SUBORDINATE GAPS IN MANDARIN CHINESE*

Ting-Chi Wei

ABSTRACT

The existence of subordinate gaps in Mandarin Chinese casts doubt on analyses built on canonical coordinate gapping. We observe that the minimality of contrastive focus and the type of subordinate clause determine the acceptability of a missing gap in subordinate structure. Along this vein, we propose that a semantic-based deletion account can be used to interpret gapping in Mandarin. Such account relies on two violable constraints, AvoidF and Focus condition on gapping (Schwarzchild 1999, Merchant 2001) to compute the acceptability of a gap.

Key words: gapping, contrastive focus, minimality, subordination, ellipsis

1. INTRODUCTION

In this paper, we will demonstrate that gapping in Mandarin Chinese diverges from that in English especially in regard to the existence of subordinate gaps in the former. This unique property goes against the strict coordination requirement of canonical gapping in languages around the world and jeopardizes analyses built on the concept of balance, such as in Across-the-board (ATB) movement analysis (Johnson 1994, 1996, 2004, Paul 1999, among many others). We also find that the acceptability of the subordinate gap is determined by the minimality of the contrastive

focus and the type of subordinate clause. Such phenomena cannot be dealt with under empty verb analysis (Tang 2001), either. Instead, we propose that Mandarin gapping should be interpreted by use of a semantic-based deletion account, which is based on two violable constraints, AvoidF and a Focus condition on gapping. That is, the minimal focus account can be reinterpreted as a violable constraint AvoidF (Schwarzchild 1999). In addition, the gap in a parallel embedded clause is easier to perceive than that in an adjunct/sentential subject subordinate clause. It is suggested that all these factors can be integrated under a violable Focus condition on gapping, which can be used to decide whether a gap can be legitimately deleted under the notion of e-GIVENness (Schwarzchild 1999, Merchant 2001).

The organization of this paper is as follows. Section Two is devoted to the distribution of subordinate gaps with a DP remnant. Section Three turns to remnants other than DP remnants. Section Four discusses two alternative analyses and their potential problems. Section Five proposes a semantic-based deletion account. Section Six concludes this paper.

2. SUBORDINATE GAPS WITH A DP REMNANT

2.1 Distribution

Tang (2001) and Wu (2002) use a subordination test in (1) to argue that gapping in Mandarin Chinese differs from the canonical gapping in English, which requires coordination between two conjuncts as in (2a, c) (Jackendoff 1971, Lobeck 1995), but which prohibits a gap contained in a subordinate clause as in (2b, d, e). Based on these subordinate gapped sentences, Tang and Wu both argue against ATB analysis, proposed by Johnson (1994, 1996), to deal with the parallel gap in English, and also used by Paul (1999), to interpret Mandarin gapping. Instead, Tang and Wu argue for empty verb sentence and topic-comment analysis, respectively, in their own analyses, both of which can tolerate subordinate structure in gapping.[1]

---

[1] The sentences in (1) are quoted from the literature (Tang 2001, Wu 2002). In fact, the judgments are somewhat different from the ones that I have obtained from my informants. For example, the well-formedness of the examples (1b, d) may be attributed to their being similar to coordinate structures. As for (1c), the appearance of *suoyi* 'so' does not necessarily mean that the gap is within the subordinate structure. Concerning (1a), this

(1) a. Zhangsan chi-le **san-ge-pingguo**. [Wo __ **liang-ge**]
Zhangsan eat-ASP three-CL-apple I   two-CL
dangran keyi.
certainly possible
'Zhangsan ate three apples. That I ate two is certainly possible.'

b. (yaoshi) ni he **si-bei**, wo ye __ **si-bei**.
 if you drink four-CL I also four-CL
 'If you drink four cups, I also *(drink) four cups.'

c. zheli zhi sheng **san-wan-fan**, yinwei ta chi-le **yi-wan**,
here only leave three-CL-rice because he eat-ASP one-CL
suoyi wo __ **liang-wan**.
so I   two-CL
'There are only three bowls of rice left. Because he ate one bowl, I
ate two.'

d. ni he **ji-bei-jiu**,   wo jiu __ **ji-bei**.
you drink how.many-CL-wine I then how.many-CL
'No matter how many cups that you drink, I will drink.'

---

sentence might not be a typical sentential subject structure. Note that the second conjunct
of (1a) ends with a modal verb *keyi*, which is seldom predicated of a sentential subject.
For one thing, if *keyi* here denotes the meaning of a deontic verb, the sentence should be
realized as (i), with an implicit subject in front of *keyi* 'can'. In that sense, it is not a
typical sentential subject structure and the possibility of being a coordinate structure can
probably explain why (1a) is grammatical.

(i) Zhangsan chi-le **san-ge-pingguo**. [Wo __ **liang-ge**], (wo) dangran keyi.
Zhangsan eat-ASP three-CL -pple I   two-CL I   certainly can
'Zhangsan ate three apples. I certainly can eat two.'

Second, *keyi* might denote the epistemic meaning 'possible', as glossed by Tang (2001).
However, we find that a typical epistemic verb in Mandarin Chinese is seldom predicated
of a sentential subject as in (iia), but that they can be located in the initial position as in
(iib). This initial position is prohibited when *keyi* is used as in (iic).

(ii) a. *[ta chi liang-ge-pingguo] hen keneng.
     he eat two-CL-apple   very possible
   'It is possible that he ate two apples.'

b. keneng [ta chi-le liang-ge-pingguo].
   possible he eat-ASP two-CL-apple
   'It is possible that he ate two apples.'

c. *keyi [ta chi liang-ge-pingguo].
    can he ate two-CL-apples

Thus, it seems that the grammaticality in (1a) is irrelevant to the typical sentential subject
structure.

(2) a. John eats three apples, and Mary __ four.
   b. *John eats three apples, because Mary __ four.
   c. Mary met Bill at Berkeley and Sue __ at Harvard.
   d. *Mary met Bill at Berkeley although Sue __ at Harvard.
   e. *Charlie thinks that Mary met Bill at Berkeley, and Sarah knows
     that Sue __ at Harvard.

Note that only the gap in (1a) is in a sentential subject clause, while the rest of the gaps lie in the matrix clause with their antecedents occurring in subordinate clauses as in (1b-d). Obviously, the examples in (1) show that gapping in Mandarin Chinese can appear in non-coordinate environments.

Despite this empirical support for the subordinate analysis, there exist other restrictions on subordination as follows (Li 1988).

(3) a. *Wang-xiangshen *mai-le*   **yi-shuang-pixie**, *yinwei*
    Wang-Mr.   buy-ASP one-CL-shoe   because
    Wang-taitai __ **san-jian-yifu**.
    Wang-Mrs.   three-CL-dress
    'Mr. Wang bought one pair of shoes because Mrs. Wang bought
    three dresses.'
   b. *[Laowang   chi-le   **wu-wan-fan**] hen bukesiyi,
     Old.Wang   eat-ASP five-CL-rice   very unbelievable
    [Laoli __ **shi-ge-lizi**].
     Old.Li   ten-CL-pear
    'That Mr. Wang ate five bowls of rice is unbelievable, and Mr. Li
    ate ten pears.'

Li asserts that the examples in (3) are parallel to their English counterparts in disallowing subordinate gapping and in respecting island constraints. However, we find that the different judgments between (1) and (3) are contingent on the content of the second remnant.

Note that in (1) the second remnant DPs, sequenced as D-NUM-Classifier-N, are identical with their correlates in the classifier and the head noun. In other words, the difference between them lies only in the number, which can be taken as contrastive new information in the discourse. For example, in (1a), *liang-ge* 'two-CL' in the second conjunct contrasts with *san-ge-pingguo* 'three-CL-apple' in the first conjunct, even though the repeated N is omitted. In this case, in terms of a focus

account, it is not difficult to see that the contrastive focus is only on the quantity *liang* 'two' and *san* 'three'. The redundant elements such as the classifier *ge* and the head noun *pingguo* 'apple' manifest different behaviors. The classifier *ge* cannot be omitted under the requirement that the number and the classifier have to co-exist in Mandarin Chinese. The restriction means that the classifier has to follow the number in the language; otherwise, a number without a classifier or a classifier without a number is generally ruled out in Mandarin Chinese.[2] In contrast, the head noun can be dispensed with by NP-ellipsis without causing any perceptual problem. The same observation can also be made of (1b-d).

Along this line, when Li's examples in (3) are re-examined under the same considerations, it is easy to find that the second remnants differ from their correlates in the first conjunct, not only in the number-classifier string but also in the head noun. For instance, in (3a), *yi-shuang-pixie* 'a pair of shoes' is supposed to contrast with *san-jian-yifu* 'three-CL-dress,' since there seems to be at least three sets of contrastive focus within the DP without any redundant element in these two strings.[3] In other words, no omission will be feasible. The same phenomenon also occurs in the contrast between between *wu-wan-fan* 'five bowls of rice' and *shi-ge-lizi* 'ten-CL-pear' in (3b).

Given this contrastive focus account, we can postulate that the ungrammaticality of (3) may be pertinent to the quantity of new information in the remnant of the gapping. That is, when gapping in Mandarin Chinese involves a subordinate clause, it seems that too much new information within the contrastive remnants will hinder perception. For the moment, we try to formulate a restriction on subordinate gapping from another direction, as depicted in (4).

(4) Restriction on subordinate gapping (1st version)
  The more correspondence between the contrastive focus of the second remnant and that of the first conjunct, the better connection within the subordinate gapping.

The generalization in (4) reveals that subordinate gapping is determined by the "given" information within the contrastive focus. Though the definition of "given" is still not clear so far, given (4), we may

---

[2] Sometimes, the CL-N sequence is possible under some restrictive conditions.

[3] Alternatively, from another point of view, the two DPs can be seen as a set of contrasts.

preliminarily predict that the grammaticality of (3) may be improved after the minimization of the new information within the contrastive focus. This prediction is borne out as illustrated in (5).

(5) a. ?Wang-xiangshen *mai-le* **yi-shuang-pixie**, yinwei
     Wang-Mr.   buy-ASP   one-CL-shoe   because
     Wang-taitai __ **liang-shuang**(-pixie).
     Wang-Mrs.   two-CL-shoe
     'Mr. Wang bought one pair of shoes because Mrs. Wang bought
     two pairs.'
    b. ?[Laowang chi-le   **wu-wan-fan**] hen bukesiyi,
      Old.Wang eat-ASP five-CL-rice   very unbelievable
     [Laoli __ **shi-wan**(-fan)].
     Old.Li   ten-CL-rice
     'That Mr. Wang ate five bowls of rice is unbelievable, and Mr. Li
     ate ten bowls.'[4]

---

[4] One of the reviewers questions the judgment of (i). After checking with more informants, we find that the (i) is clearly much more acceptable than (ii), when the focus is only on [NUM]. However, (i) is still less acceptable than (iii). We assume that this discrepancy is closely related to the double complemental subordination in both conjuncts of (i). To avoid such a complication, we do not take this factor into account.
(i) ??Wang-xiangsheng huaiyi [Laoli   *tou-le*   **wushi-kuai-qian**],
     Wang-Mr.   suspect Old.Li steal-ASP fifty-CL-money
   Wang-taitai   faxian   [Laozhang __ **ershi-kuai-**(qian)].
   Wang-Mrs.   find-out Old.Zhang twenty-CL- money
   'Mr. Wang suspects that Mr. Li stole fifty dollars, and Mrs. Wang found that Mr.
   Zhang (stole) twenty dollars.'
(ii) *Wang-xiangsheng huaiyi [Laoli   *tou-le*   **wushi-kuai-qian**], Wang-taitai
    Mr.-Wang   suspect Mr. Li steal-Asp fifty-CL-money   Wang-Mrs.
   faxian   [Laozhang __ **ershi-ge-baozi**].
   find-out Old.Zhang   twenty-CL-bun
   'Mr. Wang suspects that Li stole fifty dollars, and Mrs. Wang found that Old Zhang
   (stole) twenty buns.'
(iii) Wang-xiangsheng huaiyi [Laoli tou-le   **wushi-kuai-qian**], [Laozhang __
    Wang-Mr.   suspect Old.Li steal-ASP fifty-CL-money   Old.Zhang
   ershi-kuai-(qian)].
   twenty-CL-money
   'Mr. Wang suspects that Mr. Li stole fifty dollars, and that Mr. Zhang (stole) twenty
   dollars.'

Note that it is subordination that makes the quantity of given information so important. More specifically, the requirements of subordination manifest in the environments such as subordination related to the sentential subject island and the adjunct island as in (5a, b), respectively. Interestingly, when such subordinate factors are excluded, the restriction on subordinate gapping in (4) is not applicable as shown in (6), which is free from the "minimal" focus requirement.

(6) a. Wang-xiangshen *mai-le*   [**yi-shuang-pixie**], Wang-taitai __
    Wang-Mr.   buy-ASP one-CL-shoe   Wang-Mrs.
    [**san-jian-yifu**].
     three-CL-dress
    'Mr. Wang bought one pair of shoes and Mrs. Wang bought three dresses.'
   b. Laowang   chi-le   [**wu-wan-fan**], Laoli __ [**shi-ge-lizi**].
      Old.Wang eat-ASP five-CL-rice   Old.Li   ten-CL-pear
     'Mr. Wang ate five bowls of rice, and Mr. Li ate ten pears.'

We propose that (4) can be refined as (7) by taking into account the minimality of contrast (cf. Schwarzschild 1999) and the type of subordination on the basis of some focal tests within DP structure as described in the next section.

(7) Restriction on subordinate gapping (2nd version)
   Contrast focus should be as minimal as possible within a subordinate gapping.
   a. In subordinate environments, a contrast focus on [NUM] within a DP remnant costs less than a contrast focus on [CL] or [NP].
   b. Subordination affects the parsing in gapping, but complemental subordination is more penetrable than island subordination.

2.2 Empirical tests on minimal focus in subordination

The notion of minimal focus in subordination in (7) is an assumption which needs to be testified. For one thing, within subordinate structures, gapping can easily survive when the contrastive focus is only placed on [NUM] as in (7a) in company with the same classifier and head noun, the latter of which can be omitted. Owing to the syntactic dependency between number and classifier in Mandarin, [NUM] focus can always

induce NP-ellipsis as in (1) and (5). Structurally speaking, the number contrast within the complemental embedded clause in (8a) is more penetrable than that within the adjunct island in (8b). Conceptually, (8b) is less acceptable since there is a cause-effect relation between 'Zhangsan ate one bowl of rice' and 'Lisi ate five bowls,' in contrast to the parallel structure in (8a). This contrast shows that the presence of adjunct subordination makes a difference in perception.

(8) a. Zhangsan chi-le   **yi**-wan-fan, ta   ye   zhidao [Lisi __
       Zhangsan eat-ASP one-CL-rice he   also   know   Lisi
       wu-wan-(fan)]⁵
       five-CL-rice
       'Zhangsan ate one bowl of rice, and he also knows that Lisi two
       bowls.'
    b. ?Zhangsan chi-le   **yi**-wan-fan, [yinwei   Lisi __ **wu**-wan-(fan)].
      Zhangsan eat-ASP one-CL-rice because Lisi   five-CL-rice
      'Zhangsan ate one bowl of rice, because Lisi ate five bowls.'

Further, when the contrastive focus is shifted to the classifier [CL], the degree of acceptability also changes with the structure. This variation is caused by the semantic bond between the classifier and the head noun in Mandarin Chinese. As shown in (9a), when the contrast is the classifier, the sentence turns out to be less acceptable even if the second contrast is within the parallel subordinate clause. In (9b), when the classifier contrast is within the subordinate adjunct clause, the sentence is ungrammatical. These facts can be partially explained by an analysis of the relationship between the classifier and the head noun. We may say that different classifiers tend to lead listeners to expect different head nouns in Mandarin Chinese. Therefore, as shown in (9), 'given' NPs are still required to be present to avoid any confusion caused by omission. This requirement is distinct from the NP-omission in the case of [NUM] focus in (8). In this respect, [NUM] focus costs less than [CL] focus. Still, the embedded subordination in (9a) fares better than the non-grammatical adjunct clause in (9b). This distinction is probably because the latter requires extra effort to compute the cause-effect relation in the subordinate structure. That is, the classifier focus in (9)

---

⁵ A reviewer pointed out that the speaker-oriented *wo zhidao* 'I know' may blur the precision of the test. Thus, we use *ta ye zhidao* 'he also knows' to test complemental subordination. The result is the same as before.

still conforms to (7), as predicted.

(9) a. ?Zhangsan chi-le   yi-**wan**-fan, ta ye   zhidao [Lisi __
        Zhangsan eat-ASP one-CL-rice he also knows   Lisi
     yi-**guo**-*(fan)].
     one-CL-rice
     'Zhangsan ate one bowl of rice, and he also knows that Lisi ate
     one pot of rice.'
   b. *Zhangsan chi-le   yi-**wan**-fan, [yinwei Lisi __ yi-**guo**-*(fan)].
      Zhangsan eat-ASP one-CL-rice because Lisi   one-CL-rice
      'Zhangsan ate one bowl of rice, because Lisi ate one pot of rice.'

Likewise, when the focus is on the head noun [NP], the embedded contrast in (10a) is more acceptable than the contrast in the adjunct island in (10b). In subordination, any form of omission is impossible in the context of the focus on [NP]. For one thing, the contrast focus [NP] cannot be deleted, since it is the core of the information as in (10a, b). Second, even though the numbers and classifiers are identical as in (10), [NUM]-[CL] omission will destroy the sentence as in (10c, d). In that sense, the restriction of the [NP] focus is similar to that of the [CL] focus in that it is not possible to omit any of the components of the NUM-CL-NP sequence. That means that the [NP] focus, just like the [CL] focus, cost more than the [NUM] focus.

(10) a. ?Zhangsan chi-le   yi-wan-**fan**, ta ye   zhidao [Lisi __
         Zhangsan eat-ASP one-CL-rice he also know   Lisi
      yi-wan-*(**zhou**)].
      one-CL-porridge
      'Zhangsan ate one bowl of rice, and I know that Lisi ate one bowl
      of porridge.'
    b. *Zhangsan chi-le   yi-wan-**fan**, [yinwei Lisi __
       Zhangsan eat-ASP one-CL-rice because Lisi
       yi-wan-*(**zhou**)].
       one-CL-porridge
       'Zhangsan ate one bowl of rice, because Lisi ate one bowl of
       porridge.'

  c. *Zhangsan chi-le   yi-wan-**fan**, ta ye   zhidao [Lisi __ **zhou**].
   Zhangsan eat-ASP one-CL-rice he also know Lisi porridge
   'Zhangsan ate one bowl of rice, and I know that Lisi ate one bowl
   of porridge.'
  d. *Zhangsan chi-le   yi-wan-**fan**, [yinwei Lisi __ **zhou**].
    Zhangsan eat-ASP one-Cl-rice because Lisi porridge
   'Zhangsan ate one bowl of rice, because Lisi ate one bowl of
   porridge.'

  It is worth while to note that so far all the problematic examples in (8)-(10) can be improved when the sentences are in coordinate structure, as shown in (11a, b, c), respectively.

(11) a. Zhangsan chi-le   **yi**-wan-fan, Lisi __ **wu**-wan-(fan).
   Zhangsan eat-ASP one-CL-rice Lisi five-CL-rice
   'Zhangsan ate one bowl of rice, and Lisi ate five bowls.'
  b. Zhangsan chi-le yi-**wan**-fan, Lisi __ yi-**guo**-*(fan).
   Zhangsan eat-ASP one-CL-rice Lisi one-CL-rice
   'Zhangsan ate one bowl of rice, and Lisi ate one pot of rice.'
  c. Zhangsan chi-le   yi-wan-**fan**, Lisi __ yi-wan-**zhou**.
   Zhangsan eat-ASP one-CL-rice Lisi one-CL-porridge
   'Zhangsan ate one bowl of rice, and Lisi ate one bowl of
   porridge.'

  This contrast indicates that subordination does play a role in the processing of gapping structures in Mandarin Chinese. Excluding the obstacle of subordination, the ill-formed sentences can be improved as in (11). We also confirm that the parsing of the number [NUM] focus is more economical than that of the classifier [CL] or the head noun [NP] focus on the basis of the fact that only the former can induce NP-ellipsis.[6] This observation strongly supports (7a). As to (7b), the fact that the blocking effect of island is harder to penetrate in the process of tracing the contrast focus than that of embedded parallel structure needs

---

[6] NP-ellipsis cannot completely ensure the legitimacy of subordinate gaps. For example in (i), factors such as verb and object constraints, depicted in Tang (2001) also have to be taken into account. We will not go into this issue here.
(i) *Wo xihuan hong-se-de   pingguo, ta   ye   zhidao [ni qing-se-de   __].
  I like red-color-DE apple he also know you green-color-DE
  'I like the red apples, and he also knows that you like green apples.'

more empirical and conceptual support. For the time being, we take the contrast in (8)-(10) as an empirical support; as for the theoretical support, the theories of Lin (2002), Levin and Prince (1982), and Kehler (1996) will be surveyed in Section 5.3.

3. REMNANTS OTHER THAN DP REMNANTS

3.1 VP-remnants

In addition to the DP remnants discussed above, the notion of minimal contrastive focus in subordination can also apply to the VP remnant type of gapping as in (12a, b). It is found that even if the sentences manifest minimal contrast between two VPs, *da lanqiu* 'play basketball' and *da wangqiu* 'play tennis', in the embedded or adjunct clause, the missing verb *xihuan* 'like' cannot be perceived in the gap clause, in contrast to the grammatical coordinate (12c).

(12) a. *Zhang-xiansheng *xihuan* [da   lanqiu],   Laowang xiangxin
         Zhang-Mr.   like   play basketball Old.Wang believe
       [Lin-xiangsheng __ [da   wangqiu]].[7]
       Mr. Lin   play tennis
       'Mr. Zhang likes to play basketball, and Mr. Wang believes
       (that)/because Mr. Lin (likes) to play tennis.'
     b. *Zhang-xiansheng *xihuan* [da   lanqiu],   yinwei
          Zhang-Mr.   like   play basketball because
       [Lin-xiangsheng __ [da   wangqiu]].
         Lin-Mr.   play tennis
       'Mr. Zhang likes to play basketball, because Mr. Lin (likes) to
       play tennis.'
     c. Zhang-xiansheng *xihuan* da   lanqiu,   [Lin-xiangsheng __
       Zhang-Mr.   like   play basketball Lin-Mr.
       da   wangqiu].
       play   tennis
       'Mr. Zhang likes to play basketball, and Mr. Lin (likes) to play
        tennis.'

---

[7] Li (1988) first noticed the ungrammatical embedded structure. The adjunct clause in (12b) is added by us.

Unlike the gapping with DP-remnant, the interpretation of the VP remnant type seems not to depend on the weight of the focus, as predicted by (7). We postulate that this distinction is probably caused by the nature of the VP remnant, which serves as a legitimate predicate on its own. Thus, in a subordinate structure, the VP may directly serve as a predicate, causing the missing gap to be ignored. That is the reason why, if we ignore the missing gaps in (12a, b), both sentences still sound acceptable. But if gapping is our concern, the sentences turn out to be bad, for the gapped verbs fail to be recovered in the case of the VP remnant. We infer that it is the direct predication of the VP remnant that causes the gap to be erased in a subordinate embedded clause or adjunct clause.[8]

3.2 AP, PP, and frequency/duration remnants

As a matter of fact, in addition to VP-remnants, other categories of remnants such as AP, PP, and duration/frequency phrase still observe the minimal focus restriction as shown in (13).[9]

---

[8] A reviewer has pointed out that (12a) and (12b) seem to be counter-examples of the requirement of the minimal focus in (7). We have already noticed this aberration. So far, the explanation that we can give is to attribute this property to the strong link between verbal remnant and the subject, especially when an island intervenes as in (12a, b).

[9] A reviewer points out that with some modification, (13a) and (13b), in contrast, become grammatical with appropriate premises, as in (i) and (ii), respectively. We believe that the improvement is closely related to the situation that the gap is in a non-subordinate structure of the second conjunct, which initiates with *suoyi* 'so'. When *suoyi* 'so' is used, the first conjunct states reason, while the second conjunct denotes result. Probably, the second conjunct containing a gap is not within a subordinate clause. Thus, the gap is not blocked by the intervention of the subordinate clause.

(i) [Zhangsan drastically differs from Lisi in personality]
    Zhangsan kan shu   kan-de **hen kuai**, *suoyi* [Lisi __ **hen man**].
    Zhangsan read book read-DE very fast so   Lisi   very slowly
    '(lit.) Zhangsan reads book fast, so Lisi (does so) slowly.'

(ii) [Generally speaking, people hide their money in two places within the house.]
    baifen-zhi-ershi-de ren   ba   qian   cang **zai dixiashi**, *suoyi*
    Percent-of-20   DE person Ba money hide at   basement so
    baifen-zhi-bashi __ **zai yushi**.
    percent-of-80   at   bathroom
    '(lit.) Twenty percent of people hide their money in the basement, so eighty percent in the bathroom.'

(13) a. Zhangsan kan shu kan-de **hen kuai,***ta ye zhidao/?yinwei*
    Zhangsan read book read-DE very fast he also know   because
    [Lisi __ (kan-de) **hen man**].
     Lisi   read-DE very slowly
    '(lit.) Zhangsan reads book fast, and he also knows that/because
    Lisi (does so) slowly.'
  b. baifen-zhi-ershi-de ren   ba qian   cang **zai dixiashi**,
    Percent-of-20   DE person BA money hide at   basement
    ta ye   zhidao/?yinwei baifen-zhi-bashi __ **zai   yushi**.
    he also know   because percent-of-80   at   bathroom
    '(lit.) Twenty percent of people hide their money in the basement,
    and he also knows that/because eighty percent in the bathroom.'
  c. Wo yinggai qu-guo meiguo **liang-ci**, *ta ye   zhidao/?yinwei*
    I   should go-ASP America two-CL he also know   because
    ta __ **san-ci**.
    he   three-CL
    '(lit.) I have been to America twice, and he also knows/because
    he has been to America three times.'

As we can see in (13), even if AP, PP, and frequency phrases can be considered as predicates in the second conjuncts, their connection with the subject is not as tight as that of the VP. This property may be the reason why the missing gaps are still recoverable in these cases. In that sense, these remnants still respect the minimal focus restriction in (7) within subordinate structures, as each pair (the remnant and its correlate) observes the minimal contrast. Meanwhile, as predicted, the subordinate adjunct clause is harder to penetrate in parsing focus in comparison to the subordinate embedded clause.

On the other hand, given that (7) is on the right track, if more contrasts occur within the subordinate gapping as in (14), the sentences are supposed to be illegitimate. This prediction is borne out in (14) where each of the sentences contains at least three contrasts. For example, (14a) is composed of three contrasts in the second conjunct,

However, after checking with more native-speaker informants in Taiwan**,** some of them still consider the two sentences unacceptable. It is probably because these two sentences violate one of the two violable constraints in our analysis. In other words, even though neither sentence violates AvoidF (27), they violate the Focus condition on gapping in (29), since a Cause-Effect relation still holds between conjuncts, causing the failure of deletion, as will be elaborated in Section 5.

[*Lisi*], [*fan-de*], and [*hen man*], making them hard to process. In this case, the minimal focus condition overrides the complemental/island distinction.

(14) a. ***Zhangsan** kan shu **kan-de hen kuai**, *ta   ye   zhidao/*
          Zhangsan read book read-DE very fast   he   also   know
          yinwei [**Lisi   __   fan-de   hen   man**].
          because Lisi   turn-DE very   slowly
          '(lit.) Zhangsan reads books fast, and he also knows that/because
          Lisi turns the pages of books slowly.'
     b. ***baifen-zhi-ershi-de ren   ba qian**   cang **zai dixiashi**, *ta*
          Percent-of-20-DE   person BA money hide at   basement he
          ye   zhidao/yinwei **baifen-zhi-bashi ba zhubao __ zai**
          also know because percent-of-80   BA jewelry   at
          yushi.
          bathroom
          '(lit.) Twenty percent of people hide their money in the
          basement, and he also knows that/because eighty percent of
          (their) jewelry is in the bathroom.'
     c. ***Wo** yinggai qu-guo **meiguo liang-ci**, *ta ye   zhidao/yinwei*
          I   should go-ASP America two-CL he also   know because
          ta __ riben   san-ci.
          he   Japan   three-CL
          '(lit.) I have been to America twice, and he also knows/because
          he has been to Japan three times.'

3.3 Multiple gaps

Once there are more than one gap, is the restriction (7) still tenable? Before answering this question, let us first take a look at the following examples.

(15) a. Mali xiangyao **jintian** qu mai dayi, ta   ye   zhidao [A-mei
          Mary want   today   go buy coat he   also know   A-mei
          __ mingtian __]. (Li 1988)
             tomorrow
          '(lit.) Mary wants to buy a coat today, and he also knows that
          A-mei (does) tomorrow.'

b. ?Mali xiangyao **jintian** qu lian   qin, yinwei A-mei
   Mary want   today go practice piano because A-mei
__ **mingtian** __.
    tomorrow
'(lit.) Mary wants to practice piano today, because A-mei (wants
to do so) tomorrow.'

c. ?Mali xiangyao **jintian** qu mai dayi, [A-mei __ **mingtian**
   Mary want   today go buy coat A-mei   tomorrow
__] dangran   keyi.
     certainly possible
'(lit.) Mary wants to buy a coat today, and that A-mei (wants to
do so) tomorrow is certainly possible.'

From (15), it seems that the number of gaps does not affect the
validity of (7). The minimal contrastive focus between *jintian* 'today'
and *mingtian* 'tomorrow' secures the feasibility in the embedded
subordination in (15a). On the other hand, when the adjunct island in
(15b) or sentential subject island in (15c) intervenes, the degree of the
acceptability of such discontinuous gaps becomes much lower than that
of an embedded clause.

From the other way around, when the sentences do not involve a
minimal contrastive focus as in (16), they turn out to be ungrammatical
due to the violation of (7). As exemplified in (16a), the second conjunct
contains three contrasts, [*A-mei*], [*mingtian*], and [*shangxue*], defying the
minimal focus condition.

(16) a. ***Mali** xiangyao **jintian** qu **mai dayi,** ta ye   zhidao [**A-mei**
     Mary want   today go buy coat he also know A-mei
__ **mingtian** __ **shangxue**].
    tomorrow   go.to.school
'(lit.) Mary wants to buy a coat today, and he also knows that
A-mei (wants to) go to school tomorrow.'

b. *Mali xiangyao **jintian** qu **lian**   **qin,** yinwei **A-mei** __
   Mary want   today go practice piano because A-mei
mingtian __ **shangxue**].
Tomorrow   go.to.school
'(lit.) Mary wants to practice piano today, because A-mei (wants
to) go to school tomorrow.'

c. ***Mali** xiangyao **jintian** qu **mai dayi**, [**A-mei __mingtian __**
    Mary want   today go buy coat A-mei   tomorrow
shangxue] dangran keyi.
go.to.school certainly possible
'(lit.) Mary wants to buy a coat today, and that A-mei (wants to)
go to school tomorrow is certainly possible.

3.4 Left peripheral structure

Li (1988) has observed that when embedding occurs in the first conjunct, gapping is still permissible. In our analysis, the structure belongs to a kind of left peripheral deletion (LPD) (Tang 2001), which contains gapping inside as (17).

(17) Laowang xiangxi [Zhangsan xihuan da   bangqiu],
    Old.Wang believe Zhangsan like   play baseball
    [Lisi ~~xihuan~~ da   wangqiu].
     Lisi like   play tennis
    'Mr. Wang believes that Zhangsan likes to play baseball and that
    Lisi likes to play tennis.'

Seemingly, the legitimacy of (17) may result from the fact that the two conjuncts are superficially adjacent, without being strictly parallel, in contrast to the ungrammatical non-adjacent conjuncts in (12a), repeated below.

(12) a. *Zhang-xiansheng *xihuan* [da   lanqiu],   Laowang xiangxin
      Zhang-Mr.   like   play basketball Old.Wang believe
    [Lin-xiangsheng __ [da   wangqiu]].
     Lin-Mr.   play tennis
    'Mr. Zhang likes to play basketball, and Mr. Wang believes
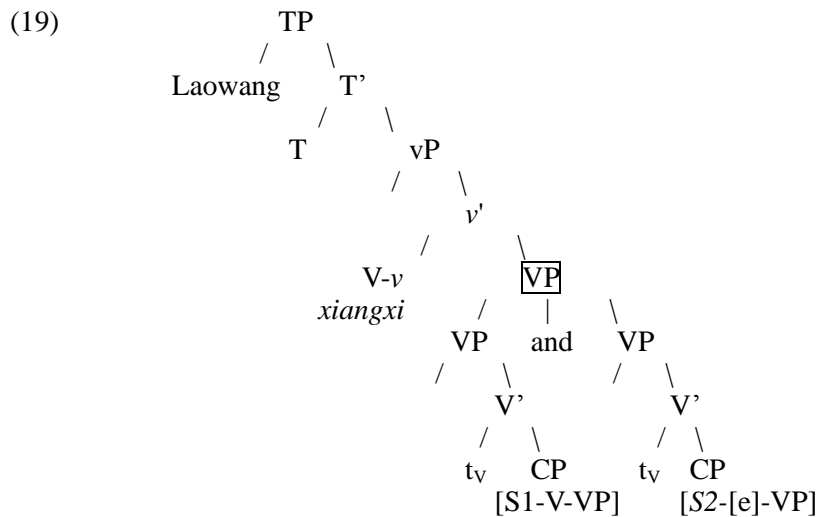   (that)/because Mr. Lin (likes) to play tennis.'

The adjacency scenario fails when we shift subordination to the second conjunct. In this case, even though the correlate sentence and the gapped sentence remain adjacency as in (18), the sentence is ungrammatical. Therefore, the ungrammaticality of (18) shows that the linear adjacency plays no role in the interpretation of the grammaticality of (17).

(18) *[Zhangsan xihuan da   bangqiu], [Lisi ~~xihuan~~ da   wangqiu]
   Zhangsan like   play baseball Lisi like   play tennis
dangran   keyi.
certainly   possible
'Zhangsan likes to play baseball, and that Lisi (likes) to play tennis
is certainly possible.'

Below, we propose that it is the sharing and coordination of LPD that make (17) possible, not the ATB analysis of LPD held by Tang (2001). The reasons are as follows:

Under Tang's analysis, the diagram of (17) can be illustrated as below.

(19)

```
                        TP
                       /  \
                  Laowang   T'
                          /  \
                        T      vP
                              /  \
                                  v'
                                 /  \
                            V-v      [VP]
                          xiangxi   /  |  \
                                  VP  and  VP
                                 /  \     /  \
                                V'        V'
                               /  \      /  \
                             t_V  CP   t_V  CP
                          [S1-V-VP]    [S2-[e]-VP]
```

In Tang's model, after the ATB movement, the two CPs are not coordinated but subordinated, since both are embedded under the conjoined VP nodes. This structure may then meet the problem of how to account for the VP remnant as depicted in (12a).[10]

To solve the dilemma, I suggest that Lin's (2000, 2002) sharing analysis of gapping may come into play. She asserts that sharing is a

---

[10] Note that in (17) the matrix verb *xiangxi* 'believe' in the second conjunct is structurally covert in the second VP conjunct.

particular type of syntactic structure involving material above different points of coordination in a hierarchical structure, and that gapping is a deletion process applying within sharing structures and regulated by the following generalization as in (20).

(20) Highest head generalization (Lin 2002:33)
  When a head X is deleted as part of a deletion site, the first head c-commanding X that is not deleted must be a coordinate head.

Along this vein, the LPD with an internal gap in (17) can be recognized as a C-sharing structure, in which the complimentizer C is the first non-deleted head which c-commands the highest deleted head of the non-initial conjunct, *xihuan* 'like'. Since two conjuncts are essentially coordinated at the TP-level under C-sharing, it follows that the LPD can combine the other gaps as below.

(21) a. Laowang xiangxi [$_{CP}$ C [$_{IP}$ Zhangsan xihuan da bangqiu],
   Old.Wang believe   Zhangsan like play baseball
   [$_{IP}$ Lisi ~~xihuan~~ da wangqiu]].
    Lisi like play tennis
   'Mr. Wang believes that Zhangsan likes to play baseball and that Lisi likes to play tennis.'
  b. ta zhidao [$_{CP}$ C [$_{IP}$ Zhangsan chi-le yi-wan-fan],
   ta know   Zhangsan eat-ASP one-CL-rice
   [$_{IP}$ Lisi ~~chi-le~~ liang-wan]].
    Lisi eat-ASP two-CL
   'He knows that Zhangsan ate one bowl of rice and that Lisi ate two bowls.'
  c. ta zhidao [$_{CP}$ C [$_{IP}$ Mali xiangyao jintian qu mai dayi],
   he know   Mary want today go buy coat
   [$_{IP}$ A-mei __ mingtian __].
    A-mei tomorrow
   'He knows that Mary wants to buy a coat today, and that A-mei (does) tomorrow.'

3.5 Summary

We admit that almost all gapping can be used in subordinate structures with certain constraints in Mandarin Chinese. First of all, DP

remnant gapping must observe the minimal focus requirement in (7). Second, VP remnant gapping tends to be directly predicated of the subject in the subordinate structure, forcing the gapping to be invisible regardless of the focus. However, remnants other than VP, such as AP, PP, and frequency phrase still obey (7) in subordinate structures. Third, multiple gaps do not affect the operation of (7). Fourth, LPD is a sharing structure with internal coordination. Thus, the external subordination of LPD contains a coordinate structure, making V-missing possible. On the basis of these facts, (7) is revised as (22) to include remnants other than VP-remnants.

(22) Restriction on subordinate gapping (3rd version)
    Contrast focus should be as minimal as possible within a subordinate gapping.
    a. In subordinate environments, a contrast focus on [NUM] within a DP remnant costs less than a contrast focus on [CL] or [NP].
    b. Subordination affects the parsing in gapping, and complemental subordination is more penetrable than island subordination.
    c. Remnants other than VP-remnants obey this restriction.

Below, after surveying two alternative analyses, we will turn to a uniform analysis.

4. TWO ALTERNATIVE ANALYSES

This section argues that both Paul's ATB analysis and Tang's (2001) empty verb analysis cannot satisfactorily explain gapping in Mandarin Chinese.

Paul's (1999) major argument follows Johnson's (1994, 1996) ATB movement analysis of English gapping. She claims that it is possible to operate the ATB movement of individual verbs in Mandarin Chinese rather than that of the VPs, because the short object movement within a VP in terms of the VP scrambling approach does not exist in Mandarin Chinese. We think that the ATB analysis fails to explain gapping in Mandarin Chinese for one major reason. For the analysis strictly requires coordination to implement the verb movement. As we have seen previously, gapping in Mandarin Chinese also tolerates subordinate structure, which obviously violates the basic requirement of ATB.

Tang (2001) claims that there is no canonical gapping in Mandarin Chinese and that the simple gap in Mandarin Chinese is an empty verb lacking phonetic features. Tang has convincingly argued for the possibility of treating a simple gap as an empty verb as in (1a), repeated in (23). The empty verb in the clause *wo __ liang-ge* 'I (ate) two' is identical with the previous simple verb *chi* 'eat'. Thus, (23) is interpretable.

(23) Zhangsan chi-le   san-ge-pingguo. [Wo __ liang-ge]
     Zhangsan eat-ASP three-CL-apple   I   two-CL
     dangran   keyi.
     certainly possible
     'Zhangsan ate three apples. [That I *(ate) two] is certainly
     possible.'

One weakness of this analysis, as Tang himself admits, is that the content of the empty verb is hard to regulate especially when pragmatic factors are involved. In (24), the empty verb syntactically should refer to the nearest verb *he* 'drink', not to the verb *chi* 'eat' in the subordinate structure. This phenomenon is in conflict with our world knowledge that people "eat" dumplings rather than "drink" them. That is, our world knowledge forces us to refer to the farther verb *chi* 'eat'. In that sense, the anaphora of an empty verb is unpredictable.

(24) Wo *chi-le*   liang-wan-fan, Zhangsan *he-le*   san-wan-tang,
     I   eat-ASP two-CL-rice   Zhangsan drink-ASP three-CL-soup
     suoyi Lisi __ shi-ge-shuijiao.
     so   Lisi   ten-CL-dumpling
     'I ate two bowls of rice and Zhangsan drank three bowls of soup, so
      Lisi ate ten dumplings.'

In addition, since Tang (2001) is only concerned with simple gaps, when it comes to complex gaps, the content of the empty verb in (25) has to correspond to the serial verb *keyi zai-yi-ge-xiaoshi-nei chi-guang* 'can eat up within an hour', which contains two verb phrases and one prepositional phrase. This property casts doubt on whether the empty

verb is able to be used to refer to such a complex sequence.[11]

(25) Wo *keyi zai-yi-ge-xiaoshi-nei chi-guang* wu-kuai-dangao,
I   can within-one-hour   eat-up   five-CL-cake
ta zhidao ni __ shi-ge-shuijiao.
he know   you   ten-CL-dumpling
'I can eat up one cake within an hour, and you ten dumplings.'

Neither of the analyses reviewed here succeeds in capturing either the subordination in gapping or the nature of the complex gap in Mandarin Chinese*.* To avoid such difficulties, we propose a semantic-based deletion analysis.

5. A SEMANTIC-BASED DELETION ANALYSIS

5.1 AvoidF and Focus Condition on Gapping

Before considering the focus condition on gapping, it is important to clarify the point that the analysis assumed here is a deletion approach, licensed by a semantic focus account at LF. We propose that the elided process is an XP-deletion, not an X-deletion, as claimed by Jayaseelan (1990) and Ai (2005), since the latter violates the general linguistic patterns of deletion (Li 2007) and requires independent evidence as well as costly reference to maximal s-projection sets (Abney 1987, Lin 2002).

In Section 2.1, we observe that subordination induces a minimal focus constraint in gapping in Mandarin Chinese as repeated in (22).

(22) Restriction on subordinate gapping (3rd version)
Contrast focus should be as minimal as possible within a subordinate gapping.
  a. In subordinate environments, a contrast focus on [NUM] within a DP remnant costs less than a contrast focus on [CL] or [NP].
  b. Subordination affects the parsing in gapping, and complemental subordination is more penetrable than island subordination.
  c. Remnants other than VP-remnants obey this restriction.

---

[11] Paul (1999) does not recognize the fact that there are complex gaps in Mandarin Chinese.

In contrast, the use of coordination allows for the relaxation of the minimal constraint to a lesser degree. Moreover, we also find that the missing gap in an embedded clause is more detectable than that in an island. All these reveal that deletion based on strict syntactic isomorphism has to be reconsidered, since in addition to the existence of non-parallelism subordinate structures, other factors, relating to minimal contrast focus, have to be taken into account systematically. Below, a semantic-based deletion approach based on Schwarzschild (1999) and Merchant (2001) is proposed to refine the explanatory power of (20).

For one thing, when it comes to the solution of Mandarin gapping, we separate the restriction (22) into two parts. The first part of the minimal contrastive focus in (22) claims that contrast focus should be as minimal as possible within a subordinate gapping, which, along with the minimality of focus in the DP remnant in (22a), can be formally revised according to AvoidF used by Schwarzschild (1999) in (26).

(26) AvoidF
    F-mark as little as possible, without violating GIVENness.

AvoidF (26) is further simplified as (27), for the second part of (26) will be revised to accommodate (22b-c). We will demonstrate that all the conditions in (22b-c) can be explained under an updated version of e-GIVENness (Merchant 2001) in (28).

(27) AvoidF
    F-mark as minimal as possible in subordination.

(28) e-GIVENness (Merchant 2001)
    An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo $\exists$-type shifting,
    (i) A entails F-clo(E), and
    (ii) E entails F-clo(A).

Under deletion-based analysis, we postulate a Focus Condition on gapping, saying that a verbal element can be deleted only if it is contained in a CP which is e-GIVEN as in (27). The main idea of the Focus Condition on gapping here is taken from the focus condition on

VP-ellipsis and sluicing adopted by Merchant.[12] By analogy, we revise the idea and extend it to the analysis of gapping.

(29) Focus Condition on gapping
     A Verbal α can be deleted only if α is contained in a CP that is e-GIVEN.

In particular, under this analysis, we propose that both constraints, AvoidF and the Focus Condition on gapping, are violable as described in (30), which means that when only one of the two conditions is violated, the sentence turns out to be less acceptable, but when both are violated, the degree of acceptability is even less. This idea is similar to the Subjacency condition in calculating locality in Chomsky (1981).[13]

---

[12] Based on Schwarzschild's (1999) Focus condition on VP-ellipsis, Merchant (2001) has strongly argued that only analysis based on semantic parallelism rather than on syntactic parallelism can successfully explain the deletion in sluicing as in (i). He proposes that under the Focus condition on IP-ellipsis (ii), which is built on the notion of e-GIVENness (iii), (i) can be semantically represented as in (iv).
(i) a. She bought a big car, but I don't know how big.
    b. *She bought a car, but I don't know how big.
(ii) Focus condition on IP-ellipsis
     An IP α can be deleted only if α is e-GIVEN.
(iii) e-GIVENness
     An expression E counts as e-GIVEN iff E has a salient antecedent A and, modulo $\exists$-type shifting, (i) A entails F-clo(E), and (ii) E entails F-clo(A).
(iv) a. IP_A'= $\exists$ d[She bought a d-big car]
     b. F-clo(IP_E)= $\exists$ d[She bought a d-big car]
The first sentence in (ia) introduces the proposition in (iva), while the F-closure of the deleted IP, assuming reconstruction of the content of the DegP, will be that in (ivb). In this case, IP_A' entails F-clo(IP_E). Since the focus in on degree quantifier, the reverse entailment relation will hold as well; namely, IP_E' entails F-clo(IP_A). The mutual entailment between the antecedent clause and the sluice clause makes the target IP an e-GIVENness expression according to (iii). The focus condition (ii) is therefore satisfied in (ia) and the IP can be deleted. In contrast, in (ib), the antecedent IP does not supply the requisite proposition (since IP_A'=*she bought a car*) due to the lack of adjectival correlate, so mutual entailment cannot be achieved. It follows that the Focus condition is not satisfied and the IP cannot be elided.
[13] Optimality Theory (Prince and Smolensky 1993, McCarthy and Prince 1995) has similar ideas with respect to the violable constraints.

(30) AvoidF and Focus Condition on gapping are violable.

5.2 The notion of minimal focus

Before going into our analysis of subordinate gaps, the relationship between minimality of focus and subordination has to be specified. In fact, the conception of minimal focus is a reflection of economy with respect to the quantity of information.

Concerning the quantity of information, according to the restriction on subordinate gapping in (22a), the [NUM] focus which can trigger NP-ellipsis is more economical than the [CL] focus o [NP] focus.[14] In Section 2.2, we have demonstrated that when focus condition is taken into account, the focus on [NUM] is easier to perceive than the focus on [CL] and [NP] in subordinate gapping. The reason lies in the interactions among these three elements in the context of subordination. When the contrast focus is on [NUM], as in (8), it means that the [CL] and [NP] are the same across the conjuncts. In this case, the sequence [NUM-CL-NP] can be shortened as [NUM-CL] by virtue of NP-ellipsis, which is a manifestation of economy.

In contrast, when the contrast focus is on [CL] as in (9), the NP-ellipsis is not applicable. The reason lies in the fact that there is a selectional restriction between classifier and noun in Mandarin Chinese. Each classifier matches its own preferred nouns, and vice versa. Thus, to avoid any misunderstanding in the context of subordination, NP-ellipsis, in general, is not implemented. Otherwise, it is not easy for the listener to capture what the omitted NP is, especially in the subordinate clause. In light of this, the focus on [CL] costs more than the one on [NUM].

Concerning the contrast focus on [NP], no form of omission is possible in this test. First, the contrast focus [NP] cannot be deleted as in (10a, b). Second, even though the numbers and classifiers are identical, any omission will destroy the sentence as in (10c, d). In that sense, the [NP] focus is similar to the [CL] focus in disallowing the omission of any element within the NUM-CL-NP sequence. It follows that the focus on [NUM] costs less than the focus on [CL] or [NP].

---

[14] When it comes to the minimal focus condition within a DP-remnant, we have to note that the grammatical gapping in Mandarin Chinese almost always involves DP with number-classifier-NP. The reason for this is not the main concern of this paper. Readers can refer to Tang (2001) for his discussion of the issue.

Concerning subordination, the contrast focus should be as minimal as possible. The DP-remnant has a special requirement on the definition of 'minimal' as in (22a). The rest of the remnants other than VP also follow this constraint as depicted in (22c).

However, when it comes to coordination, such a restriction is inert and the focal requirement changes. Since subordination affects the parsing of gapping in terms of the focus structure as in (22b), we may describe this kind of analysis as a type of micro-analysis, which, in particular, is concerned with the 'inner' treatment of DP-remnants. As we have claimed, when a DP-remnant is within a subordinate structure, [$_F$NUM] is easier to parse than [$_F$CL] and [$_F$NP] in terms of the minimal focus structure or economy. In this situation, the sequence NUM-CL-NP is treated not as a whole, but unit by unit within the sequence. The reason for this micro-analysis may lie in the following assumption. Given that subordination is a more complex structure in perception than coordination, a speaker tends to "minimize" the perceptual burden to make the perception smooth when parsing the gapping which occurs inside the subordinate structure. In contrast, other things being equal, no such constraint is found in the case of coordinate structures. The remnant inside the coordinate gapping can be dealt with either as a whole or unit-by unit.

5.3 Embedded vs. island subordination

In parsing subordinate gapping, it is obvious that an embedded clause is more penetrable than an island in parsing the focus. That is, the property of the subordinate clause affects the validity of an elided gap. This discrepancy is reminiscent of Levin and Prince's (1982) asymmetric/symmetric reading and Kehler's (1996) coherence analysis.

Levin and Prince find that gapping in (31a) can only have a symmetric reading, not an asymmetric reading, unlike (31b) in which both readings are possible.

(31) a. Sue became upset and Nan _ downright angry.   (Symmetric)
    b. Sue became upset and Nan became downright angry.
                                              (Symmetric/Asymmetric)

In this case, Kehler reinterprets the symmetric reading as Resemblance relation, Parallel, and asymmetric reading as Cause-Effect

relation, Result. Thus, for the gapped structure, Cause-Effect relation is hard to acquire. This explanation comes from Kehler's reinterpretation of coherence.

Under the notion of coherence, the Resemblance relations include Parallel (*and*), Contrast (*but*), Exemplification (*for example*), Generalization (*in general*), and Elaboration (*in other words*). On the other hand, the Cause-Effect relation requires that an implication can be inferred from the relationship of two conjuncts. Such an implication may be Result (*so*), Explanation (*because*), Violated expectation (*but*), Denial of preventer (*even though*). As Kehler (1996) analyzes, one of the crucial differences between these two relations lies in the type of arguments over which they are applied. Resemblance relation is enforced in the semantics of sub-clausal constituents in correlate and gap clauses, while Cause-Effect relation requires that there be access to the clause-level semantics.[15]

By analogy, we assume that this idea can shed light on the analysis of subordinate gapping in Mandarin Chinese, even if basically, English and

---

[15] According to Kehler (1996), Resemblance relation requires that there be access to the semantics of the subclausal constituents in both the source and target sentences, that is, the relation p_i and the corresponding elements a_i and b_i as in the following chart, quoted from Kehler's article.

(i) Resemblance relations

Relation	Constraints	Conjunctions
Parallel	$p_0 = p_1$, $q_i(a_i)$ and $q_i(b_i)$	and
Contrast	(1) $p_0 = \neg p_1$, $q_i(a_i)$ and $q_i(b_i)$ (2) $p_0 = p_1$, $q_i(a_i)$ and $\neg q_i(b_i)$	but
Exemplification	$p_0 = p_1$; $b_i \in a_i$ or $b_i \subset a_i$	for example
Generalization	$p_0 = p_1$; $a_i \in b_i$ or $a_i \subset b_i$	in general
Elaboration	$p_0 = p_1$, $a_i = b_i$	in other words

In contrast Cause-Effect relations only concern the clause-level semantics, the *P* and *Q* in chart (i).

(ii) Cause-effect relations

Relation	Presuppose	Conjunctions
Result	$P \rightarrow Q$	and (as a result) therefore
Explanation	$Q \rightarrow P$	because
Violated Expectation	$P \rightarrow \neg Q$	but
Denial of Preventer	$Q \nrightarrow \neg P$	even though

Mandarin Chinese are different in the generation of asymmetric reading in the sense of the Cause-Effect relation. In English, non-gapping sentences can generate an asymmetry reading, as in (31b), whereas gapping sentences cannot, as in (31a). In other words, an asymmetric reading disappears when a gap occurs. The phenomenon implies that the missing gap affects or blocks the formation of an asymmetric reading. In contrast, in Mandarin Chinese, neither gapping nor non-gapping can denote an asymmetric reading, but only a symmetric reading as in (32). This property means that unlike in English, the existence of a gap has nothing to do with the derivation of an asymmetric reading. In addition, gapping in Mandarin Chinese can appear in subordinate structures, which is not the case in English. It follows that the generation of asymmetric readings has to rely on the use of overt subordinate markers such as *yinwei* 'because' in this language. Further, the appearance of such a subordinate marker affects the parsing in terms of the minimal focus constraint (22).

(32) a. Zhangsan bian-de   hen youyu, Lisi __ hen kailang.
        Zhangsan become-DE very blue   Lisi   very open-minded
        'Zhangsan became blue, and Lisi open-minded.'
    b. Zhangsan bian-de   hen youyu, Lisi bian-de
        Zhangsan become-DE very blue   Lisi become-DE
        hen kailang.
        very open-minded
        'Zhangsan became blue, and Lisi open-minded.'

As depicted previously, we have observed that Mandarin Chinese tolerates subordinate gaps with overt subordinators, different from English, and that adjunct subordination is not as transparent as complemental subordination. To capture these observations, by adopting Kelher's views, we analogize an adjunct subordinator such as *yinwei* 'because' to one of the Cause-Effect relations, close to Explanation. Meanwhile, we also consider the connecting sequences such as *ta ye zhidao* 'he also knows' as being a kind of Resemblance relations, akin to Elaboration or Parallel. In line with Kehler's analysis, we propose that the adjunct subordinator is calculated across two conjuncts in clause-level semantics as in (33a), while the connecting sequence is computed under the sub-clausal level as in (33b), which means that the connecting sequence plays no role in calculation. In light of the focus

condition on gapping in (29), we propose that for the gap within a subordinate island, e-GIVENness would be processed by taking into account the island *which also contains* an overt "asymmetric" subordinator, such as *yinwei* 'because'. As for the gap within embedded "symmetric" subordination, e-GIVENness would be verified only within the parallel sub-clause.

(33) a. [. . .], [*yinwei* . . .]   (Cause-Effect relation)
    b. [. . .], *ta ye zhidao* [. . .] (Resemblance relation)

Our analysis can also be realized from the perspective of Park's (2005) Local parallelism, which is especially designed for VP-ellipsis and sluicing as in (34). We can reinterpret this requirement and revise it as (35) to fit the gap within subordinate structures in Mandarin Chinese. In that sense, (35) requires syntactic or semantic parallelism to be fulfilled "locally" within the clause containing the gap. In the case of Cause-Effect relation, the clausal domain is subordinate [*yinwei* . . .] as in (33a), whereas in the case of Resemblance relation, the clausal domain is embedded clause after *ta ye zhidao* 'he also knows' as in (33b).

(34) Local Parallelism for VP-ellipsis/Sluicing
Parallelism needs to be satisfied only within elided constituents (VP/IP).

(35) Local Parallelism for Gapping
Parallelism needs to be satisfied only within the clause containing the gap.

Below, based on the ideas of two violable constraints, AvoidF in (27) and the Focus Condition on gapping in (29), we will try to capture the grammaticality of gapping structures.[16]

---

[16] A reviewer wonders how this analysis accounts for other island constructions, such as sentential subject islands or complex NP islands, and whether they can be decoded with Cause-Effect relation. First of all, the ellipsis relating to islands is so complicated that we can only consider adjunct islands in this paper. We have observed that the restrictions of other islands, such as sentential subject islands or complex NP islands on focus processing are similar to those of adjunct islands, as listed in (ia) ((5b)) and (ib) for the former and in (iia) and (iib) for the latter. We intentionally use appositive clauses in (ii) to avoid any non-parallelism that may be caused by a missing argument in the relative

5.4 Application of a focus account[17]

5.4.1 Coordination

In coordinate structure, AvoidF can be enforced over the whole of the second remnant, which is regarded as a minimal focus unit under e-GIVENness. In (36), each focus will be represented as a variable at LF. Since the focus closure of the antecedent clause and that of the gapped clause are identical between (36i) and (36ii), they entail each other,

---

clause.
(i) a. ?[Laowang chi-le   wu-wan-fan] hen   bukesiyi,   [Laoli __ shi-wan-(fan)].
        Old.Wang eat-ASP   five-CL-rice very unbelievable Old.Li   ten-CL-rice
      'That Mr. Wang ate five bowls of rice is unbelievable, and Mr. Li ate ten bowls.'
   b. ?[Zhangsan chi-le   yi-wan-fan], [Lisi __ wu-wan-(fan)] hen   bukesiyi
        Zhangsan   eat-ASP one-CL-rice Lisi   five-CL-rice   very unbelievable
      'Zhangsan ate one bowl of rice, and that Lisi ate five bowls is unbelievable.'
(ii) a. ?Zhangsan xiangxi [Laowang chi-le   yi-wan-fan] de   shuofa,
         Zhangsan believe Old.Wang eat-ASP   one-CL-rice DE   saying
        [Lisi __ wu-wan-(fan)].
         Lisi   five-CL-rice
      'Zhangsan believe the saying that Laowang ate one bowl of rice, and Lisi ate five
      bowls.'
    b. ?Zhangsan chi-le   yi-wan-fan, Lisi xiangxi [Laowang __ wu-wan-(fan)]
         Zhansan   eat-ASP one-CL-rice Lisi believe Old.Wang   five-CL-rice
        de   shuofa.
        DE   saying
      'Zhangsan ate one bowl of rice, and Lisi believes the saying that Laowang ate five
      bowls.'
We temporarily assume that such a complex propositional island, on a par with an
adjunct island, are not as transparent as the embedded clause, even though all of these
subordinate structures do affect the parsing of the focus in gapping. Concerning the place
of these islands in Cause-Effect relation, so far, we cannot find any relations which can
satisfactorily explain these two propositional islands (Merchant 2001), due to the fact
that Kehler makes use of the coordinate structures to diagnose asymmetric readings.
Temporarily, we suggest that owing to their being "factive" in nature (Kiparsky and
Kiparsky 1970:167), the factive clause may be calculated with an *f* operator.
[17] Note that the Focus Condition on gapping cannot guarantee the legitimacy of all gaps.
In addition to the focus condition on gapping, syntactic factors such as VO constraints as
in (i) (Tang 2001) have to be taken into account in parsing Mandarin gapping.
(i) a. The empty verb sentences should not be non-episodic.
   b. The second nominal should not be existential/indefinite.

satisfying the Focus condition on gapping, and the gap is licensed. Therefore, the gap in (36) can be omitted. Note that after the two focuses are extracted from the second conjunct, XP-deletion is implemented in line with Jayaseelan (1990).

(36) [α[Zhangsan]$_F$ chi-le   [**yi-wan-fan**]$_F$], [γ[Lisi]$_F$ ~~chi-le~~
        Zhangsan   eat-ASP one-CL-rice   Lisi   eat-ASP
    [**wu-pan-cai**]$_F$].
    five-CL-vegetable
    (i) F-clo(α) = $\exists$ x $\exists$ y [x chi y]
    (ii) F-clo(γ) = $\exists$ x $\exists$ y [x chi y]

5.4.2 Subordination: Micro-analysis

5.4.2.1 DP remnants

In subordination, when the focus is on number [NUM], the embedded clause must satisfy the Focus condition on gapping in (29) in terms of e-GIVENness under Resemblance parallel relation. The second remnant also respects AvoidF with only one minimal focus (*yi* 'one' vs. *wu* 'five'). Hence, (37a) is grammatical. In contrast, in (37b), the gap in the adjunct clause violates the Focus condition on gapping in (29), because of the failure of mutual entailment of e-GIVENness caused by the Cause-Effect relation. The gapped clause contains an additional cause-effect marker, represented as R,[18] an operator-like element. The sentence would fail the mutual entailment between the two representations. But the sentence still obeys AvoidF with one minimal focus in the second remnant (*yi* 'one' vs. *wu* 'five'). As a result, with one violation, (37b) is less acceptable than (37a).

---

[18] Since islands are hard to categorize and interpret from either syntactic or semantic perspectives (Szabolcsi 2006, Merchant 2001, etc.), in order to mark their subtle differences in blocking interpretation, we have drawn upon the opinions of several semanticists. The operator R is one of the alternatives that the semanticists may probably use (Prof. Jo-Wang Lin, p.c.). The factive operator *f* may apply to a sentential subject island and a complex NP island. For subjunctive relatives, a modal operator may be used (Merchant 2001).

(37) a. [α[Zhangsan]_F chi-le   [**yi**]_F-wan-fan], ta ye   zhidao
      Zhangsan   eat-ASP one-CL-rice   he also   know
   [γ[Lisi]_F ~~chi-le~~   [**wu**]_F-wan-(fan)].
      Lisi   eat-ASP   five-CL-rice
   (i) F-clo(α) = $\exists$ x $\exists$ y [x chi y-wan-fan]
   (ii) F-clo(γ) = $\exists$ x $\exists$ y [x chi y-wan-fan]

   b. ?[α[Zhangsan]_F chi-le   [**yi**]_F-wan-fan], [γ [yinwei
      Zhangsan   eat-ASP one-CL-rice   because
   [Lisi]_F ~~chi le~~   [**wu**]_F-wan-(fan)]].
    Lisi   eat-ASP five-CL-rice
   (i) F-clo(α) = $\exists$ x $\exists$ y [x chi y-wan-fan]
   (ii) F-clo(γ) = $\exists$ x $\exists$ y [_R x chi y-wan-fan]

In (38a), the classifier [CL] contrastive focus violates AvoidF because the [CL] focus is not a "minimal" focus within the DP remnant. However, the sentence still satisfies the Focus condition on gapping under e-GIVENness within parallel embedded clauses, both of which are mutually entailed. Thus, the sentence is only mildly violated. In (38b), within the Cause-Effect island, neither AvoidF nor the mutual entailment can be satisfied, causing the missing gap to be ungrammatical.

(38) a. ?[α[Zhangsan]_F chi-le   yi-[**wan**]_F-*(fan)], ta   ye   zhidao
      Zhangsan   eat-ASP one-CL-rice   he also know
   [γ[Lisi]_F ~~chi le~~   yi-[**guo**]_F-*(fan)].
      Lisi   eat-ASP one-CL-rice
   (i) F-clo(α) = $\exists$ x $\exists$ y [x chi yi-y-fan]
   (ii) F-clo(γ) = $\exists$ x $\exists$ y [x chi yi-y-fan]
   b. *[α[Zhangsan]_F chi-le   yi-[**wan**]_F-*(fan)], [γ [yinwei
      Zhangsan   eat-ASP one-CL-rice   because
   [Lisi]_F ~~chi le~~   yi-[**guo**]_F-*(fan)]].
    Lisi   eat-ASP one-CL-rice
   (i) F-clo(α) = $\exists$ x $\exists$ y [x chi yi-y-fan]
   (ii) F-clo(γ) = $\exists$ x $\exists$ y [_R x chi yi-y-fan]

Likewise, the same analysis also can be implemented in the head noun [NP] focus as in (39). In (39a), only AvoidF is violated since the focus on [NP] is not a minimal focus within the DP-remnant in subordinate structure, whereas the Focus condition on gapping is

respected. Therefore, (39a) is mildly violated. In contrast, (39b) violates both AvoidF and the Focus condition on gapping due to the additional *R* operator, denoting a Cause-Effect relation. That is the reason why the grammaticality in (39b) is even less acceptable than that in (39a).

(39) a. ?[α[Zhangsan]$_F$ chi-le   yi-wan–[**fan**]$_F$], ta ye   zhidao
        Zhangsan   eat-ASP one-CL-rice   he also know
    [γ[Lisi]$_F$ yi-wan-[**zhou**]$_F$].
      Lisi   one-CL-porridge
    (i) F-clo(α) = $\exists$ x $\exists$ y [x chi yi-wan-y]
    (ii) F-clo(γ) = $\exists$ x $\exists$ y [x chi yi-wan-y]
  b. *[α[Zhangsan]$_F$ chi-le   yi-wan-[**fan**]$_F$], [γ[yinwei
        Zhsngsan   eat-ASP one-CL-rice   because
    [Lisi]$_F$ yi-wan-[**zhou**]$_F$]].
     Lisi   one-CL-porridge
    (i) F-clo(α) = $\exists$ x $\exists$ y [x chi yi-wan-y]
    (ii) F-clo(γ) = $\exists$ x $\exists$ y [$_R$ x chi yi-wan-y]

5.4.2.2 VP and other remnants

As described previously, a VP remnant gap cannot be put in any embedded or subordinate clause, in contrast to AP, PP, and frequency/durational remnants. We attribute this property to the fact that the verbal remnants are directly predicated of the subjects, causing the gap to be nullified. In other words, the Focus condition on gapping is not activated in such cases as illustrated in (40). The F-closures of the antecedent clause and the gapped clause fail to entail each other because there is no gap involved. Further, it follows that even if AvoidF is respected on the surface, (40) is still strongly violated because the unique property of the verbal remnant makes (40) a structure without a gap. Hence, both AvoidF and the Focus condition on gapping are not applicable to this non-gap structure. The Cause-Effect relation gives rise to the same result.[19]

---

[19] Note that this verbal dominance is relaxed in coordination.

(40) *[Zhangsan]$_F$ *xihuan* [**da   lanqiu**]$_F$, Laowang   xiangxin
   Zhangsan   like   play basketball Old.Wang   believe
   [[Lisi]$_F$ __ [**da   wangqiu**]$_F$].
    Lisi   play tennis
   'Zhangsan likes to play basketball, and Mr. Wang believes (that)
   Lisi (likes) to play tennis.'
   (i) F-clo(α) = $\exists$ x $\exists$ v [x xihuan *v*]
   (ii) F-clo(γ) = $\exists$ x $\exists$ v [x *v*]

As to the other remnant gaps, their behaviors may still be accounted for under our prediction owing to their lack of strong verbal dominance. Take the AP remnant for example. In (41a), the AvoidF is respected under the condition that *hen kuai* 'very fast' and *hen man* 'very slowly' serve as a contrastive pair. In addition, the mutual entailment requirement is met between the correlate clause and the embedded parallel clause. Thus, (41a) is a well-formed sentence. As to (41b), when the second conjunct is an adjunct clause, the mutual entailment is not satisfied due to the fact that the gapped clause contains an additional *R* operator, even though AvoidF is observed. So, (41b) with one violation is worse than (41a) without any violation.

(41) a. [Zhangsan]$_F$ kan shu   kan-de [**hen kuai**]$_F$, ta   ye   zhidao
       Zhangsan   read book   read-DE very fast   he   also know
       [[Lisi]$_F$ ~~kan   shu   (kan-de)~~ [**hen man**]$_F$].
        Lisi   read book   read-DE very slowly
       'Zhangsan reads book fast, and I know that Lisi (does so) slowly.'
       (i) F-clo(α) = $\exists$ x $\exists$ a [x kanshu kan-de *a*]
       (ii) F-clo(γ) = $\exists$ x $\exists$ a [x kanshu kan-de *a*]
   b. ?[Zhangsan]$_F$ kan shu   kan-de [**hen   kuai**]$_F$, yinwei
       Zhangsan   read book read-DE   very fast   because
       [[Lisi]$_F$ ~~kan shu   (kan-de)~~ [**hen   man**]$_F$].
        Lisi   read book read-DE very   slowly
       'Zhangsan reads book fast, because Lisi (does so) slowly.'
       (i) F-clo(α) = $\exists$ x $\exists$ a [x kanshu kan-de *a*]
       (ii) F-clo(γ) = $\exists$ x $\exists$ a [$_R$ x kanshu kan-de *a*]

5.4.2.3 Multiple gaps and LPD

Under this analysis, even the most challenging discontinuous gap in (42) can be easily be accounted for. In (42a), AvoidF is observed and mutual entailment is fulfilled in the embedded parallel structure. Accordingly, (42) is legitimate as predicted. As to (42b), despite its compliance with AvoidF, it still fails to satisfy the mutual entailment in the Focus condition on gapping because of the Cause-Effect operator *R*. As a result, (42b) is mildly violated.

(42) a. [Mali]$_F$ xiangyao [**jintian**]$_F$ qu mai dayi, ta ye zhidao
     Mary want   today   go buy coat he also know
     [[A-mei]$_F$ __ [**mingtian**]$_F$ __]
      A-mei   tomorrow
     'Mary wants to buy a coat today, and I know that A-mei (does) tomorrow.'
     (i) F-clo(α) = $\exists$ x $\exists$ y [x xiangyao y qu mai dayi]
     (ii) F-clo(γ) = $\exists$ x $\exists$ y [x xiangyao y qu mai dayi]
   b. ?[Mali]$_F$ xiangyao [**jintian**]$_F$ qu mai dayi, yinwei
     Mary   want   today   go buy coat because
     [[A-mei]$_F$ __ [**mingtian**]$_F$ __].
      A-mei   tomorrow
     'Mary wants to buy a coat today, because A-mei (wants to do so) tomorrow.'
     (i) F-clo(α) = $\exists$ x $\exists$ y [x xiangyao y qu mai dayi]
     (ii) F-clo(γ) = $\exists$ x $\exists$ y [$_R$ x xiangyao y qu mai dayi]

The behavior of LPD with an internal gap can also be explained under the semantic-based deletion account as in (43). The left peripheral part, *wo zhidao* 'I know,' can be analyzed as a C-sharing with two IP or TP conjoined clauses**.** That is to say, there is a coordinate structure within sharing subordination. Given the local parallelism of the Resemblance relation, both AvoidF and the Focus condition on gapping are both respected, so that (43) is grammatical, as predicted by our model.

(43) Wo   zhidao [$_{CP}$ C [$_{IP}$α[Zhangsan]$_F$ chi-le   [**yi-wan-fan**]$_F$],
I   know   Zhangsan   eat-ASP one-CL-rice
[$_{IP}$γ[Lisi]$_F$ ~~chi-le~~   [**liang-wan**]$_F$]].
Lisi   eat-ASP two-CL
(i) F-clo(α) = ∃ x ∃ y [x chi y]
(ii) F-clo(γ) = ∃ x ∃ y [x chi y]

6. CONCLUSION

We can come to a conclusion that gapping in Mandarin Chinese differs from what is seen as the canonical gapping in other languages particularly in regard to the fact that the former can be used in subordination. We also find that the acceptability of the subordinate gap is determined by the minimality of the contrastive focus and the type of subordination. From this perspective, we propose that Mandarin gapping should be interpreted *via* a semantic-based deletion account, which is based on two violable constraints, AvoidF and Focus condition on gapping, both of which work together in the calculation of the degree of the acceptability of a gap in either coordinate or subordinate structures.

REFERENCES

Abney, S. P. 1987. *The English noun phrase in its sentential aspect*. Ph.D. Dissertation, MIT.

Ai, Ruixi. 2005. *Gapping as Focus Movement*. Ms. Harvard University.

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris Publications.

Jackendoff, Ray S. 1971. Gapping and related rules. *Linguistic Inquiry* 2.1: 21-35.

Jayaseelan, K.A. 1990. Incomplete VP deletion and gapping. *Linguistic Analysis* 20: 64-81.

Johnson, Kyle. 1994. *Bridging the Gap*. Ms. University of Massachusetts, Amherst.

Johnson, Kyle. 1996. *In Search of the English Middle Field*. Ms. University of Massachusetts, Amherst.

Johnson, Kyle. 2004. *In Search of the English Middle Field*. Ms. University of Massachusetts at Amherst.

Kehler, A. 1996. *Coherence and the Coordinate Structure Constraint*. Ms. SRI International.

Kiparsky, Paul and Carol Kiparsky. 1970. Fact. In *Progress in Linguistics*, eds. by M. Bierwisch and K. E. Heidolph, 143-73. The Hague: Mouton.

Levin, Nancy and Ellen Prince. 1982. *Gapping and Causal Implicature*. Ms. Sunny-Albany, University of Penn.

Li, Mei-Du. 1988. *Anaphoric Structures of Chinese*. Taipei: Student Book Co. Ltd.

Li, Y.-H. Audrey. 2007. *Syntax of Overt and Covert Pronouns*. Ms. USC.

Lin, Vivian. 2000. Determiner sharing. In Proceedings of the 19th West Coast Conference on Formal Linguistic, ed. by R. Billerey and B. D. Lillehaugen. Somerville, MA: Cascadilla Press.

Lin, Vivian. 2002. *Coordination and Sharing at the Interfaces*. Ph.D. Dissertation, MIT.

Lobeck, Anne. 1995. *Ellipsis: Functional Heads, Licensing and Identification*. Oxford: Oxford University Press.

McCarthy, John J. and Alan S. Prince. 1995. Faithfulness and reduplicative identity. *Optimality Theory: University of Massachusetts Occasional Papers* 18: 249-384.

Merchant, Jason. 2001. *The Syntax of Silence*. New York: Oxford University Press.

Park, Bum-Sik. 2005. *Identity and Locality in Ellipsis*. Ph.D. Dissertation, University of Connecticut.

Paul, Waltraud. 1999. Verb gapping in Chinese: A case of verb raising. *Lingua* 107: 207-226.

Prince, Alan S., and Paul Smolensky. 1993. *Optimality Theory: Constraint Interaction in Generative Grammar*. RuCCs Technical Report #2, Rutgers University Center for Cognitive Science, Piscataway, N.J.

Schwarzschild, Roger. 1999. GIVENness, AvoidF, and other constraints on the placement of accent. *Natural Language Semantics* 7: 141-77.

Szabolcsi, Ann. 2006. Strong vs. weak islands. In *The Blackwell Companion to Syntax, vol. 4*, eds. by Martin Everaert and Henk van Riemsdijk, 479-531. Malden, MA: Blackwell Publishing.

Tai, James, H. 1969. *Coordination Reduction*. Ph.D. Dissertation, Indiana University.

Tang, Sze-Wing. 2001. The (non-)existence of gapping in Chinese and its implications for the theory of gapping. *Journal of East Asian Linguistics* 10: 201-224.

Wu, Hsiao-hung Iris. 2002. *On Ellipsis and Gapping in Mandarin Chinese*. Master's Thesis, National Tsing Hua University.

Ting-Chi Wei
Graduate Institute of Taiwanese Cultures and Languages
National Kaohsiung Normal University
Kaohsiung, Taiwan 80201, ROC
tingchiwei@nknucc.nknu.edu.tw

漢語的從屬空缺句

魏廷冀
國立高雄師範大學

本文認為漢語從屬空缺句之存在，對原本以對等空缺句為基礎之分析，構成相當大的挑戰。我們觀察出，決定漢語從屬空缺句之合法度的因素有二：一為極小對比焦點之概念，二為從屬句之類型；我們提出以語意為基礎的刪除分析，來解釋此一漢語特有的空缺現象；此分析主要依賴兩條可違反的限制條件，即「避開焦點限制」及「空缺句的焦點限制」（Schwarzchild 1999, Merchant 2001），以其來檢驗漢語空缺句之合法度。

關鍵詞：空缺句，對比焦點，極小概念，從屬結構，刪除