Left Periphery and Chinese Neutral Questions

Rui-heng Ray Huang

Department of Applied Foreign Languages, National Taipei College of Business, No. 321, Sec. 1, Jinan Rd., Zhongzheng District, Taipei City 100, Taiwan R.O.C.

Abstract

Assuming the cartographic approach (Rizzi 1997, 2004; Cinque 1999), this study attempts to map four Chinese neutral question markers onto the left periphery, including *ke*/*shifou*/A-not-A in Mandarin Chinese and *kam* in Taiwan Southern Min. It is found that while these four markers all represent yes-no questions, they are not exactly alike on syntactic grounds. The syntactic behavior of *ke* is particularly different in that it is not able to lead an embedded null-subject question whereas *ke*/*shifou*/A-not-A are able to. Also, *ke* in its own right cannot license the focus interpretation of its following NP or clause whereas *ke*/*shifou*/A-not-A(M^{Epi}-not-M^{Epi}) can. Given these differences, this study proposes a topography and shows that they are due to different projections in the fine structure of split CPs, where *ke* is merged in Fin^0 and raised to Int^0, while *kam*/*shifou*/A-not-A(M^{Epi}-not-M^{Epi}) are merged in SpecFocP and raised to SpecIntP. VP-not-VP forms, however, are not base-generated in CP, but forced to raise in LF to SpecIntP for checking the feature [+Q].

Keywords: cartographic approach, neutral question, left periphery, focus, topography

1. Introduction

This paper compares the syntax of four kinds of yes-no questions in the Chinese language, including *ke* questions in Mandarin Chinese (henceforth MC),[1] *kam* questions in Taiwan Southern Min (henceforth TSM), *shifou* questions in MC, and A-not-A questions in MC. They all can be used as either matrix or embedded questions, as illustrated below.

(1) a. Ni **ke** yao qu Taibei?　　　　(MC)
　　　you Q[2] want go Taipei
　　b. Li **kam** beh khi Taipak?[3]　(TSM)
　　　you Q want go Taipei
　　c. Ni **shifou** yao qu Taibei?　　(MC)
　　　you Q　　want go Taipei
　　d. Ni **yao-bu-yao** qu Taibei? (MC)
　　　you want-not-want go Taipei
　　　'Do you want to go to Taipei?'

(2) a. Wo xiang zhidao ni **ke** yao qu Taibei.　　　　(MC)
　　　 I want know you Q want go Taipei
　　b. Gua siunnbeh tsaiiann li **kam** beh khi Taipak.　　(TSM)
　　　 I want　　know you Q　want go Taipei
　　c. Wo xiang zhidao ni **shifou** yao qu Taibei.　　　(MC)

---

[1] Though Huang (1991:324) points out that *ke* is a question form in Early Mandarin, my survey of the Academia Sinica Balanced Corpus of Modern Chinese shows that *ke* questions are still available nowadays. Also, nearly all of my informants accept *ke* questions.

[2] The abbreviations used in this paper are glossed as follows: CL=classifier; DE: possessive/prenominal marker *de*; Exp: experiential aspect marker; Part=cleft particle *de* in MC or *e* in TSM; Perf=perfective aspect marker; Q=question marker.

[3] The transcription of TSM in this paper is based on the Taiwan Romanization System, which was officially published by the Ministry of Education of the R.O.C. in 2006.

    I   want know you Q   want go Taipei

   d. Wo xiang zhidao ni **yao-bu-yao**   qu Taibei.   (MC)

     I   want know you want-not-want go Taipei

     'I wonder if/whether you want to go to Taipei.'

A syntactic characteristic shared by all the above four kinds of questions is that the question markers as in bold face appear preverbally, in contrast with the following kinds of questions whose question markers appear sentence-finally.

(3) a. Ni yao qu Taibei **ma**?   (MC)

     you want go Taipei Q

   b. Li beh khi Taipak **bo**?   (TSM)

     you want go Taipei not/Q

     'Do you want to go to Taipei?'

A question like (3a) is a typical yes-no question in Chinese, and a question like (3b) is termed as "VP-neg questions" by Zhang (1990) and Zhu (1991), or as "negative particle questions" by Cheng, Huang & Tang (1996). According to Cheng, Huang & Tang (1996), T.-C. Tang (1999), Wei (2007), and He (2011:473-474), the sentence-final negative morpheme in Chinese VP-neg questions has become a question particle.

   Yue (1988, 2006) uses the term *zhongxing wenju* 'neutral questions' to refer to three types of questions: "FVP questions" (Zhu 1985) or "K-VP questions" (Zhu 1991) as in (1a, b),[4] A-not-A questions as in (1d), and VP-neg questions as in (3b). By *zhongxing* 'neutral',[5] Yue (2006:205 fn. 6) means that "the aim of the question is simply to solicit information without pre-judgment". This amounts to saying that a speaker who asks questions like (1a, b, d) and (3b) has no assumption as to whether the hearer will go or not. In the present study, I include *shifou* questions as the fourth type of neutral question since the question marker *shifou*, just like *ke/kam* and A-not-A, is also preverbal, and the question reading is also neutral.

   On the other hand, non-neutral questions as listed below are associated with the speaker's pre-judgment.

(4) a. Ni bu qu ma?   (Yue 2006:205 fn. 6)

     you not go Q

     'Are you not going?'

   b. M khi kam m si?   (Cheng 1977)

     not go Q   not be

     'S/he does not want to go, does s/he?'

   c. Gua kam khuann bue tshut?   (Lien 2011:274)

     I   Q   see   not out

     'Am I really not able to see it through?'

The MC example in (4a) is a negative particle question. The speaker of this question assumes that the hearer would go; nevertheless, things seem to go against this assumption and therefore the speaker asks the question to confirm. The TSM example in (4b) is an "assertive question" (Cheng 1977), and the speaker of this question assumes that the subject would not go. The TSM example in (4c) is a "rhetorical question" which expresses the opposite of the fact represented by the sentence (Lien 2011). Thus, by uttering (4c), the speaker assumes that s/he him/herself is actually able to see it through. As shown above, a question marker like *kam* can be used either neutrally or non-neutrally. In this study, I only focus on the neutral use of *kam/ke* and put aside the non-neutral use.

   The remainder of this paper is organized as follows. Section 2 finds out syntactic differences among the four kinds of neutral questions. Section 3 relates one of the syntactic differences to the

---

[4] The letter F of FVP questions represents the term *fuci* 'adverb' in MC, and the letter K of K-VP questions represents the velar stop consonant /k/.

[5] The cover term *zhongxing* 'neutral' is borrowed from Lü (1942).

finite vs. nonfinite distinction. Section 4 pins down the four neutral question markers to the left periphery (Rizzi 1997, 2004). Section 5 concludes the paper.

2. Syntactic Differences

I observe that the question marker *ke* differs syntactically from the other three in two ways. First, while *kam*, *shifou* and A-not-A are able to lead an embedded null-subject question, *ke* is not. This difference is demonstrated below.

(5) a. *Wo bu zhidao **ke** yao   qu Taibei.[6]   (MC)
         I   not know   Q want go Taipei
    b. Gua m tsaiiann **kam** beh khi Taipak.   (TSM)
         I   not know   Q   want go Taipei
    c. Wo bu zhidao **shifou** yao qu Taibei.   (MC)
       I not know   Q   want go Taipei
    d. Wo bu zhidao **yao-bu-yao**   qu Taibei.   (MC)
        I   not know want-not-want go Taipei
       'I do not know whether to go to Taipei.'

Second, *kam*, *shifou* and A-not-A may license the focus reading of its following NP or clause without the help of focus markers *si/shi* 'be'; in contrast, *ke* in its own right may not license the focus interpretation unless the focus marker *shi* 'be' comes to help. The relevant data are illustrated below.

(6) a. **Ke** *(shi) A-Ming yao   lai?   (MC)
       Q   be   A-Ming want come
    b. **Kam** (si) A-Bing beh   lai?   (TSM)
       Q   be A-Bing want come
    c. **Shifou** (shi) A-Ming yao   lai?   (MC)
       Q   be   A-Ming want come
    d. **Hui-bu-hui** (shi) A-Ming yao   lai?   (MC)
       will-not-will be A-Ming want come
       i. 'Is it the case that A-Ming/A-Bing wants to come?'
       ii. 'Is it A-Ming/A-Bing who wants to come?'

I propose that the above syntactic differences result from different projections of the question markers in the left periphery. This proposal will be elaborated in Section 4.

Before ending this section, I point out one more observation that the contrast between (5a) and (5b-d) is reminiscent of the following contrast in English between *if* and *whether* (Haegeman 1994:274).

(7) a. *John doesn't know if to leave.
    b. John doesn't know whether to leave.

Given the above contrast, one might easily make a parallel analysis and conclude that what causes the English contrast in (7) may also cause the Chinese contrast in (5). However, this conclusion is too hasty. As we can see in (7), both *if* and *whether* take an infinitival clause involving the infinitive marker *to*. This infinitive marker, nevertheless, has no corresponding morpheme in the Chinese

---

[6] If we replace *ke* with *kefou* in (5a), the sentence will become acceptable and sound similar to (5c), which has *shifou*. For historical and dialectal research on the modal-*fou*-VP/NP structure, see Wei (2010).

language, and therefore it is not clear whether the embedded questions in (5) are finite or nonfinite. If it turns out that they are finite clauses, the parallel analysis will be problematic. To solve this problem, in the next section I adopt several tests for the finite vs. nonfinite distinction in the Chinese language.

3. Finite vs. Nonfinite

Several tests are brought up in this section to examine (non-)finiteness of the embedded null-subject clauses in (5a-d). The aim is to determine whether these clauses fall under the configuration in (8a) or that in (8b).

(8) a. NP_i V [$_{CP}$ Q [$_{TP/IP}$ pro_i VP]]   (embedded clause: finite)
    b. NP_i V [$_{CP}$ Q [$_{TP/IP}$ PRO_i VP]]   (embedded clause: nonfinite)

One might wonder why the question markers (except VP-not-VP forms) are placed in CP, as represented by Q in the above structures. I will return to this question in section 4. Regarding VP-not-VP forms, I show immediately below that they are base-generated within TP/IP.

3.1 A-not-A test

One of the criteria for determining whether a sentence or clause is finite or non-finite in Chinese, as suggested by T.-C. Tang (2000), has to do with whether the sentence or clause is able to form an A-not-A question.[7] Consider the following contrast.

(9) a. Ni   [$_{finite}$ xiang-bu-xiangyao xue   yingyu]?
       you   want-not-want   learn English
       'Do you want to learn English?'
    b. *Ni   xiangyao [$_{nonfinite}$ xue-bu-xue   yingyu]?
        you want   learn-not-learn English

In T.-C. Tang's analysis, if a sentence or clause is able to form an A-not-A question as in (9a), the sentence or clause is finite; otherwise, it is nonfinite, as in (8b).

Following T.-C. Tang, I suggest that the embedded null-subject A-not-A question in (5d) is finite. Its structure is represented below.

(10) NP_i V [$_{CP}$ [$_{TP/IP}$ pro_i VP-not-VP .….]]

According to Huang (1991), Chinese A-not-A forms are base-generated within IP. He divides A-not-A questions into two subtypes: A-not-AB and AB-not-A. The former subtype is derived by a reduplication rule which applies to $INFL^0$ and VP (including modals), and the latter subtype is derived by a deletion rule which applies to the VP-coordinated base: [[AB] [not AB]]. In the present study, I assume Huang's IP analysis of Chinese A-not-A forms.

Given the A-not-A test, one may apply it to (5a) and (5c) to see whether the embedded null-subject clauses are finite or nonfinite, as illustrated below.[8]

---

[7] In MC, only verbal elements such as bare verbs, modals or adjectival predicates may enter into the A-not-A formation. In TSM, the use of A-not-A questions is less common while the use of VP-neg questions is more predominant (Wang & Lien 2001).

[8] I exclude the application of the A-not-A test to the predicate *beh khi Taipak* 'want to go to Taipei' in (5b) because the use of A-not-A questions in TSM is not common, and there is no A-not-A form for the verb *beh* 'want'. It is not acceptable to say *beh-m khi Taipak* 'will-not-will go to Taipei' (the negative counterpart of *beh* is *m*; see Li 1971) in

(11)　a. *Wo bu zhidao **ke yao-bu-yao**　 qu Taibei.
　　　　　I 　not know　Q 　want-not-want go Taipei
　　　b. ^{??}Wo bu　zhidao **shifou yao-bu-yao**　 qu Taibei.[9]
　　　　　I 　not know　Q 　　want-not-want go Taipei.
　　　　　'I do not know whether to go to Taipei.'

Since the embedded null-subject clauses in the above cases are not able to have the A-not-A form, this result indicates that these clauses are nonfinite. In other words, (11a, b) are unacceptable because *ke* and *shifou* in the above structures illegitimately take finite A-not-A forms. However, I argue that this conclusion is unreliable. In fact, the unacceptability of (11a, b) may be due to other factors. For instance, I observe a constraint that a sentence cannot have more than one question marker of the same function. Otherwise, some kind of redundancy or a competition effect would arise. If my observed constraint is valid, we predict that *shifou* and *ke* cannot co-occur since they function similarly. This prediction is borne out, as shown below.

(12)　a. *Ni　**shifou ke** yao　qu Taibei?
　　　　　you Q 　　Q　want go Taipei
　　　　　'Do you want to go to Taipei?'
　　　b. *Wo bu　zhidao **shifou ke** yao　 qu Taibei.
　　　　　I 　not know　Q 　　Q　want go Taipei
　　　　　'I do not know whether to go to Taipei.'

Furthermore, if we change (11a, b) to direct questions, the sentences are still unacceptable, as demonstrated below. Again, the constraint pointed out above is supported.

(13)　a. *Ni　**ke yao-bu-yao**　　 qu Taibei?
　　　　　you Q　want-not-want go Taipei
　　　b. *Ni　**shifou yao-bu-yao**　 qu Taibei?
　　　　　you Q 　　want-not-want go Taipei
　　　　　'Do you want to go to Taipei?'

To conclude, whether the unacceptability of (11a, b) must be related to (non-)finiteness is still far from settled. For this reason, I put the A-not-A test aside and seek others.

3.2 Modal test

　T.-C. Tang (1988:330-331) points out that Chinese factitive verbs such as *jiao* 'ask', *quan* 'persuade', *qiangpo* 'force', etc. cannot take a complement clause which involves modals such as *hui* 'will', *neng* 'can', *keyi* 'can' and *yinggai* 'should', as shown below.

(14)　a. Ta　jiao ni　[xie　yi-fen　baogao].

TSM. Even if a TSM constituent has the acceptable A-not-A form, this A-not-A form is still unable to co-occur with the question marker *kam*. The following examples are taken from Huang (1991:327).
　　(i) a. Li **bat-m-bat**　　chit-e　lang?
　　　　　you know-not-know this-CL person
　　　　　'Do you know this person?'
　　　 b. *Li **kam bat-m-bat**　　　chit-e　lang?
　　　　　you Q 　know-not-know this-CL person
[9] The majority of my informants do not find (11b) as natural as (5c) or (5d). The latter two have only one question marker in the sentence.

s/he ask you write one-CL report
'S/he asked you to write a report.'
b. *Ta jiao ni [hui xie yi-fen baogao].
 s/he ask you will write one-CL report
 'S/he asked you to be going to write a report.'

T.-C. Tang concludes that verbs which occur in complement clauses of Chinese factitive verbs are very much like nonfinite ones. Along this line, (14b) is unacceptable because a modal like *hui* 'will' cannot occur in nonfinite clauses.

   Now let us see whether the modal *hui* 'will' is able to occur in the null-subject complement clauses led by the four neutral question markers. Consider the following data.

(15)   a. *Wo bu zhidao [**ke hui** qu Taibei].   (MC)
           I   not know   Q will go Taipei
        b. Gua m tsaiiann [**kam e**   khi Taipak].   (TSM)
           I   not know   Q   will go Taipei
        c. Wo bu zhidao [**shifou hui** qu Taibei].   (MC)
           I not know   Q   will go Taipei
        d. Wo bu zhidao [**hui-bu-hui** qu Taibei].   (MC)
           I   not know   will-not-will go Taipei
           'I do not know whether I will go to Taipei.'

Given that the modal *hui* 'will' cannot occur in nonfinite clauses, we draw a conclusion from the above data that the embedded null-subject clause led by *ke* is nonfinite, while those led by *kam/shifou*/A-not-A are finite.

3.3 'Yijing' test

   C.-C. Tang (2001:232) gives the following data and suggests that the embedded clause in (16a) is tensed while that in (16b) is tenseless.

(16)   a. Ta zhidao [ni yijing   lai-le].
           s/he know   you already come-Perf
           'S/he knows that you have already come.'
        b. *Ta shefa [yijing   tongzhi wo].
           s/he try   already inform me
           'S/he tried to have already informed me.'

In C.-C. Tang's analysis, (16b) is unacceptable because the adverbial *yijing* 'already' should be licensed by T when it is marked with the feature [+tensed]. In other words, *yijing* 'already' cannot occur in tenseless/nonfinite clauses.

   Given that the adverbial *yijing* 'already' can be used as a test for the finite vs. nonfinite distinction, I apply it to the embedded null-subject clauses led by the four neutral question markers.

(17)   a. *Wo bu jide   [**ke** yijing fu qian   le].   (MC)
           I   not remember Q already pay money Perf
        b. Gua bue kitsit   [**kam** iking   lap tsinn a].   (TSM)
           I   not remember Q   already pay money Perf
        c. Wo bu jide   [**shifou** yijing fu qian   le].   (MC)
           I not remember Q   already pay money Perf

d. *Wo bu jide   [**yijing** you-mei-you   fu qian   le].[10]   (MC)
    I   not remember already have-not-have pay money Perf
    'I do not remember whether I have already paid.'

The above contrast between (17a) and (17b, c) indicates that *ke* should lead a nonfinite embedded clause while *kam*/*shifou* should lead finite ones.

   How about (17d)? Is the sentence unacceptable because the embedded A-not-A clause is nonfinite and thus incompatible with finite *yijing* 'already'? I suggest that this is not true. Ernst (1994) and Law (2006) have observed that frequency, manner, degree, epistemic, ordinal, agent-oriented, aspectual and reason adverbs cannot precede A-not-A forms, whereas temporal, locative and domain adverbs can. The contrast is exemplified below.

(18)   a. *Zhangsan **changchang** tiao-bu-tiaowu?   (frequency)
        Zhangsan often   dan-not-dance
        'Does Zhangsan often dance?'
    b. *Ta **luan**   pao-bu-pao?   (manner)
        s/he chaotically run-not-run
        'Is s/he running all over the place?'
    c. *Ta **hen** congming-bu-congming?   (degree)
        s/he very smart-not-smart
        'Is s/he very smart?'
    d. *Ta **xianran** qu-bu-qu?   (epistemic)
        s/he obviously go-not-go
        'Is s/he obviously going?'
    e. *Xiaolan **xian** zou-bu-zou?   (ordinal)
        Xiaolan first leave-not-leave
        'Is Xiaolan leaving first?'
    f. *Laoban **yanlide** ze-bu-zebei   ta?   (agent-oriented)
        boss   sternly accu-not-accuse him/her
        'Does the boss sternly accuse him/her?'
    g. *Ta **turan**   you-mei-you xinglai?   (aspectual)
        s/he suddenly have-not-have wake.up
        'Did s/he wake up suddenly?'
    h. *Ni **yinwei ni-de**   **pengyou-de yaoqiu** qu-bu-qu?   (reason)
        you because you-DE friend-DE   demand go-not-go
        'Are you going because of your friend's demands?'

(19)   a. Ni **jintian** qu-bu-qu?   (temporal)
        you today   go-not-go
        'Are you going today?'
    b. Ni **zai nar**   chi-bu-chi rou?   (locative)
        you at   there eat-not-eat meat
        'Do you eat meat over there?'

---

[10] Note that the adverbial *yijing* 'already' must precede the existential modal *you* 'have', as evidenced in the following contrast.
    (i) a. Wo **yijing you** fu qian   le.
        I   already have pay money Perf
       'I have already paid.'
      b. *Wo **you yijing** fu qian   le.
        I   have already pay money Perf

c. Zhe-jian shi   **cong zhengzhi shang de jiaodu** xing-bu-xing?   (domain)
   this-CL matter from politics   on   DE angle okay-not-okay
   'Is this matter okay from a political point of view?'

To account for the above contrast, Law (2006) proposes that the sentences in (18) fall under the configuration below in (20), which, however, violates a locality constraint called the MBR, as stated in (21).

(20)   … XP(A-not-A)$_i$ … YP … t_i …   (LF)

(21)   The Minimal Binding Requirement (MBR)
     Variables must be bound by the most local potential antecedent.

In Law's analysis, the adverbs in (18) are related to the predicate with respect to inference or entailment while those in (19) are "related to the independently motivated world and time coordinates of the formal interpretive model in the Montague tradition (Montague 1970)" (Law 2006:122). This distinction is alternatively interpreted in the way that the former are more adjunct-like whereas the latter are more argument-like. As potential A-bar binders, the adverbs in (18), as represented by YP in (20), intervene in the movement dependency between the A-not-A operator and its trace.[11] As a result, this intervention causes the A-not-A trace not to be bound by the nearest potential binder, namely, YP in (20). Due to the violation of the MBR, the sentences in (18) are thus ruled out.[12]

   Along the above lines, I suggest that the same state of affairs occurs in (17d). The adverb *yijing* 'already', as a potential A-bar binder, induces an MBR violation. This analysis is supported by the following examples in (22) and their derivations in (23).

(22)   a. *Na-ke   shu **yijing   weishenme** si-le?
      that-CL tree already why   die-Perf
    b. Na-ke   shu **weishenme yijing** si-le?
     that-CL tree why   already die-Perf
     'Why has the tree already been dead?'

(23)   a. *[$_{CP}$ … *weishenme*$_i$ … [$_{TP/IP}$ … *yijing* … t_i …]]   (LF)
    b. [$_{CP}$ … *weishenme*$_i$ … [$_{TP/IP}$ … t_i … *yijing* …]]   (LF)

If we assume Tsai's (1994, 1999) treatment of Chinese *wh*-adverbs like *weishenme* 'why' as operators which undergo LF movement, the above contrast directly follows. That is, the A-bar trace in (23a) is not bound by its closest potential A-bar binder *yijing* 'already', and this does not conform to the MBR. In contrast, the A-bar trace in (23b) is bound by its closest potential binder *weishenme* 'why', obeying the MBR.

   On the other hand, the adverbs in (19) are not potential A-bar binders and thus unable to intervene in the A-bar dependency. If this analysis is on the right track, we predict that the A-bar dependency in (17d) should not be intervened by a temporal adverbial such as *zuotian* 'yesterday'. This prediction is borne out, as evidenced below.

(24)   Wo bu jide   [**zuotian   you-mei-you** fu qian].
    I   not remember yesterday have-not-have pay money

---

[11] For the (LF) movement property of A-not-A constituents, see Huang (1982, 1991).

[12] See Z. Zhang (1997) for an alternative, pragmatic analysis of unacceptable sentences like (18).

'I do not remember whether I have already paid yesterday.'

In brief, the unacceptability of (17d) does not suggest that the embedded A-not-A clause is nonfinite in contradiction to finite *yijing* 'already', but that the A-not-A trace fails to be locally bound by *yijing* 'already'.

3.4 Object shift test

The final test for the finite vs. nonfinite distinction in Chinese concerns object shift. Consider the following data (taken from Lin 2011:60), which show that in (25b) and (26b), the object NP has been preposed to the preverbal position between the subject and the verb in the embedded clause.

(25) a. Zhangsan renwei [finite Lisi chi-le   hanbao].
       Zhangsan think   Lisi eat-Perf burger
       'Zhangsan thinks that Lisi ate the burger.'
      b. Zhangsan renwei [finite Lisi hanbao chi-le].
       Zhangsan think   Lisi burger eat-Perf
       'Zhangsan thinks that the burger, Lisi ate (it).'

(26) a. Zhangsan jiao [nonfinite Lisi chi hanbao].
       Zhangsan ask   Lisi eat burger
       'Zhangsan asked Lisi to eat the burger.'
      b. *Zhangsan jiao [nonfinite Lisi hanbao chi].
        Zhangsan ask   Lisi burger eat
        Intended: 'Zhangsan asked that the burger, Lisi eat (it).'

Lin, following Fu (1994) and Paul (2002), attributes the above contrast between (25b) and (26b) to the fact that finite clauses in MC permit object shift while nonfinite ones do not.

I now examine whether object shift is permitted in the embedded null-subject clauses led by the four neutral question markers. The data are illustrated below.

(27) a. *Wo$_i$ bu jide   [e_i Meiguo **ke** qu-guo].   (MC)
        I   not remember   US   Q go-Exp
      b. Gua$_i$ bue kitsit   [e_i Bikok **kam** (u)   khi-kue].   (TSM)
        I   not remember   US   Q   have go-Exp
      c. Wo$_i$ bu jide   [e_i Meiguo **shifou** qu-guo].   (MC)
        I   not remember   US   Q   go-Exp
      d. Wo$_i$ bu jide   [e_i Meiguo **you-mei-you** qu-guo].   (MC)
        I   not remember   US   have-not-have go-Exp
       'I do not remember whether I have been to the US.'

The object shift test suggests that only the embedded clause where *ke* occurs is nonfinite, while the other three are finite.

3.5 Interim summary

To summarize the results of the above tests, I draw the following structures for the embedded null-subject clauses led by *ke*, *kam*, *shifou* and VP-not-VP.

(28)   a. NP$_i$ V [CP *ke* [TP/IP PRO$_i$ VP]]   (embedded clause: nonfinite)

b. NP$_i$ V [$_{CP}$ *kam/shifou* [$_{TP/IP}$ pro$_i$ VP]]   (embedded clause: finite)
c. NP$_i$ V [$_{CP}$ [$_{TP/IP}$ pro$_i$ VP-not-VP .…..]]   (embedded clause: finite)

It is concluded that the embedded null-subject clause led by *ke* is nonfinite, while those led by *kam*/*shifou*/VP-not-VP are finite.
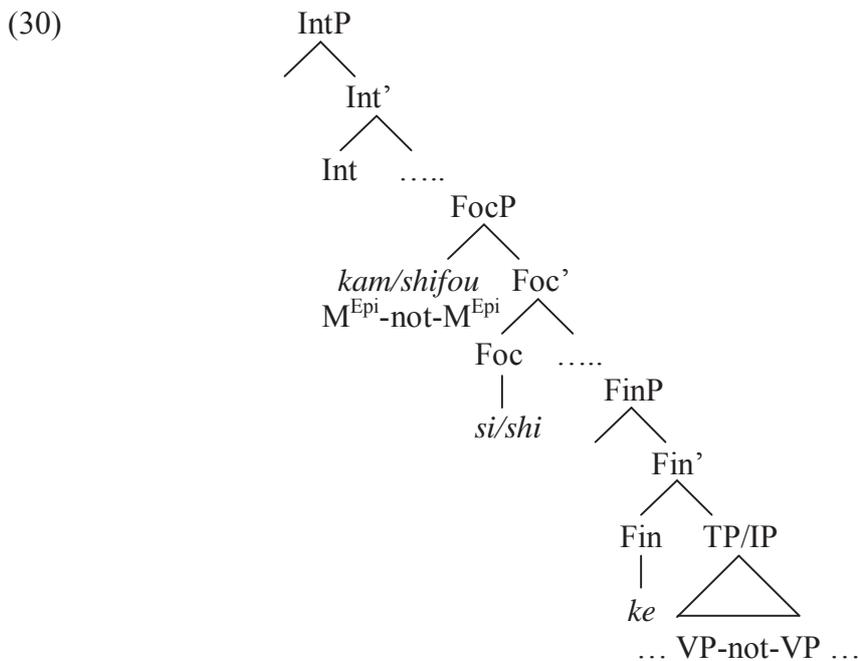
4. Mapping in Left Periphery

In this section, I not only map the neutral question markers onto the left periphery but also show that the two syntactic differences observed in section 2 may receive satisfactory explanations from the topography I propose.

4.1 Proposed topography

Assuming Rizzi's (1997, 2004) Split CP Hypothesis as shown in (29), I propose the topography in (30) to locate *ke/kam/shifou* in the left periphery.

(29)   [$_{CP}$ Force Top* Int Top* Focus Mod* Top* Fin] IP

(30)

```
                    IntP
                    /\
                  Int'
                  /\
               Int   …..
                     FocP
                     /\
          kam/shifou   Foc'
          M^Epi-not-M^Epi  /\
                      Foc   …..
                      |    FinP
                    si/shi  /\
                          Fin'
                          /\
                       Fin   TP/IP
                       |     /\
                       ke   ◁──▷
                          … VP-not-VP …
```

Under my proposal, *kam* and *shifou* are merged (i.e., base-generated) in SpecFocP, whereas *ke* is merged in Fin^0. In the following subsections, I will provide evidence and explain why these three question markers are taken as CP elements, and why *kam/shifou* are analyzed as being merged in SpecFocP while *ke* in Fin^0.

4.2 'Kam/shifou' as CP elements

Huang (1991) analyzes *kam* as being merged in Infl^0 while Lau (2010) argues that it is a CP element. In view of the following data associated with predicate focus, I concur with Lau's view.

(31)   a. A-Bing **kam si** kahi A-Bi?   (*kam* > Foc)
         A-Bing Q   be like A-Bi?

'Does A-Bing really like A-Bi?'
    b. *A-Bing **si kam** kahi A-Bi?   (*Foc > *kam*)

(32)   a. A-Ming **shifou shi** xihuan A-Mei?   (*shifou* > Foc)
        A-Ming Q   be like   A-Mei
        'Does A-Ming really like A-Mei?'
    b. *A-Ming **shi shifou** xihuan A-Mei?   (*Foc > *shifou*)

If we follow Lee (2005), among many others, assuming that focus markers occupy Foc^0 under Rizzi's (1997, 2004) Split CP architecture,[13] we may draw a conclusion from the above data that *kam/shifou* fall under CP since both are higher than focus markers in Foc^0. In addition, the initial NPs in (31a) and (32a) no longer stay in SpecIP (or SpecTP); instead, they have raised to Topic slots in CP.

More empirical evidence is given below in support of the CP analysis of *kam/shifou*. The following data involve subject focus in cleft constructions.

(33)   a. **Kam si** A-Bing phah A-Bi e?   (*kam* > Foc)
        Q   be A-Bing beat A-Bi Part
        'Was it A-Bing who beat A-Bi?'
    b. ***Si kam** A-Bing phah A-Bi e?   (*Foc > *kam*)

(34)   a. **Shifou shi** A-Ming da   A-Mei de?   (*shifou* > Foc)
        Q   be A-Ming beat A-Mei Part
        'Was it A-Ming who beat A-Mei?'
    b. ***Shi shifou** A-Ming da A-Mei de?   (*Foc > *shifou*)

Again, it is seen above that *kam/shifou* should be in a CP position higher than focus markers in Foc^0.
    In the next subsection, I turn to discuss the status of *ke* and propose that it is merged in Fin^0, being a CP element as well.
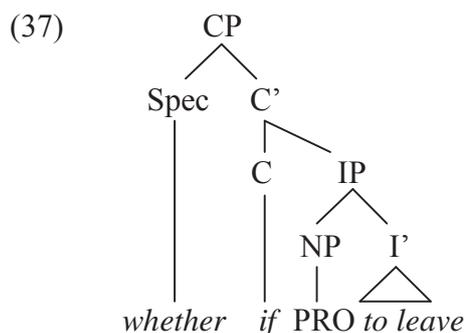
4.3 'Ke' and PRO Theorem

Recall that in section 2 I raised a question regarding whether we may make a parallel analysis of the contrast in (5), reproduced below as (35), and that in (7), reproduced below as (36).

(35)   a. *Wo bu zhidao **ke** yao   qu Taibei.   (MC)
          I   not know   Q want go Taipei
    b. Gua m tsaiiann **kam** beh khi Taipak.   (TSM)
          I   not know   Q   want go Taipei
    c. Wo bu zhidao **shifou** yao qu Taibei.   (MC)
          I not know   Q   want go Taipei
    d. Wo bu zhidao **yao-bu-yao**   qu Taibei.   (MC)
          I   not know want-not-want go Taipei
        'I do not know whether to go to Taipei.'

(36)   a. *John doesn't know if to leave.
    b. John doesn't know whether to leave.

---

[13] Lee's Foc^0 analysis is made only for the MC focus marker *shi* 'be'. Given that the focus marker *si* 'be' in TSM is the counterpart of *shi* 'be' in MC, I assume that *si* 'be' also occupies Foc^0.

My answer to the above question is that the parallel analysis cannot be possible for (35b-d) and (36b). This is because I have shown in section 3 that the embedded null-subject clauses led by *kam/shifou*/VP-not-VP are finite, in contrast with the nonfinite one in (36b).[14] As for (35a) and (36a), I suggest that the parallel analysis is possible because the embedded null-subject clause led by *ke* and that led by *if* are both nonfinite. Details are spelt out below.

According to Haegeman (1994), the English contrast in (36) is explained in terms of the spec-head distinction (see also Adger & Quer 2001). *If* is proposed to be a head in C^0 while *whether* is proposed to be a maximal projection in SpecCP. This proposed distinction is schematized below.

(37)

```
              CP
             /\
          Spec  C'
           |    /\
           |   C   IP
           |   |   /\
           |   |  NP   I'
           |   |  |    /\
        whether if PRO to leave
```
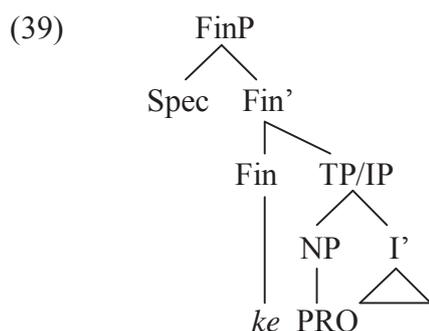
A consequence arising from the above configuration is that *if* governs PRO, violating the PRO Theorem and resulting in the ungrammaticality of (36a).

(38)   PRO Theorem
        PRO must be ungoverned.

In contrast, *whether* does not govern PRO. In the Government and Binding Theory (Chomsky 1981, 1986), governors are defined as the lexical heads (V, N, P, A) and tensed I (T). This definition, however, does not apply to *whether* since it is neither a lexical head nor I. Without inducing a violation of the PRO Theorem, (36b) is thus grammatical.

Given the C^0 analysis of *if*, I then make a parallel analysis for *ke*, as illustrated below.

(39)

```
             FinP
             /\
          Spec  Fin'
           |    /\
           |  Fin   TP/IP
           |   |    /\
           |   |   NP   I'
           |   |   |    /\
           |   ke PRO
```

The unacceptability of (35a) follows from the structure proposed above. That is, *ke* governs PRO, and this government relation leads to a violation of the PRO Theorem. In (36b-d), on the other hand, PRO does not occur in the embedded null-subject clauses of these sentences, and the PRO Theorem is irrelevant here.

---

[14] One more reason for not making a parallel analysis of (35d) and (36d) is that Chinese VP-not-VP forms are assumed in this study to be merged within TP/IP along the lines of Huang (1991), whereas *whether* in English is generally regarded as a CP element.

4.4 Licensing of focus interpretation

A question that remains from the above discussion concerns why *ke* and *kam/shifou* are proposed to be merged in different CP layers. I suggest that this difference is based on the following data we already saw in section 2, reproduced from (6).

(40) a. **Ke** *(shi) A-Ming yao   lai?   (MC)
          Q   be   A-Ming want come
      b. **Kam** (si) A-Bing beh   lai?   (TSM)
          Q   be A-Bing want come
      c. **Shifou** (shi) A-Ming yao   lai?   (MC)
          Q   be   A-Ming want come
      i. 'Is it the case that A-Ming/A-Bing wants to come?'
      ii. 'Is it A-Ming/A-Bing who wants to come?'

The above contrast shows that *ke* in its own right is not able to license the focus interpretation while *kam/shifou* in their own right are able to. This difference implies that *kam/shifou* have the inborn focus function whereas *ke* does not. To capture this difference, I therefore propose to merge *kam/shifou* in the FocP domain and exclude *ke* from the same domain. Furthermore, when the focus interpretation is available in (40) with the occurrence of *shi* 'be', I assume that overt raising of *ke* has taken place.

From the discussion immediately above, we learned that *kam/shifou* should fall under FocP, and from the discussion in subsection 4.2, we also learned that *kam/shifou* should be higher than Foc^0. As a consequence, the remaining possible slot for *kam/shifou* to stay will be SpecFocP.

Alternatively, one might wonder if *ke* can be merged in Int^0. I argue that this alternative analysis is not desirable. The reason is that if *ke* is merged in Int^0, it will not govern PRO, given that CP barriers (FocP and FinP) occur between Int^0 and SpecTP/SpecIP. Without violating the PRO Theorem, the sentence in (35a) will be wrongly predicted to be well-formed.

I finally discuss the CP status of *hui-bu-hui* 'will-not-will' under my proposed topography in (30). This A-not-A form is proposed to fall under CP because, following Tsai's (2010:220) topographic analysis of Chinese modals as illustrated below in (41), I assume that irrealis/epistemic *hui* 'will' is in the complementizer layer, contrary to dynamic *hui* 'be able to' in the lexical layer.

(41)   [complementizer layer MP^{Epi} [inflectional layer TP MP^{Deo} [lexical layer vP MP^{Dyn} VP]]]

The non-uniform analysis of irrealis/epistemic *hui* 'will' and dynamic *hui* 'be able to' is supported by the following example.
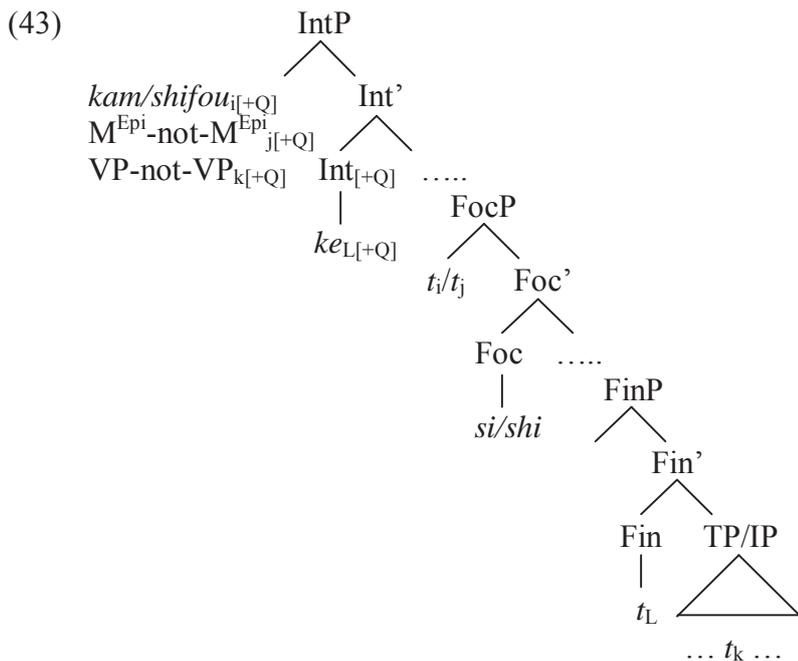
(42)   **Hui-bu-hui** shi xiaohai yijing   **hui** zoulu le?
        will-not-will be kid   already can walk Perf
        'Would it be the case that the kid is already able to walk?'

As shown above, the two kinds of *hui* have no problem to co-occur, and they also stay in different positions. This suggests that a non-uniform analysis is necessary. Also, since *hui-bu-hui* 'will-not-will' in the above example stays in a position higher than the focus marker *shi* 'be', it follows that *hui-bu-hui* 'will-not-will' should be a CP element.

Given that *hui-bu-hui* 'will-not-will' is a CP element, one might further ask under which CP layer it falls. Recall from (6) that *hui-bu-hui* 'will-not-will' behaves on a par with *kam* and *shifou*. For this reason, I merge these three question forms in the same position: SpecFocP.[15]

4.5 Deriving interrogative interpretation

One thing that has still been unknown from the discussion so far is how the interrogative interpretation of neutral questions is derived. Assuming that both Int^0 and the neutral question markers have the feature [+Q], it follows that the neutral question markers will be forced to move to IntP to check the feature [+Q]. For the derivation, consider the following LF representation.

(43)

```
                         IntP
                        /    \
  kam/shifou_i[+Q]    Int'
  M^Epi-not-M^Epi_j[+Q]    /  \
  VP-not-VP_k[+Q]   Int_[+Q]  .....
                      |
                     FocP
                  ke_L[+Q]
                       /    \
                    t_i/t_j  Foc'
                            /    \
                          Foc    .....
                           |
                          FinP
                        si/shi
                              /    \
                            Fin'
                           /    \
                         Fin    TP/IP
                          |      /\
                         t_L    /  \
                              ... t_k ...
```

In my analysis, the head-to-head movement of *ke* straightforwardly checks the feature [+Q] of *ke* and that of Int^0. On the other hand, the feature checking between *kam*/*shifou*/A-not-A in SpecIntP and Int^0 is carried out via spec-head agreement.[16]

5. Concluding Remarks

In this paper, I have compared four Chinese neutral question markers and found that *ke* differs syntactically from *kam*/*shifou*/A-not-A in two ways. First, *ke* cannot lead an embedded null-subject question whereas the other three markers can. I have related this difference to the finite vs. nonfinite distinction of embedded null-subject clauses. Second, *ke* itself cannot license the focus interpretation of its following NP or clause, as opposed to *kam*/*shifou*/M^Epi-not-M^Epi. To account for these two findings, I have proposed a left-peripheral topography for the neutral question markers and shown that the two observed syntactic differences follow from my proposed structure.

This study has both empirical and theoretical contributions. Empirically, though *kam* in TSM is generally regarded as being equivalent to *ke* in MC (see, e.g., Huang 1991), this study has discovered that they actually do not behave exactly alike. Theoretically, this study has demonstrated the feasibility of the PRO Theorem as well as the strength of the fine structure of left periphery in

---

[15] See N. Zhang (1997:116) for her claim that A-not-A forms can be taken to be focus markers.
[16] An alternative analysis of the MC question marker *shifou* appears in Tsai (2008:108), where *shifou* is assumed to occupy the Int position. I leave this alternative analysis open and do not evaluate it here.

accounting for the syntactic differences among the four neutral question markers in the Chinese language.

As a final remark, while the present study adopts a traditional G&B approach to the ill-formedness of *ke* questions like (35a), the recent minimalist approach has argued to eliminate the mechanism of government as well as the PRO Theorem. Given this, we immediately face a question as to how the ill-formedness of *ke* questions like (35a) can be explained under the minimalist approach. Without a satisfactory answer at the present stage, I leave this question for future research.

Acknowledgements

References

[1] Adger, David, and Josep Quer. 2001. The syntax and semantics of unselected embedded questions. *Language* 77.1:107-133.

[2] Cheng, Lisa L.-S., C.-T. James Huang, and C.-C. Jane Tang. 1996. Negative particle questions: A dialectal comparison. *Microparametric Syntax and Dialect Variation*, ed. by James R. Black and Virginia Motapanyane, 41-78. Amsterdam: John Benjamins.

[3] Cinque, Guglielmo. 1999. *Adverbs and Functional Heads*. Oxford & New York: Oxford University Press.

[4] Chomsky, Noam. 1981. *Lectures on Government and Binding*. Dordrecht: Foris.

[5] Chomsky, Noam. 1986. *Knowledge of Language: Its Nature, Origin, and Use*. New York: Praeger.

[6] Cheng, Robert L. 1977. Taiwan question particles. *Journal of Chinese Linguistics* 5:153-185.

[7] Ernst, Thomas. 1994. Conditions on Chinese A-not-A questions. *Journal of East Asian Linguistics* 3:241-264.

[8] Fu, Jingqi. 1994. SOV word order in Chinese and IP specifier. Paper presented at *the 6th North American Conference on Chinese Linguistics*. Los Angeles: University of Southern California.

[9] Haegeman, Liliane. 1994. *Introduction to Government and Binding*. 2nd ed. Oxford: Blackwell.

[10] He, Yuanjian. 2011. *Xiandai Hanyu Shengcheng Yufa* [*A Generative Grammar of Mandarin Chinese*]. Beijing: Peking University Press.

[11] Huang, C.-T. James. 1982. *Logical Relations in Chinese and the Theory of Grammar*. Cambridge: MIT dissertation.

[12] Huang, C.-T. James. 1991. Modularity and Chinese A-not-A questions. *Interdisciplinary Approaches to Language: Essays in Honor of S.-Y. Kuroda*, ed. by Carol Georgopoulos and Roberta Ishihara, 305-332. Dordrecht: Kluwer.

[13] Lau, Seng-hian. 2010. *Syntax of Kam Questions in Taiwanese*. Taipei: National Taiwan Normal University thesis.

[14] Law, Paul. 2006. Adverbs in A-not-A questions in Mandarin Chinese. *Journal of East Asian Linguistics* 15:97-136.

[15] Lee, Hui-chi. 2005. *On Chinese Focus and Cleft Constructions*. Hsinchu: National Tsing Hua University dissertation.

[16] Li, Paul Jen-kuei. 1971. Two negative markers in Taiwanese. *Bulletin of the Institute of History and Philology* 43.2:201-220.

[17] Lien, Chinfa. 2011. Minnanyu KAM de tansuo: Jianlun gongneng fanchou de jiecengxing [Exploring three kinds of the DARE word in Southern Min: Sidelights on the hierarchical structure of functional categories]. *Zhongguo Yuyanxue Jikan* [*Bulletin of Chinese Linguistics*]

4:271-283.

[18]Lin, Tzong-Hong Jonah. 2011. Finiteness of clauses and raising of arguments in Mandarin Chinese. *Syntax* 14.1:48-73.

[19]Lü, Shu-Xiang. 1942. *Zhongguo Wenfu Yaolue* [*An Outline of Chinese Grammar*]. Beijing: The Commercial Press.

[20]Montague, Richard. 1970. Universal grammar. *Theoria* 36:373-398.

[21]Paul, Waltraud. 2002. Sentence-internal topics in Mandarin Chinese: The case of object preposing. *Language and Linguistics* 3.4:695-714.

[22]Rizzi, Luigi. 1997. The fine structure of the left periphery. *Elements of Grammar: Handbook in Generative Syntax*, ed. by Liliane Haegeman, 281-337. Dordrecht: Kluwer.

[23]Rizzi, Luigi. 2004. Locality and left periphery. *Structures and Beyond*, ed. by Adriana Belletti, 223-251. Oxford & New York: Oxford University Press.

[24]Tang, T.-C. 1988. *Hanyu Cifa Jufa Lunji* [*Studies on Chinese Morphology and Syntax*]. Taipei: Student Book Co.

[25]Tang, T.-C. 1999. Hanyu de zhengfan wenju: Beijingyu yu Minnanyu de bijiao fenxi [A-not-A questions in Mandarin Chinese: A comparative analysis between Beijing Mandarin and Southern Min]. *Chinese Languages and Linguistics, V, Interactions in Language*, ed. by Yuen-mei Yin, I-Li Yang, and Huei-chen Chan, 27-71. Taipei: The Institute of History and Philosophy, Academia Sinica.

[26]Tang, T.-C. 2000. Hanyu de xianding ziju yu feixianding ziju [Finite and nonfinite clauses in Chinese]. *Language and Linguistics* 1.1:191-214.

[27]Tang, C.-C. Jane. 2001. Functional projections and adverbial expressions in Chinese. *Language and Linguistics* 2.2:203-241.

[28]Tsai, Wei-Tien Dylan. 1994. *On Economizing the Theory of A-Bar Dependencies*. Cambridge: MIT dissertation.

[29]Tsai, Wei-Tien Dylan. 1999. On lexical courtesy. *Journal of East Asian Linguistics* 8.1:39-73.

[30]Tsai, Wei-Tien Dylan. 2008. Left periphery and *how-why* alternations. *Journal of East Asian Linguistics* 17.2:83-115.

[31]Tsai, Wei-Tien Dylan. 2010. Tan Hanyu motaici de fenbu yu quanshi zhi duiying guanxi [On the syntax-semantics correspondences of Chinese modals]. *Zhongguo Yuwen* [*Studies of the Chinese Language*] 2010.3:208-221.

[32]Wang, Pen-Ying, and Chinfa Lien. 2001. A-not-A questions in Taiwanese Southern Min. *Journal of Chinese Linguistics* 29.2:351-376.

[33]Wei, Pei-chuan. 2007. Cong foudingci dao yiwen zhuci [From negators to question particles]. *Bulletin of Chinese Linguistics* 1.2:23-57.

[34]Wei, Pei-chuan. 2010. *Shifou*-V(N)P jushi de youlai [The history of the interrogative structure *shifou*-V(N)P]. *Language and Linguistics* 11.2:335-392.

[35]Yue, Anne O. 1988. Hanyu fangyan yufa de bijiao yanjiu [On the comparative study of Chinese dialectal syntax]. *Bulletin of the Institute of Hisotry and Philology* 59:23-41.

[36]Yue, Anne O. 2006. Syntactic typology in Chinese (part I): The neutral question forms─V-not-V. *Bulletin of Chinese Linguistics* 1:201-253.

[37]Zhang, Min. 1990. *A Typological Study of Yes-No Questions in Chinese Dialects: A Diachronic Perspective*. Beijing: Peking University dissertation.

[38]Zhang, Niina Ning. 1997. *Syntactic Dependencies in Mandarin Chinese*. Toronto: University of Toronto dissertation.

[39]Zhang, Zheng-sheng. 1997. Focus, presupposition and the formation of A-not-A questions in Chinese. *Journal of Chinese Linguistics* 25.2:227-257.

[40]Zhu, Dexi. 1985. Hanyu fangyan-li de liang-zhong fanfu wenju [Two types of A-not-A questions in Chinese dialects]. *Zhongguo Yuwen* [*Studies of the Chinese Language*] 1:10-20.

[41]Zhu, Dexi. 1991. V-neg-VO yu VO-neg-V liang-zhong fanfu wenju zai Hanyu fangyan-li de

fenbu [The distribution of V-neg-VO and VO-neg-V questions in Chinese dialects]. *Zhongguo Yuwen* [*Studies of the Chinese Language*] 1991:321-332.