonese)

       Ming   I   not like   him/this-Cl   idiot

       'Ming$_i$, I do not like t$_i$/him$_i$/this idiot$_i$.'

Badan and Del Gobbo (2011) argue that the DP Topic linked to a gap is an LD in disguise, whereas that linked to a pronoun or an epithet is a genuine HT in Mandarin. However, note that resumption is obligatory when LDs correspond to direct objects in Italian, regardless of whether they are realized by PPs or DPs (see (91)). Since the DP Topics in (92)–(93) correspond to direct objects, we expect them to behave like LDs in Italian by requiring obligatory resumption, contrary to fact. Thus, I conclude that in Mandarin and Cantonese, there is no empirical basis for treating DP Topics linked to a gap as LDs, or those linked to a pronoun or an epithet as HTs.

    Turning to LDs, recall that a defining feature of LDs in Italian is that they allow resumption (88). However, according to Del Gobbo and Badan (2007) and Badan and Del Gobbo (2011), LDs in Mandarin cannot do so, as shown by the fact that a PP preposed to sentence-initial position in Mandarin can only be linked to a gap and not a PP, as in (94) ((94) are adapted from Badan and Del Gobbo 2007: (9)–(10)).

(94)   [$_{PP}$ Gei Zhangsan$_j$]$_i$, wo t$_i$/$^?$*gei ta$_j$ ji-le   yi-feng xin.

       to   Zhangsan   I   to   him send-Perf one-Cl letter

       'To Zhangsan, I sent a letter.'

The same is true in Cantonese, as evidenced by the fact that a preposed PP can only be linked to a gap and not a PP.

(95)   [$_{PP}$ Wai Mingzai$_j$]$_i$, Siufan t$_i$/*wai keoi$_j$ zou-gwo houdo je.
            for Ming   Siufan   for him do-Exp   many thing
         'For Ming, Siufan has done a lot of things.'

If the preposed PPs in Mandarin and Cantonese can be analyzed similarly to LDs in Italian, then why these PPs disallow resumption—unlike genuine LDs in Italian—becomes entirely mysterious.

    Another problem with Badan and Del Gobbo's characterization of HTs and LDs is that it wrongly predicts that DP Topics and preposed PPs in Mandarin can be freely reordered when they are linked to a gap, since they are both regarded as LDs. As (96) shows, a DP Topic must precede a preposed PP, regardless of whether the DP Topic is linked to a gap, a pronoun, or an epithet.

(96) a.   [$_{DP}$ Zhangsan]$_i$ a,   [$_{PP}$ zai tushuguan]$_j$, wo t$_j$ pengdao-guo
             Zhangsan   TM   at library   I   run.into-Exp
          t$_i$/ta$_i$/zhe-ge   shudaizi$_i$ henduo ci.
            him/this-Cl   bookworm   many   time
          'Zhangsan$_i$, at the library, I ran into t$_i$/him$_i$/this bookworm$_i$ many times.'
     b. * [$_{PP}$ Zai tushuguan]$_j$, [$_{DP}$ Zhangsan]$_i$ a,   wo t$_j$ pengdao-guo
             at   library   Zhangsan   TM I   run.into-Exp
          t$_i$/ta$_i$/zhe-ge   shudaizi$_i$ henduo ci.
            him/this-Cl   bookworm   many   time

The same is true in Cantonese: a DP Topic must precede a preposed PP, regardless of whether the DP Topic is linked to a gap, a pronoun, or an epithet.

(97) a.   [$_{DP}$ Mingzai]$_i$ aa, [$_{PP}$ hai tousyugun]$_j$, ngo t$_j$ zong-gwo
             Ming   TM   at   library   I   run.into-Exp
          t$_i$/keoi$_i$/ni-go   syucung$_i$ houdo ci   laa.
            him/this-Cl   bookworm   many time SFP
          'Ming$_i$, at the library, I ran into t$_i$/him$_i$/this bookworm$_i$ many times.'
     b. * [$_{PP}$ Hai tousyugun]$_j$, [$_{DP}$ Mingzai]$_i$ aa, ngo t$_j$ zong-gwo
             at   library   Ming   TM I   run.into-Exp
          t$_i$/keoi$_i$/ni-go   syucung$_i$ houdo ci   laa.
            him/this-Cl   bookworm   many time SFP

All these findings suggest that the ordering restrictions on DP Topics and preposed PPs in Mandarin and Cantonese hinge on their categorial status and not on whether they can be linked to a gap, a pronoun, or an epithet.

What Badan and Del Gobbo (2011) (see also Del Gobbo and Badan 2007) identify as HTs and LDs in Mandarin differ significantly from HTs and LDs in Italian in terms of defining syntactic properties. Therefore, I conclude that genuine counterparts of Italian HTs and LDs do not exist in Mandarin. Furthermore, since DP Topics and preposed PPs in Mandarin and Cantonese behave alike in terms of the availability of resumption and the requirement of fixed ordering regardless of whether the DP Topic is linked to a gap, a pronoun, or an epithet, I suggest that DP Topics should be distinguished from preposed PPs. For clarity, I will label DP Topics as *Canonical Topics* (CTs) (to differentiate them from ATs, which can also be realized as DPs), and I will use *PP Topics* (PPTs) to refer to those PPs that are preposed to sentence-initial position and can only be linked to a gap.[20]

5.3 Sentence-initial 'even' phrase as a Topic or a Focus?

Badan and Del Gobbo's (2011) study of the sentence-initial *lian* phrase in Mandarin is largely based on Shyu (1995) and Badan (2008) (see also references cited therein). Following Badan (2008), who analyzes a sentence-initial *lian* phrase as syntactically occupying the Topic position given that it can be optionally followed by a topic marker and linked to a pronoun, as shown in (98a–b) ((98a) is taken from Badan and Del Gobbo 2011: (10)), Badan and Del Gobbo conclude that a sentence-initial *lian* phrase is syntactically a Topic and semantically a Focus.

(98) a.　Lian　Zhangsan$_i$ (a),　ta$_i$ zuotian　dou　mei lai.
　　　　even　Zhangsan TM　he yesterday　DOU　not　come
　　　　'Even Zhangsan$_i$, he$_i$ didn't come yesterday.'

　　 b.　Lian　Zhangsan$_i$ (a),　Mali　dou　bu　xihuan ta$_i$.
　　　　even　Zhangsan TM　Mary　DOU　not　like　　him
　　　　'Even Zhangsan$_i$, Mary doesn't like him$_i$.'

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[20] An anonymous reviewer notes that one consequence of the proposal is that a CT can be derived by different means, since it can be linked to a gap, a pronoun, or an epithet. Specifically, following Huang, Li, and Li's (2009) analysis of Topic structures in Mandarin, CTs that are linked to a gap can be derived by movement, whereas those linked to a pronoun or an epithet are probably base-generated. If we follow Badan and Del Gobbo's (2011) proposal, HTs will employ the base-generation strategy, while LDs will be derived by movement. However, since CTs and PPTs show fixed ordering regardless of whether CTs are linked to a gap, a pronoun, or an epithet (see (96a–b) for Mandarin examples and (97a–b) for Cantonese examples), and since Badan and Del Gobbo's characterization of HTs and LDs wrongly predicts that LDs manifested as DP Topics and preposed PPs can be freely reordered as long as they are linked to a gap, reclassifying the two types of Topics according to their categorial status rather than how they are derived seems warranted.

However, close examination reveals that Mandarin sentence-initial *lian* phrases are not compatible with most topic markers in Mandarin. In particular, following Li and Thompson's (1981: 86) proposal that the inventory of topic markers in Mandarin includes *me*, *ne*, and *ba* in addition to *a*, it is evident that most topic markers, including *me*, *ne*, and *ba*, are incompatible with a sentence-initial *lian* phrase, as (99a–b) show.

(99) a. * Lian Zhangsan$_i$ me/ne/ba, ta$_i$ zuotian dou mei lai.
    even Zhangsan TM/TM/TM he yesterday DOU not come

b. * Lian Zhangsan$_i$ me/ne/ba, Mali dou bu xihuan ta$_i$.
    even Zhangsan TM/TM/TM Mary DOU not like him

The ill-formedness of these examples provides initial support for differentiating between sentence-initial *lian* phrases and "genuine" Topics in Mandarin.

Let us now turn to sentence-initial *lin* 'even' phrases in Cantonese. These are quite similar to *lian* phrases in Mandarin in that they can be resumed by a pronoun appearing in subject position (100a) or in an object position (100b).[21]

(100) a. Lin Mingzai$_i$, keoi$_i$ camjat dou mou lei laa.
    even Ming he yesterday DOU not come SFP
    'Even Ming$_i$, he$_i$ didn't come yesterday.'

b. Lin Mingzai$_i$, Siufan dou m zungji keoi$_i$.

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[21] An anonymous reviewer questions why *wh*-fronting constructions in Cantonese disallow resumption (see section 3.2) while sentence-initial 'even' phrases allow it. The reviewer further asks whether the availability of resumption reflects a parametric difference between Mandarin and Cantonese. I believe the availability of resumption is not due to any parametric difference between Mandarin and Cantonese because *wh*-fronting constructions do not allow resumption in either language, as shown in (i)–(ii), whereas resumption is acceptable with sentence-initial 'even' phrases in both Mandarin and Cantonese (see (98a–b) for relevant data in Mandarin and (100a–b) for relevant data in Cantonese).

(i) a. * (Hai) **bingo**$_i$, keoi$_i$ hou zungji Siufan aa?   (Cantonese)
        HAI who he very like Siufan Q
        Intended: 'Who$_i$ is it that he$_i$ likes Siufan very much?'

    b. * (Hai) **bingo**$_i$, Siufan hou zungji keoi$_i$ aa?
        HAI who Siufan very like him Q
        Intended: 'Who$_i$ is it that Siufan likes him$_i$ very much?'

(ii) a. * (Shi) **shei**$_i$, ta$_i$ hen xihuan Mali ne?   (Mandarin)
        SHI who he very like Mary Q
        Intended: 'Who$_i$ is it that he$_i$ likes Mary?'

    b. * (Shi) **shei**$_i$, Mali hen xihuan ta$_i$ ne?
        SHI who Mary very like him Q
        Intended: 'Who$_i$ is it that Mary likes him$_i$?'

As for why *wh*-fronting constructions behave differently from sentence-initial 'even' phrases with respect to the availability of resumption, I suspect it might have to do with the different lexical properties of *wh*-phrases and the focused element licensed by 'even'.

even Ming Siufan DOU not like him

'Even Ming$_i$, Siufan doesn't like him$_i$.'

Furthermore, like Mandarin sentence-initial *lian* phrases, sentence-initial *lin* 'even' phrases in Cantonese are incompatible with most topic markers, as the stark contrast between (100–b) and (101a–b) shows.[22]

(101) a. * Lin Mingzai$_i$ aa4/ne1/laa1, keoi$_i$ camjat dou mou lei laa.
      even Ming TM/TM/TM he yesterday DOU not come SFP

   b. * Lin Siuming$_i$ aa4/ne1/laa1, Siufan dou m zungji keoi$_i$.
      even Siuming TM/TM/TM Siufan DOU not like him

In light of the fact that sentence-initial 'even' phrases in Mandarin and Cantonese are incompatible with topic markers, I suggest that sentence-initial 'even' phrases in both languages are best analyzed as Foci and should be differentiated from genuine Topics.

In sum, sentence-initial 'even' constructions in both Mandarin and Cantonese should be analyzed as a type of Focus structure that must be distinguished from genuine Topic structures (see Badan and Del Gobbo, this volume, for an alternative view).[23]

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[22] In Cantonese, a sentence-initial *lin* 'even' phrase is incompatible with most topic markers (see (101a–b)) with the exception of *aa3*, as shown in (ia–b).

(i) a. Lin Mingzai$_i$ aa3, keoi$_i$ camjat dou mou lei laa.
      even Ming Prt he yesterday DOU not come SFP
      'Even Ming$_i$, he$_i$ didn't come yesterday.'

   b. Lin Mingzai$_i$ aa3, Siufan dou m zungji keoi$_i$.
      even Ming Prt Siufan DOU not like him
      'Even Ming$_i$, Siufan doesn't like him$_i$.'

I suspect that the well-formedness of (ia–b) might have to do with the multiple functions of *aa3*, as it can be used as a particle to signal an upcoming pause (see Cheung 1972, 2007).

[23] An anonymous reviewer questions whether the notion of "Contrastive Topic" (ContrT) has any role to play in the left periphery in Cantonese and whether it can apply to *wh*-fronting constructions in Cantonese. I believe the answer is negative, since the only potential candidate that has been analyzed as a ContrT in the literature on Mandarin is the preposed object in the low periphery (see Badan and Del Gobbo, this volume, Cheung 2013, among others), as shown in (i).

(i) Zhangsan yuyanxue hen xihuan.
   Zhangsan linguistics very like
   'Zhangsan, linguistics, likes.'

Such a ContrT is not available in the left periphery, because when an object is preposed to sentence-initial position, it becomes a CT and no longer functions as a ContrT. As for whether the notion of ContrT can apply to *wh*-fronting constructions, the answer is negative, since according to Badan and Del Gobbo (this volume), one of the characteristic properties of a ContrT is that it can be followed by a topic marker but the fronted *wh*-word in *wh*-fronting constructions cannot (see section 3.1).

5.4 The fine structure of the left periphery in Cantonese

Having settled the inventory of Topics and Foci available in Cantonese, let us examine their relative order. The revised inventories of Topics and Foci in the left periphery of Cantonese are listed in (102).

(102) a. Inventory of Topics in Cantonese
         AT, CT, PPT
      b. Inventory of Foci in Cantonese
         lin 'even' Focus, *dak* 'only' Focus

Let us first examine the relative order of the three types of Topics in (102a), beginning with the relative order of ATs and CTs. Following the topography advanced by Badan and Del Gobbo (2011) (see (70)), which shows that ATs must precede all other types of Topics in Mandarin, we expect that an AT must precede a CT if Cantonese is comparable to Mandarin. This expectation is fulfilled, as the contrast in (103a–b) shows.

(103) a. Faa   aa, [$_{DP}$ muigwaifaa]$_i$ laa, Siufan jatding   zungji   t$_i$.
         flower TM   rose   TM Siufan definitely like
         'Flowers, roses, Siufan definitely likes.'
      b. * [$_{DP}$ Muigwaifaa]$_i$ aa, faa   laa, Siufan jatding   zungji   t$_i$.
           rose   TM flower TM Siufan definitely like

Next, as discussed in section 5.2, a CT must precede a PPT, as shown by the contrast in (97a–b) (repeated below as (104a–b)).

(104) a. [$_{DP}$ Mingzai]$_i$ aa, [$_{PP}$ hai tousyugun]$_j$, ngo t$_j$ zong-gwo
             Ming   TM   at   library   I   run.into-Exp
         t$_i$/keoi$_i$/ni-go syucung   houdo ci   laa.
           him/this-Cl bookworm   many time SFP
         'Ming$_i$, at the library, I ran into t$_i$/him$_i$/this bookworm$_i$ many times.'
      b. * [$_{PP}$ Hai tousyugun]$_j$, [$_{DP}$ Mingzai]$_i$ aa, ngo t$_j$ zong-gwo
               at   library   Ming   TM I   run.into-Exp
         t$_i$/keoi$_i$/ni-go syucung   houdo ci   laa.
           him/this-Cl bookworm   many   time SFP

Now let us look at the relative order of Topics and Foci in Cantonese. A PPT must

precede *lin*-Focus, as the contrast in (105a–b) shows.

(105) a. [PP Hai ukkei]ᵢ, lin   jathouzi, Mingzai tᵢ dou   mei ceot-gwo.
            at   house   even ten.cents Ming   DOU never give-Exp
         'At home, even ten cents, Ming has never given.'
     b. * Lin   jathouzi, [PP hai ukkei]ᵢ, Mingzai tᵢ dou   mei ceot-gwo.
            even ten.cents   at   home   Ming   DOU never give-Exp

Recall that, in addition to *lin*-Focus, Cantonese has the focus marker *dak* 'only'. If *dak*-Focus belongs to the Focus field, we expect that it must follow a PPT. This expectation is borne out, as shown by the contrast between (106a) and (106b).

(106) a. [PP Hai Hoenggong]ᵢ, dak jat-go pangjau, Mingzai tᵢ zeoi gwaansam.
            at   Hong.Kong   only one-Cl friend   Ming   most care
         'In Hong Kong, only one friend, Ming cares about most.'
     b. * Dak jat-go pangjau, [PP hai Hoenggong]ᵢ, Mingzai tᵢ zeoi gwaansam.
            only one-Cl friend   at   Hong.Kong   Ming   most care

The fact that a PPT must precede *dak*-Focus supports the treatment of *dak*-Focus as belonging to the Focus field. Following Benincà and Poletto's (2004) view that there is a one-to-one mapping between syntactic positions and pragmatic functions, we expect that *lin*-Focus and *dak*-Focus will be subject to ordering restrictions. This expectation is borne out, as the contrast between (107a)–(108a) and (107b)–(108b) shows.

(107) a. * Lin   neoipangjau, dak   jat-gin si,   Mingzai dou m   wui gong.
            even girlfriend   only one-Cl matter Ming   DOU not will tell
     b. Dak jat-gin si,   lin   neoipangjau, Mingzai dou m   wui gong.
        only one-Cl matter even girlfriend   Ming   DOU not will tell
        'Only one matter, even (his) girlfriend, Ming will not tell.'

(108) a. * Lin   ni-bun syu, dak Siufan, Mingzai dou hang   ze.
            even this-Cl book only Siufan Ming   DOU willing lend
     b. Dak Siufan, lin   ni-bun syu, Mingzai dou hang   ze.
        only Siufan even this-Cl book Ming   DOU willing lend
        'Only Siufan, even this book, Ming is willing to lend.'

On the basis of (103)–(108), I propose the following as the fine structure of the left periphery of Cantonese (to be revised later):

(109)   AT > CT > PPT > *dak* 'only' Focus > *lin* 'even' Focus > IP (Cantonese)

$$\underbrace{\qquad\qquad\qquad}_{\text{Topic field}} \quad \underbrace{\qquad\qquad\qquad\qquad}_{\text{Focus field}}$$

Note that the fine structure of the left periphery of Cantonese in (109) potentially supports the line of research championed by Benincà and Poletto (2004) over that proposed by Rizzi (1997, 2004). Topic and Focus constitute two separate fields in Cantonese, each containing a set of contiguous and semantically/pragmatically related projections that are ordered hierarchically. This is in line with Benincà and Poletto's view, based on the distribution of different types of Topics and Foci in standard and nonstandard varieties of Italian (65) (repeated below as (110)).

(110)   [[HT] [[Scene Setting] [[LD] [[LI] [[ContrF] [[InfoF]]]]]]]   (Italian)

$$\underbrace{\qquad\qquad\qquad}_{\text{Topic field}} \quad \underbrace{\qquad\qquad}_{\text{Focus field}}$$

Recall that in addition to *lin*-Focus and *dak*-Focus, I have argued that the fronted *wh*-phrase in *wh*-fronting constructions in Cantonese should be analyzed as an IdentF (see section 2). If Cantonese is similar to Italian in that Topic and Focus constitute two separate fields, we expect that the fronted *wh*-phrase, being an IdentF, must be located within the Focus field in the CP domain above an IP (see (109)). I turn to this issue in the next section.

5.5 The position of IdentF

With (109) in hand, let us now examine the ordering restrictions among IdentF and different types of Topics available in Cantonese. Recall that the Topic field is located in a higher position than the Focus field in standard and nonstandard varieties of Italian (see (110)). If Cantonese is similar to Italian in that (i) Topic field is situated above the Focus field and (ii) the *wh*-phrase in *wh*-fronting constructions is indeed located in the CP domain following the proposed monoclausal structure (see (61)), we expect that the fronted *wh*-phrase, being an IdentF, not only can cooccur with ATs, CTs, and PPTs, but also linearly follows them. This expectation is borne out, as ATs (111a–b), CTs (112a–b), and PPTs (113a–b) must precede IdentFs.

(111) a. Faa, (hai) **bin-zung   faa**$_i$, Siufan zeoi zungji t$_i$ aa?
          flower HAI which-kind flower Siufan most like   Q
          'Flowers, which kind of flowers is it that Siufan likes most?'
      b. * (Hai) **bin-zung   faa**$_i$,   faa,   Siufan zeoi zungji t$_i$ aa?

HAI   which-kind flower flower Siufan   most like   Q

Intended: 'Flowers, which kind of flowers is it that Siufan likes most?'

(112) a.   [$_{DP}$ Mingzai]$_i$, (hai) **hai bindou**$_j$, nei t$_j$ zong-gwo   t$_i$/keoi$_i$ houdo

Ming   HAI at where   you   run.into-Exp   him   many

ci   aa?

time Q

'Ming$_i$, where was it that you ran into t$_i$/him$_i$ many times?'

b. * (Hai) **hai bindou**$_j$, [$_{DP}$ Mingzai]$_i$, nei t$_j$ zong-gwo   t$_i$/ keoi$_i$ houdo

HAI at where   Ming   you   run.into-Exp   him   many

ci   aa?

time Q

(113) a.   [$_{PP}$ Hai toi-min]$_i$, (hai) **bingo zoeng soeng**$_j$, Mingzai zeoi   soeng

at   table-top HAI who Cl   photo Ming   most want

baai   t$_j$ t$_i$ aa?

put   Q

'On the table, whose photo is it that Ming most wants to put?'

b. * (Hai) **bingo zoeng soeng**$_j$, [$_{PP}$ hai toi-min]$_i$, Mingzai zeoi   soeng

HAI who Cl   photo   at table-top Ming   most want

baai   t$_j$ t$_i$ aa?

put   Q

That ATs and PPTs must precede IdentFs is further corroborated by the following examples:

(114) a.   Gonghoi   Meigwok, [$_{PP}$ hai Bosideon]$_i$, (hai) **bin-go   pangjau**$_j$,

speaking.of U.S.   at   Boston   HAI which-Cl friend

nei t$_i$ zeoi soeng gin t$_j$ aa?

you   most want see   Q

'Speaking of the U.S., in Boston, which friend is it that you most want to see ?'

b. * Gonghoi   Meigwok, (hai) **bin-go   pangjau**$_j$, [$_{PP}$ hai Bosideon]$_i$,

speaking.of U.S.   HAI which-Cl friend   at Boston

nei t$_i$ zeoi soeng gin t$_j$ aa?

you   most want see   Q

Furthermore, following the monoclausal analysis of *wh*-fronting constructions, we
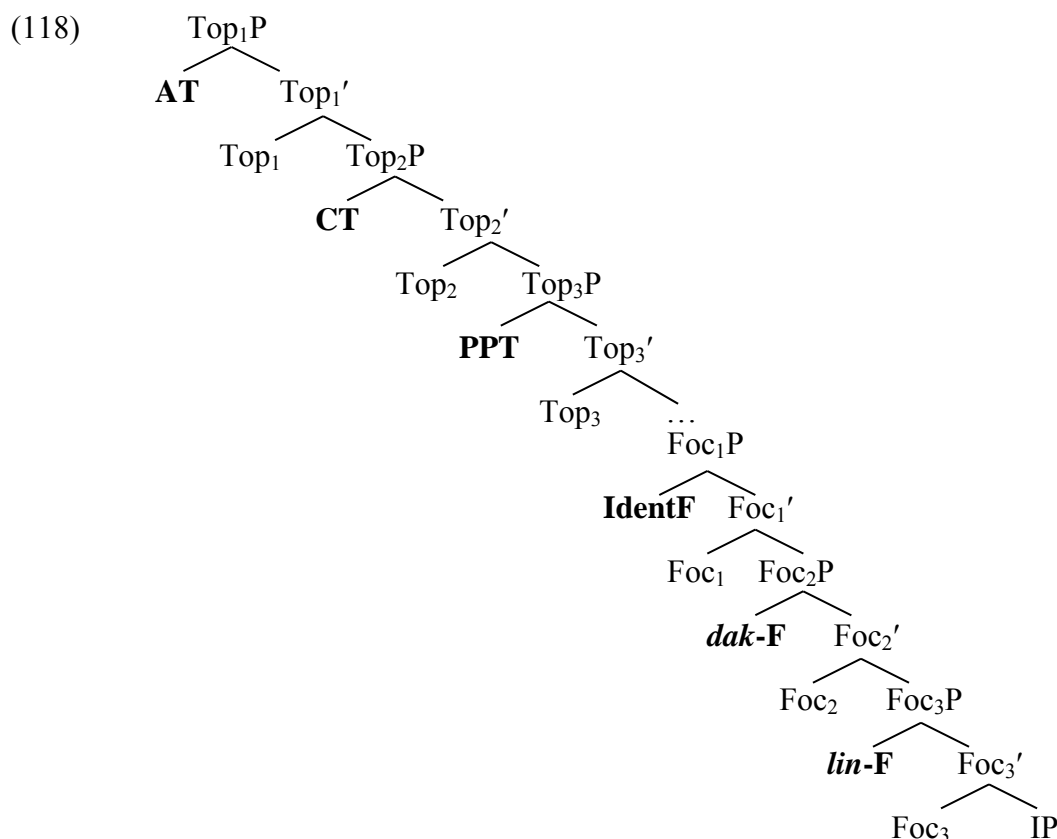
expect that the fronted *wh*-phrase, being an IdentF, can occur with *lin*-Focus and *dak*-Focus in the Focus field. This expectation is borne out, as the following examples show that an IdentF must precede *lin*-Focus and *dak*-Focus.

(115) a. * Lin   ni-bun syu, (hai) **bingo**$_i$, Siufan dou   m   hang   bei t$_i$ aa?
          even this-Cl book HAI who   Siufan DOU not willing give   Q

  b. (Hai) **bingo**$_i$, lin   [ni-bun syu], Siufan dou   m   hang   bei t$_i$ aa?
      HAI who   even this-Cl book   Siufan DOU not willing give   Q
      'Who is it that even this book, Siufan is not willing to give?'

(116) a. (Hai) **bin-bun syu**$_i$, dak jat-maan, Mingzai   dou   tai-dak   saai t$_i$ aa?
      HAI which-Cl book only one-night Ming   DOU read-can finish   Q
      'Which book was it that only in one night, Ming could finish reading?'

  b. * Dak jat-maan, (hai) **bin-bun syu**$_i$, Mingzai   dou   tai-dak   saai t$_i$ aa?
      only one-night HAI which-Cl book Ming   DOU read-can finish   Q

(117) summarizes the ordering of different types of Topics and Foci available in Cantonese (see Cheung 2014 for similar findings in Mandarin).

(117)   AT > CT > PPT > IdentF > *dak*-F(ocus) > *lin*-F(ocus) > IP

On the basis of (117), I propose (118) as the fine structure of the left periphery of Cantonese. Note that the subscripts attached to Top and Foc are mnemonic devices to differentiate types of Topics and Foci in (118).

(118)

```
        Top₁P
       /    \
     AT     Top₁′
           /    \
        Top₁    Top₂P
               /    \
             CT     Top₂′
                   /    \
                Top₂    Top₃P
                       /    \
                     PPT    Top₃′
                           /    \
                        Top₃    …
                                 Foc₁P
                                /    \
                           IdentF    Foc₁′
                                    /    \
                                 Foc₁    Foc₂P
                                        /    \
                                    dak-F    Foc₂′
                                            /    \
                                         Foc₂    Foc₃P
                                                /    \
                                            lin-F    Foc₃′
                                                    /    \
                                                 Foc₃    IP
```

The topography of Topics and Foci schematized in (118) has three significant implications. First, as far as the status of the fronted *wh*-phrase in *wh*-fronting constructions is concerned, the fact that the fronted *wh*-phrase occupies a different position than an AT, a CT, or a PPT provides additional support for my proposal that the fronted *wh*-phrase, being an IdentF, must be distinguished from all types of Topics in Cantonese. Second, the fact that the fronted *wh*-phrase is located in the CP domain above an IP corroborates the monoclausal analysis of *wh*-fronting constructions. Third, comparing the topography of Topics and Foci in Cantonese with its Italian counterpart (see (110)) reveals that the inventory of Topics and Foci available in individual languages and their specific orders may be governed by universal as well as language-specific principles. In particular, while the types of Topics and Foci available in the two languages and their specific orders may be subject to language-specific rules, the basic encoding of the informational relations in the syntax seems to be regulated by universal principles that require it to follow the same semantic path cross-linguistically—that is, from given to new information. This is shown by the fact that the CP domains in Cantonese and Italian essentially share the same structure; that is, they can be split into two parts with the Topic field located above the Focus field, as in (119).

(119)   AT > CT > PPT > IdentF > *dak*-F > *lin*-F > IP

                          Topic field   Focus field

This finding has significant implications for the two competing views on the distribution of Topics and Foci in the left periphery. Crucially, it lends empirical support to Benincà and Poletto's (2004) proposal that Topic and Focus are "fields," each of which contains a respective set of contiguous and semantically/pragmatically related projections, in contrast to Rizzi's (1997, 2004) proposal that TopP is a set of recursive projections that occur above and below a single FocP.

6. Conclusions

Whether *wh*-fronting in Mandarin should be analyzed as an instance of topicalization or focalization remains a hotly debated issue. In this chapter, I have investigated the syntactic and semantic properties of *wh*-fronting constructions in Cantonese, a language that is genetically contiguous to Mandarin, and argued that *wh*-fronting constructions are best analyzed as a type of Identificational Focus construction. Adopting the cartographic approach and drawing on evidence from connectivity effects, locality conditions, and the ability to license PGs, I have proposed that *wh*-fronting constructions in island-free contexts essentially have a monoclausal structure in which the *wh*-phrase is derived by movement to Spec-FocP. In contrast, I have argued that *wh*-fronting constructions in island contexts employ the base-generation strategy, where the *wh*-phrase can be linked to a *pro* governed by the GCR or a resumptive pronoun. If this proposal is correct, it provides an additional rationale for Cheung's (2008, 2012, 2014) analysis of *wh*-fronting constructions as a type of Identificational Focus construction in Mandarin.

Finally, an investigation of the fine structure of the left periphery in Cantonese has revealed that the hierarchical order of different types of Topics and Foci is a result of the interplay between language-specific and universal principles. In particular, while the inventory of Topics and Foci available in individual languages and their specific orders are subject to language-specific rules, the basic encoding of the informational relations in the syntax seems to be regulated by universal principles that require it to follow the same semantic path cross-linguistically (i.e., from given to new information). Setting aside the language-specific factors, I have shown that the CP domains in Cantonese and Italian essentially share the same structure in that they can be split into two fields, with the Topic field located above the Focus field. The findings in this chapter cast doubt on Rizzi's (1997, 2004) view that TopP should be analyzed as a set

of recursive projections. Rather, they lend empirical support to Benincà and Poletto's (2004) proposal that Topic and Focus should be analyzed as fields, each comprising a respective set of contiguous projections whose hierarchical order is derived through the mapping between syntax and pragmatic functions governed by language-specific and universal principles.

Acknowledgments

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