NEGATIVE PARTICLE QUESTIONS:
A DIALECTAL PERSPECTIVE
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1. INTRODUCTION

There are a number of ways to form yes-no questions in Chinese, though not every dialect employs all the choices. In this paper, we discuss a particular yes-no construction involving the use of sentence-final negation markers to form yes-no questions, as in (1) through (3).

(1) Mandarin
hufei kan-wan-le nei-ben shu meiyou
NAME read-finish-PERF that-CL book not-have
'Did Hufei finish reading that book?'

(2) Cantonese
wufei lei-zo mei
NAME come-PERF not-yet
'Has Wufei come yet?'

(3) Taiwanese
i u tsiak-beng bo
he have eat-rice not-have
'Did he eat?'

In (1) through (3), the question is conveyed by a negation marker at the
end of the sentence. We call yes-no questions such as these Negative Particle Questions (henceforth NPQs). The negation marker at the end of the sentence is in contrast with the typical preverbal position of negation markers, as given in (4), (5) and (6).

(4) Mandarin
   hufei meiyou kan-wan nei-ben shu
   NAME not-have read-finish that-CL book
   'Hufei did not finish reading that book.'

(5) Cantonese
   wufei mei lei
   NAME not-yet come
   'Wufei has not come yet.'

(6) Taiwanese
   i bo tsiak-beng
   he not-have eat-rice
   'He did not eat.'

In section 2, we will first discuss the preverbal negation markers in Mandarin, Cantonese and Taiwanese, as they bear great significance to the formation of NPQs. We show that such negation markers vary depending on the aspect or verb type. In section 3, we briefly consider two different sources of NPQs in Classical Chinese in order to shed light on the historical development of negation markers as question particles. Section 4 compares the formation of NPQs in these three Chinese dialects. The data show that Mandarin NPQs observe the typical agreement requirement between negation and aspect/verb while Cantonese and Taiwanese NPQs do not. We argue in section 5 that the contrast between Mandarin NPQs and Cantonese/Taiwanese NPQs results from a difference in the derivation of NPQs: NPQs in Mandarin involve a reanalysis of a stranded preverbal negation marker at the sentence final position while no such reanalysis is involved in the formation of NPQs in Cantonese and Taiwanese (cf. Cheng et al. to appear).
2. NEGATIVE FORMS

The crucial element in NPQs is the negation marker. To understand the formation of NPQs, we must first consider the properties of negation in Chinese. Every dialect in Chinese has more than one negation form. The negation form varies depending on the aspectual markings of the verb or the verb type itself. In other words, there is a matching or agreement requirement between the negation marker and the aspect/verb form. (In the following discussion, we will not consider the negation marker in imperatives.)

2.1 Mandarin

Mandarin has the two negation markers *bu* and *meiyou* (see Wang 1965, Chao 1968 and Li and Thompson 1981, among others). *Bu* is used with bare verbs and modals. *Meiyou* is used with various aspects and accomplishment verbs. In the examples below, we see that *meiyou* cannot appear with the modal *hui* (7b), while *bu* cannot appear with the perfective aspect -*le* (8b) or the experiential aspect -*guo* (8e). Example (8a) shows that *meiyou* is interpreted as perfective without the presence of the perfective aspect -*le* and, in fact, *meiyou* cannot co-occur with -*le* (8c). (See Wang 1965 for an account of this restriction.)

(7)  
| a. ta bu lai |
| he not come |
| 'He is not coming.' |
| b. hufei bu/*meiyou hui qu |
| NAME not/not-have will go |
| 'Hufei will not go.' |

(8)  
| a. hufei meiyou qu xuexiao |
| NAME not-have go school |
| 'Hufei did not go to school.' |
| b. *hufei bu qu-le xuexiao |
NAME not go-PERF school
'Hufei did not go to school.'

c. *hufei meiyou qu-le xuexiao
NAME not-have go-PERF school
'Hufei did not go to school.'

d. hufei meiyou qu-guo
NAME not-have go-EXP
'Hufei has not been (there).'

e. *hufei bu qu-guo
NAME not go-EXP
'Hufei has not been (there).'

Both of these negation markers can appear in NPQs as question particles.

(9) hufei hui qu bu
NAME will go not
'Will Hufei go?'

(10) hufei qu-le meiyou
NAME go-PERF not-have
'Did Hufei go?'

2.2 Cantonese

Cantonese has the three negation forms \( m, mou \) and \( mei \) (see Cheung 1972 and Yue-Hashimoto 1993).\(^2\) \( M \) is used with bare verbs and modals (on a par with \( bu \) in Mandarin) and cannot be used with aspectual markers (11a, b, c). \( Mou \) is used with various aspects and accomplishment verbs and it is similar to \( meiyou \) in Mandarin in that it cannot co-occur with the perfective aspect marker and its mere presence is interpreted as perfective. \( Mei \) is similar to \( mou \) except that the former has an added meaning of 'not yet'.


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(11) a. keoi m lei
    he not come
    'He is not coming.'

   b. keoi m/*mou/*mei hoyi lei
    he not/not-have/not-yet can come
    'He will not come.'

   c. *keoi m lei-zo
    he not come-PERF
    'He did not come.'

(12) a. keoi mou lei
    he not-have come
    'He did not come.'

   b. *keoi mou lei-zo
    he not-have come-PERF
    'He did not come.'

(13) a. keoi mei lei
    he not-yet come
    'He has not come yet.'

   b. *keoi mei lei-zo
    he not-yet come-PERF
    'He has not come yet.'

In contrast with Mandarin, which allows both bu and meiyou to be used in NPQs, in Cantonese, only mei can appear in NPQs.

(14) a. keoi lei-zo mei
    he come-PERF not
    'Has he come yet?'
b. *keoi lei m
   he come not
   'Is he coming?'

c. *keoi lei-zo mou
   he come-PERF not
   'Did he come?'

2.3 Taiwanese

Taiwanese has the four monosyllabic negation markers m, bo, be and buei (see Li 1971, Teng 1992 and Tang 1993, among others). M is the neutral negation, bo the perfective negation, be the future negation and buei is the negation marker indicating 'not-yet'.

(15)  

a. i m lai
     he not come
     'He is not coming.'

b. i be lai
   he not-FUT come
   'He will not come.'

c. *i m/bo/buei e lai
   he not/not-have/not-yet will come
   'He will not come.'

d. i m/*bo/*buei/be gaN chu-ki
   he not/not-have/not-yet/not-FUT dare out-go
   'He dare not/will not dare go out.'

The examples in (15a through d) show that bo 'not-have' and buei 'not-yet' cannot appear with modals like e 'will' and gaN 'dare'. M cannot appear with modals like e 'will' and yinggai 'should' (the former is probably because be
'not-future' is the suppletive form of the negative and e 'will'). *M* cannot appear with the perfective *u* (16b) or the experiential -gue (17b); in contrast, *bo* can appear with the experiential -gue (17a).

(16) a. i bo ki hak-hao
   he not-have go school
   'He did not go to school.'

       b. *i m u ki hak-hao
           he not have go school
           'He did not go to school.'

(17) a. i bo ki-gue hak-hao
   he not-have go-EXP school
   'He has not been to school.'

       b. *i m ki-gue hak-hao
           he not go-EXP school
           'He has not been to school.'

All these four negation markers in Taiwanese can appear in NPQs.

(18) a. li ki m
   you go not
   'Are you going?'

       b. i u tsiak-beng bo
           he have eat-rice not-have
           'Did he eat?'

       c. i e ki be
           he will go not-FUT
           'Will he go?'
d.  i ki buei
   he go not-yet
   'Has he gone?'

3. CLASSICAL CHINESE

Zhang (1990) claims that NPQs can be traced back to Classical Chinese in the pre-Qin to Han Dynasties as well as to the post-Nanbei Dynasty (cf. Yue-Hashimoto 1993). Furthermore, he proposes that NPQs in the pre-Qin to Han are derived from [VP-Neg + Q-particle] and those in the post-Nanbei Dynasty are reduced from alternative questions.

By [VP-Neg + Q-particle], he means that there are sentences of the VP-Neg form followed by a question particle, as in (19), where the negation is fou followed by the question particle hu. It should be noted that Classical Chinese has more than a dozen negation markers. However, only bu, fou, wei, fei and wu can occur in NPQs.

(19) ruci ze dongxin fou-hu  
    if-so then move-heart not-Q-PART 
    'If this is so, will you be inclined (to do it)?)'

According to Zhang, the sentence final question particle later disappeared in these cases (i.e., in sentences with negation following the VP), as in (20). This development can be interpreted as either the incorporation of the question particle into the negation (and thus fou at this stage was no longer a mere negation marker) or the deletion of the question particle with the negation taking over the function of the question particle.

(20) zhi ke fou  
    know possible not  
    '(Someone) knows whether it is possible.'

(21) jie wei  
    understand not-yet  
    '(Do you) understand it yet?'
We also see [Neg+ Q-particle] as well as Neg as a question particle occurring in the same text.

(22) jia-zhong suo you mi dang yu bu-ye (Zapiyujing, 509)
house-in have rice should give not Q-PART
'Should we give the rice in the house (to someone),'

(23) you gui mai bu (Zapiyujing, 507)
have ghost sell not
'Do you have ghosts for sale?'

The above data in Classical Chinese show the historical development of negation markers as question particles. We will see that this evolution sheds light on the formation of NPQs in various dialects of Chinese.

4. DIALECTAL DIFFERENCES IN NPQs

We have so far presented data showing that the three dialects under discussion differ with respect to the number of negation forms they have as well as to the particular forms allowed in NPQs. It is also clear that there is agreement between the negation form and the aspect/verb. We now present data showing that such agreement in NPQs is maintained in Mandarin but not in Cantonese and Taiwanese.

Consider, first, examples of NPQs in Mandarin.

(24) a. *ta qu-le bu
he go-PERF not
'Did he go?'

b. *ta qu-guo bu
he go-EXP not
'Has he gone?'

c. ta qu bu
he go not
'Is he going?'

(25) a. ta qu-le meiyou
    he go-PERF not-have
    'Did he go?'

    b. ta qu-guo meiyou
    he go-EXP not-have
    'Has he been (there)?'

(26) a. ta hui/yinggai/neng qu bu
    he will/should/can go not
    'Will/should/can he go?'

    b. *ta hui/yinggai/neng qu meiyou
    he will/should/can go not-have
    'Will/should/can he go?'

In (24a and b), the negation marker *bu* which appears as a question particle (henceforth Neg Q-particle) cannot appear with the perfective aspect *-le* or the experiential aspect *-guo*. In contrast, we can use the Neg Q-particle *meiyou* with these two aspects, as shown in (25). Example (26) further shows that in NPQs *bu* can appear with modals like *hui*, *yinggai* and *neng* while *meiyou* cannot. Hence, in Mandarin, the agreement that we have seen in section 2.1 between negation and verb/aspect is maintained in NPQs as well.

In Cantonese, however, the agreement between negation and aspect/verb does not seem to hold in NPQs. As noted earlier, *mei* 'not-yet' is the only negation form that can be used in NPQs. Thus, if the agreement restriction were to hold in Cantonese NPQs, we would expect that NPQs could not contain modals, as *mei* cannot appear with modals (see 11b). It turns out, however, that even though *mei* carries the interpretation of 'not-yet', in Cantonese NPQs it can still appear with modals (27) as well as with the typical perfective and experiential aspects (28).
(27)  
   a. ngo hoyi/yinggoi ceot-heoi mei  
      I can/should go-out not-yet  
      'Can/should I go out?'
   
   b. keoi hai-dou se seon mei  
      he PROG write letter not-yet  
      'Is he writing the letter?'

(28)  
   a. keoi sik-zo fan mei  
      he eat-PERF rice not  
      'Has he eaten?'
   
   b. keoi heoi-go meigok mei  
      he go-EXP America not  
      'Has he been to America?'

The sentences in (27) and (28) show that even though Cantonese exhibits agreement between negation and aspect/verb in typical negation environments, such agreement is not observed in NPQs.

Taiwanese is similar to Cantonese in that there is no strict matching/agreement requirement in NPQs. We have shown earlier that Taiwanese is similar to Cantonese and Mandarin in that there is agreement between negation and aspect/verb in typical negation sentences. However, there is no such agreement in NPQs in Taiwanese, as shown in (29) and (30).

(29)  
   a. i e lai m/bo/buei/be  
      he will come not/not-have/not-yet/not-FUT  
      'Will he come?'
   
   b. i gaN chu-ki m/bo/buei/be  
      he dare out-go not/not-have/not-yet/not-FUT  
      'Does he dare to go out?'
The examples in (29) and (30) contrast with the ones in (15) through (17). In (15), we see that m, bo and buei cannot appear with the modal e 'will'. However, in the NPQ in (29a), all the negation markers can appear with e 'will'. Similarly, in (16b), we see that m cannot appear with the perfective aspect. In contrast, in the NPQ in (30a) we see that m can be used even though the perfective marker u is present.

In short, the formation of NPQs differs in these dialects. Mandarin NPQs retain the same kind of agreement observed in typical negation environments while Cantonese and Taiwanese NPQs do not.

5. ANALYSIS

Two apparent questions arise given the above data in Classical Chinese and in the three synchronic dialects of Chinese:

(31) a. What is the relationship between Classical NPQs and synchronic NPQs in different dialects?
   b. Why do dialects differ with respect to the presence of agreement in NPQs?

We have noted in section 3 that the development in Classical Chinese NPQs can be considered an incorporation of the question particle into the negation marker ("incorporation" here is used in a non-technical sense). Hence, the Neg takes over the function of the question particle and the presence of the Neg in the sentence final position indicates a yes-no question. Turning now to synchronic NPQs in the three dialects under investigation, we do not see the co-occurrence of the Neg and the Q-particle. Instead, we see only the Neg in
the sentence final position. Hence, one simple way of looking at the synchronic data is that the Neg in the sentence final position is no longer a simple Neg but a Neg with whatever features that a Q-particle has. However, this simplistic explanation does not address the second question of why the dialects differ in terms of agreement in NPQs.

Before we address this question, we must first consider the position of the Neg Q-particle. We assume, following Tang (1989), that the sentence final question particles in Mandarin (e.g., *ne* and *ma*) as well as those in other dialects are in the C° position. Since negative question particles are sentence final and they also mark yes-no questions, we consider them on a par with other question particles in that they are also in the C° position, though they clearly differ from typical question particles in their ability to function as negation markers in a sentence.

5.1 Agreement Versus Non-Agreement Dialects

Let us now turn to the second question, the question of dialectal difference with respect to agreement. Consider first the dialects which lack agreement in NPQs (i.e., Cantonese and Taiwanese). We view these dialects as resembling pre-Qin to Han Dynasty Classical Chinese in the formation of NPQs. In particular, as we have noted earlier, the negation markers are grammaticalized as question particles. In other words, we propose that the negation markers in the non-agreement dialects are base-generated in the C° position on a par with typical question particles (see also Tang 1993). The lack of agreement is thus naturally explained since the base-generated negation markers which are used as question particles are not in a position which construes with verb/aspect types.

Now consider Mandarin, the dialect which displays agreement in NPQs. We have seen that Mandarin NPQs observe the same agreement restriction that holds between negation and verb/aspect (as in 24 through 26). That is, the use of *bu* versus *meiyou* depends on the verb/aspect or modal in the sentence regardless of whether or not the negation markers are used as regular negative markers or question particles. Suppose for the moment that the agreement we see between negation and verb/aspect is due to a selectional relation between negation and verb/aspect. The agreement phenomenon in NPQs in Mandarin
can be captured if the sentence final negation marker originates from the preverbal position. The agreement which holds for typical negation forms thus also holds for Neg Q-particles since they are in fact the same elements. Given this hypothesis, the difference between Mandarin and Cantonese/Taiwanese in the formation of NPQs may be that the former involves deletion of certain elements and reanalysis of a stranded preverbal negation marker as sentence final Q-particle in the C° position, while the latter involves a base-generated negation Q-particle in the C° position (cf. Cheng et al. to appear). 7

In other words, Mandarin NPQs resemble Classical Chinese NPQs in the post-Nanbei Dynasty in that they all have something to do with alternative questions. The issue that arises then is to determine the kind of alternative question to which Mandarin NPQs are related. Liu (1986) argues that Mandarin VP-mei(you) NPQs are base-generated NPQs whereas VP-bu NPQs are reduced from VP-bu-VP questions. One major problem with such an analysis is that it cannot account for the fact that Mandarin NPQs all exhibit the above-mentioned agreement restriction, as opposed to the non-agreement phenomena in Cantonese/Taiwanese NPQs. (See also the problems discussed in section 5.2.)

We thus propose that both VP-mei(you) and VP-bu NPQs are results of deletion and reanalysis from alternative questions. There are numerous ways of forming alternative yes-no questions in Chinese (see Appendix). Among these various ways of forming yes-no questions, two might appear to resemble Mandarin NPQs, namely A-not-A and VP-not-V questions. In particular, one may question whether Mandarin NPQs are different from A-not-A and VP-not-V questions. In the following, we examine data from Mandarin (with preverbal adjuncts and sentence final question particles) to show that, in Mandarin, NPQs cannot be reduced forms of either A-not-A or VP-not-V questions. Moreover, there is an asymmetry in the use of various negation markers in A-not-A questions and NPQs in Cantonese and Taiwanese, which offers further evidence that NPQs are a type of question separate from A-not-A questions. (See the Appendix for further comparisons between NPQs and other types of yes-no questions. See also Yue-Hashimoto 1988, 1992 and 1993.)

5.2 NPQs Versus A-Not-A/VP-Not-V Questions 8
5.2.1 Non-temporal/locative preverbal adjuncts
Non-temporal/locative preverbal adjuncts can appear in NPQs (32) but not in A-not-A (33) and VP-not-V (34) questions.

(32)  a. ta chang qu bu
      he often go not
      'Does he go often?'

      b. ta yijing kan-wan shu meiyou
      he already read-finish book not-have
      'Did he already finish reading the book?'

(33)  a. *ta chang qu-bu-qu
      he often go-not-go
      'Does he go often?'

      b. *ta yijing you-meiyou kan-wan shu
      he already have-not-have read-finish book
      'Did he already finish reading the book?'

(34)  a. *ta chang pian-ni-bu-pian
      he often cheat-you-not-cheat
      'Does he often cheat you?'

      b. *ta yijing kan-wan shu-mei-kan-wan
      he already read-finish book not-read-finish
      'Did he already finish reading the book?'

If NPQs are derived from A-not-A questions or VP-not-V questions by anaphorically deleting the post-negation part, the contrast between the examples in (32) and those in (33) and (34) cannot be explained.

5.2.2 Co-occurrence with malne

In Mandarin, question particles such as ma and ne can occur in sentence final position in questions, as shown in (35). Ma is a yes-no question particle
while *ne is the optional wh question particle.

(35)  a. ta lai-le *ne/ma
       he come-PERF WH/Y-N
       'Did he come?'

       b. ta mai-le shenme (ne)/*ma
       he buy-PERF what WH/Y-N
       'What did he buy?'

As we can see in (36), A-not-A and VP-not-V questions can co-occur with the question particle *ne, though they cannot appear with *ma.9 However, NPQs cannot co-occur with either *ma or *ne, as in (37).

(36)  a. ta lai-bu-lai (ne)/*ma
       he come-not-come WH/Y-N
       'Is he coming?'

       b. ta you-meiyou lai (ne)/*ma
       he have-not-have come WH/Y-N
       'Did he come?'

       c. ta xihuan ni-bu-xihuan (ne)/*ma
       he like you-not-like WH/Y-N
       'Does he like you?'

(37)  a. ta qu bu (*ne/*ma)
       he go not WH/Y-N
       'Is he going?'

       b. ta you qian meiyou (*ne/*ma)
       he have money not-have WH/Y-N
       'Did he have money?'
Again, if NPQs are derived from A-not-A or VP-not-V questions only by anaphorically deleting the post-negation elements, we would expect *ne to be able to appear in NPQs. However, as shown above, neither *ma nor *ne can appear in this type of question.

The two arguments presented above show that Mandarin NPQs are yes-no questions of a different type from A-not-A and VP-not-V questions. They cannot be derived from the latter types. It should be noted here that Mandarin, Cantonese and Taiwanese differ from one another with respect to the formation of A-not-A questions. As shown in Mandarin (36a and b) and (38), both *bu and *meiyou can be used in A-not-A questions.10

(38)  a. qiaofeng qu-bu-qu
    NAME go-not-go
    'Is Qiaofeng going?'

    b. qiaofeng you-meiyou qu
    NAME have-not-have go
    'Did Qiaofeng go?'

In contrast, as illustrated in Cantonese (39), not all negation markers can appear in A-not-A questions. Both *m and *mou can appear in A-not-A questions while *mei cannot.

(39)  a. keoi lei-m-lei
    he come-not-come
    'Is he coming?'

    b. keoi you-mou lei
    he have-not-have come
    'Did he come?'

    c. *keoi lei-mei-lei
    he come-not-yet-come
    'Has he come?'
This shows a complementary distribution of negation markers in these two types of questions: the ones that appear in A-not-A questions cannot appear in NPQs. Similarly, as exemplified in (40) and (41), A-not-A questions in Taiwanese are restricted to certain verbs such as si 'to be' and only the negation marker m.

(40) a. i si-m-si hakseng  
   he be-not-be student  
   'Is he a student?'

   b. *i lai-m-lai  
   he come-not-come  
   'Is he coming?'

(41) a. *i lai-bo-lai  
   he come-not-have-come  
   'Did he come?'

   b. *i lai-be-lai  
   he come-not-FUT-come  
   'Will he come?'

   c. *i lai-buei-lai  
   he come-not-yet-come  
   'Has he come yet?'

Hence, Cantonese and Taiwanese offer further evidence for our claim that NPQs are not derived from A-not-A questions.

5.3 NPQs Versus Haishi Questions

We have shown that while Mandarin NPQs may involve deletion and reanalysis out of alternative questions, the considered alternative questions cannot be A-not-A or VP-not-V questions. In the following, we propose that Mandarin NPQs are derived from the application of deletion and reanalysis to haishi 'or'
questions. In Mandarin, *haishi* questions may be like (42) below, in which a conjunction *haishi* appears between two VPs, the latter of which has a negated verb.

(42) a. ni lai haishi bu lai
   you come or not come
   'Are you coming or are you not coming?'

b.  
   \[
   \begin{array}{c}
   \text{VP} \\
   / & \text{haishi} & \text{VP} \\
   \text{lai} & \text{bu} & \text{lai}
   \end{array}
   \]

Derivation of NPQs from cases like (42) involves three operations: (A) the deletion of the conjunction *haishi*, (B) the anaphoric deletion of the verb *lai* and (C) the reanalysis of the stranded sentence final *bu* as $C^0$ question particle.

Given that in (42) an agreement relationship exists between the negator and the (anaphoric) verb in the second conjunct, it follows that Mandarin NPQs exhibit agreement between the negation form and the aspect/verb. Assuming that elements in the second conjunct can be deleted only under the identity condition, it follows that the preverbal negation *bu* will not be stranded after deletion of *haishi* and *lai* in sentences like (43) below.

(43) ta lai-le (haishi) bu hui (lai)
    he come-PERF or not will come
    'Has he come or will he not come?'

Hence, we find the non-applicability of the postulated $C^0$ reanalysis and ill-formed cases like (44).

(44) *ta lai-le bu
    he come-PERF not
    'Has he come?'
The same can be said about ungrammatical NPQs like (45b).

(45)  a. ta lai (haishi) bu (lai) ne
       he come or not come WH
       'Is he coming?'

       b. *ta lai bu ne
           he come not WH
           'Is he coming?'

The claim that Mandarin NPQs are related to *haishi* questions via deletion and reanalysis also captures the fact that cases like (46b), with a preverbal non-temporal/locative adjunct, are well-formed.\textsuperscript{12}

(46)  a. ta yijing kan-wan shu (haishi) meiyou (kan-wan shu)
       he already read-finish book or not-have read-finish books
       'Did he already finish reading the book or did he not finish reading
         the book?'

       b. ta yijing kan-wan shu meiyou
           he already read-finish book not-have
           'Did he already finish reading the book?'

However, some immediate questions arise given the above analysis.

(47)  a. Why can't negation markers in Mandarin be base-generated as $C^0$
       Q-particles?

       b. Why can negation markers in Mandarin be reanalyzed as $C^0$ Q-
           particles?

       c. Why can't negation markers in Cantonese/Taiwanese be reanalyzed
           as $C^0$ Q-particles?

       d. Why is it that some negation markers cannot be used in NPQs?

These questions are related to the nature of negation as well as the nature of the
Neg Q-particle in these dialects. Before we turn to these questions, we will first consider some supporting evidence for the deletion-reanalysis versus base-generation distinction.

5.4 Supporting Evidence

We have so far examined simplex NPQs, which illustrate a basic dialectal difference in terms of agreement. Below we present data involving verbs which take clausal complements. In particular, we consider sentences in which the agreement requirement of the matrix verb differs from that of the embedded verb. We show that such cases provide further evidence for a deletion-reanalysis approach in the formation of NPQs in Mandarin Chinese. Consider first a very simple case where the matrix and embedded verbs share the same agreement requirement:

(48)  ta yiwei ni hui qu bu
       he think you will go not
       (a) 'Does he think or not think that you are going?'
       (b) 'Does he think that you are going or not going?'

(49) a.  ta bu yiwei ni hui qu
       he not think you will go
       'He does not think that you will go.'

       b.  ta yiwei ni bu hui qu
           he think you not will go
           'He thinks that you are not going.'

In (48), the reanalyzed Neg Q-particle is in the matrix C°, indicating that the sentence is a matrix yes-no question. (We will come back to cases with embedded questions.) The matrix verb yiwei 'to think' and the embedded auxiliary verb hui 'will' can both occur with the negation marker bu. As the (a) and (b) readings indicate, the sentence in (48) is ambiguous. We call the (a) reading the matrix reading and the (b) reading the embedded reading. For the moment, we simply assume that the embedded reading arises when the reanalyzed
Neg Q-particle moves from the embedded $C^0$ position to the matrix $C^0$ position (due to the fact that verbs such as *yiwei* 'to think' do not take embedded questions). Compare (48) with (50) below:

(50)  *ta hui yiwei ni yinggai qu meiyou
     he will think you should go not-have

(a) 'Will he think or not think that you should go?'
(b) 'Will he think that you should go or not go?'

In contrast with the grammatical and ambiguous (48), (50) is ungrammatical (i.e., neither the matrix nor the embedded reading is available). The ungrammaticality of (50) is in fact not surprising. Recall that the reanalyzed Neg Q-particle in Mandarin must agree with the verb/aspect of the sentence. The Neg Q-particle in (50) cannot agree with the matrix or the embedded predicate: the matrix consists of the modal *hui* 'will' while the embedded one has the modal *yinggai* 'should'. Since *meiyou* cannot appear with these modals, (50) is ungrammatical.

The data presented above are sentences in which the matrix and embedded predicates belong to the same type with respect to agreement with the reanalyzed Neg Q-particle. Consider now "mixed" cases in (51) and (52) below.

(51)  ta yiwei ni qu-guo bu
     he think you go-EXP not

(a) 'Does he think or not think that you have been (there)?'
(b) *'Does he think that you have been (there) or you have not been (there)?'

(52)  ta hui yiwei ni qu-guo meiyou
     he will think you go-EXP not-have

(a) *'Will he think or not think that you have been (there)?'
(b) 'Will he think that you have been (there) or you have not been (there)?'

In (51), the reanalyzed Neg Q-particle is *bu* and only the matrix verb satisfies
the agreement requirement since the embedded one has the experiential marker attached to it. As expected, the question does not have an embedded reading. On the other hand, the reanalyzed Neg Q-particle in (52) is meiyou and only the embedded predicate can agree with it since the matrix has the modal hui 'will'. And again, as expected, the question does not have a matrix reading.

In other words, in the grammatical and ambiguous (48), the reanalyzed Neg Q-particle bu can be treated as either the embedded or the matrix C°. In the embedded case, the Neg Q-particle moves to the matrix C°. In (50), the reanalyzed Neg Q-particle meiyou cannot be placed in either the embedded or the matrix C° due to the selectional restriction between the verb/aspect and the Neg and thus the sentence is ruled out. On the other hand, in (51), even though the reanalyzed Neg Q-particle bu cannot be located in the embedded C° due to the experiential aspect marker -guo, it can be put in the matrix C°. In (52), we see that the reanalyzed Neg Q-particle meiyou can indeed be located in the embedded C°. Similar to the ambiguous case in (48), meiyou subsequently moves to the matrix C°. The movement from the embedded C° to the matrix C° does not involve the matrix predicate. Hence, even though the verb/aspect type of the matrix in (52) does not appear to agree with the Neg Q-particle which ends up in the matrix C°, the sentence is still grammatical with the embedded reading.

A question that arises given such mixed cases is whether or not Cantonese and Taiwanese data differ from the Mandarin data presented above. Given the fact that Cantonese and Taiwanese do not display agreement in NPQs, it would be expected that even in mixed cases ambiguous readings would be allowed, since Neg Q-particles are base-generated in C°s and can undergo movement. This prediction is borne out, as examples (53) through (60) show.13

Taiwanese

(53) i giosi li e ki m
he think you will go not
(a) 'Does he think or not think that you are going?'
(b) 'Does he think that you are going or not going?'

(54) i e giosi li yinggai ki bo
he will think you should go not-have
(a) 'Will he think or not think that you should go?'
(b) 'Will he think that you should go or should not go?'

(55) i giosi li ki-gue m
he think you go-EXP not
(a) 'Does he think or not think that you have been (there)?'
(b) 'Does he think that you have been (there) or you have not been (there)?'

(56) i e giosi li ki-gue bo
he will think you go-EXP not-have
(a) 'Will he think or not think that you have been (there)?'
(b) 'Will he think that you have been (there) or you have not been (there)?'

Cantonese

(57) keoi yiwai ni zau mei
he think you leave not-yet
(a) 'Does he think or not think that you are leaving?'
(b) 'Does he think that you are leaving or not leaving?'

(58) keoi wui yiwai ni hoyi zau mei
he will think you can leave not-yet
(a) 'Will he think or not think that you can leave?'
(b) 'Will he think that you can leave or cannot leave?'

(59) keoi yiwai ni zau-zo mei
he think you leave-PERF not-yet
(a) 'Does he think or not think that you have left?'
(b) 'Does he think that you have left or you have not left?'

(60) keoi wui yiwai ni heoi-gwo mei
he will think you go-EXP not-yet
(a) 'Will he think or not think that you have been (there)?'
(b) 'Will he think that you have been (there) or you have not been (there)??'

As we can see, all the counterparts of (48) through (52) allow ambiguous readings, further showing that agreement does not play a role in the formation of NPQs in both Cantonese and Taiwanese. Before we conclude this section, we would like to point out that in Mandarin, as well as Taiwanese, the neutral negation marker (*bu* and *m*, respectively) cannot indicate embedded questions, in contrast with the other negation markers.

Mandarin

(61) ta xiang-zhidao ni lai-le meiyou
he wonder you come-PERF not-have
'He wonders whether you came.'

(62) *ta xiang-zhidao ni qu bu
he wonder you go not
'He wonders whether you are going.'

The contrast between *meiyou* and *bu* in their ability to indicate embedded yes-no questions is illustrated in (61) and (62). The verb *xiang-zhidao* 'to wonder' requires an embedded interrogative and the ungrammaticality of (62) is due to the fact that *bu* cannot indicate an embedded question. This property of *bu* is on a par with the typical yes-no question particle *ma*, as we see in (63) and (64):

(63) huangrong zhidao hufei yijing zou-le ma
NAME knows NAME already leave-PERF Q
(a) 'Does Huangrong know that Hufei already left?'
(b) *'Huangrong knows whether or not Hufei left.'

(64) *huangrong xiang-zhidao hufei zou-le ma
NAME wonder NAME leave-PERF Q
'Huangrong wonders whether Hufei left.'

It thus appears that *bu* is similar to *ma* in that both have a "matrix property." The matrix property of *ma* has been attributed to the speaker-oriented interpretation of *ma*. We suggest that *bu* is on a par with *ma* in its speaker-oriented property.

Taiwanese *m* also cannot indicate embedded questions, in contrast with the other negation markers, as shown in (65).

(65)  i shung-be-zaiyaN li e ki *m/bo/be/buei
     he want-to-know you will go not/not-have/not-FUT/not-yet
     'He wants to know whether you are going.'

Hence, the speaker-oriented property is unrelated to the movement of the negation marker to form NPQs.

5.5 Content of Negation

We have shown that data involving embedded sentences with mixed verb/aspect types present further support for our hypothesis of the dialectal differences in the formation of NPQs. We now turn to the questions raised earlier in (47), repeated below as (66).

(66)  a. Why can't negation markers in Mandarin be base-generated as C⁰ Q-particles?
     b. Why can negation markers in Mandarin be reanalyzed as C⁰ Q-particles?
     c. Why can't negation markers in Cantonese/Taiwanese be reanalyzed as C⁰ Q-particles?
     d. Why is it that some negation markers cannot be used in NPQs?

These questions all relate to the properties of negation and C⁰.

Following Cheng (1991), we assume that the clause type of interrogative sentences can be marked by the insertion of a question particle or by movement of an appropriate element to the C⁰ position or to Specifier of C (see also
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Consider first the non-agreement dialects. In Cantonese and Taiwanese, we maintain that some negation markers are grammaticalized as question particles and base-generated in C° on a par with typical question particles. In other words, these negation markers must carry the formal feature that marks a sentence as a yes-no question. Let us assume this feature to be [Q] (Chomsky 1995 among others). Thus, these particles have a dual status, serving to mark either negation or a question. In other words, these elements have a [Q/Neg] feature. Note that we maintain that only certain negation markers are both negative markers and question particles because not every negation marker can be used in NPQs (for example, in Cantonese, only mei can be used in NPQs). These "dual status" negation markers are thus on a par with some markers in Classical Chinese that can function as either a negation marker or a question particle.

Let us turn now to the agreement dialect, Mandarin. Crucially, the negation markers in Mandarin cannot be base-generated as question particles in C° to mark yes-no questions. In other words, negation markers in Mandarin do not have a dual status, even though they do appear in C°. We propose that Mandarin has a phonologically null C° with the formal features [Q, Neg]. This C° can be considered to be another residue of the historical development of negation markers into question particles. That is, instead of having a full-fledged negation marker functioning as a question particle, Mandarin has a C° with [Q, Neg] features, with just a trace of negation in it. This [Neg] feature however has to be checked off in order for the sentence to be properly interpreted as a yes-no question. Thus, stranded negation markers bu and meiyou can and must be reanalyzed as Neg Q-particles so as to be located in C° to check the [Neg] feature.

The picture that has emerged here provides answers to the questions in (66). In particular, the answers all relate to the properties of C° or Neg. With respect to Mandarin, negation markers cannot be base-generated in NPQs because they are "pure" negation markers rather than having a dual status. And what allows negation markers to undergo reanalysis in Mandarin is the particular feature [Neg] in the C°. The answer to the question raised in (66c) may have to do with economy. Given the fact that Cantonese and Taiwanese also have negation markers, why is it that they cannot undergo reanalysis, just as negation...
markers do in Mandarin? There are two different possibilities: (a) Cantonese and Taiwanese also have a C° with \([Q, \text{Neg}]\) feature; (b) Cantonese and Taiwanese do not have such a C°. Consider possibility (b) first. If these two dialects do not have such a C°, there is then no motivation for the negation markers to undergo reanalysis. On the other hand, if we have possibility (b), the trigger for reanalysis is present and the question then becomes: why is reanalysis lacking? Note, however, that these dialects have grammaticalized negation question particles which can be directly merged into the computation. Assuming that merging is less costly than reanalysis, the merging option and, thus, the insertion of these grammaticalized question particles, always rules out the possibility of reanalysis.

5.6 Extension

We have pointed out in the previous discussion of negation markers in these three dialects that the distribution of negation markers in NPQs and in A-not-A questions may differ. Below is a summary of the distribution (* indicates that the negation marker cannot appear while √ indicates that it can).

(67) Cantonese

<table>
<thead>
<tr>
<th></th>
<th>NPQs</th>
<th>A-Not-A Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(m)</td>
<td>*</td>
<td>√</td>
</tr>
<tr>
<td>(mou)</td>
<td>*</td>
<td>√</td>
</tr>
<tr>
<td>(mei)</td>
<td>√</td>
<td>*</td>
</tr>
</tbody>
</table>

(68) Taiwanese

<table>
<thead>
<tr>
<th></th>
<th>NPQs</th>
<th>A-Not-A Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(m)</td>
<td>√</td>
<td>(*)</td>
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<tr>
<td>(bo)</td>
<td>√</td>
<td>*</td>
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<tr>
<td>(be)</td>
<td>√</td>
<td>*</td>
</tr>
<tr>
<td>(bue)</td>
<td>√</td>
<td>*</td>
</tr>
</tbody>
</table>

(69) Mandarin

<table>
<thead>
<tr>
<th></th>
<th>NPQs</th>
<th>A-Not-A Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(bu)</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>
Note that in Mandarin, *mei* can be used alone in both NPQs and A-not-A questions. The difference between *mei* and *meiyou* in A-not-A questions is shown in (70) (see also footnote 10). We assume here that *mei* is a reduced form of *meiyou*, which has a verbal element *you* 'to have' in it.

(70) a. *ta* lai-*mei*-lai
   he come-not-have
   'Did he come?'

b. *ta* lai-*meiyou*-lai
   he come-not-have-come
   'Did he come?'

The pattern of distribution shown above also has a dialectal split: in Cantonese and Taiwanese, the negation markers used in NPQs and those used in A-not-A questions are in complementary distribution; in contrast, Mandarin negation markers do not show complementary distribution (aside from *meiyou*, which we will come back to below). The complementarity in Cantonese and Taiwanese as well as the dialectal split may appear mysterious. However, we suggest that the analysis proposed in this paper together with Huang's (1991) analysis of A-not-A questions provide an answer to the above distribution.

Huang (1991) proposes that the formation of A-not-A questions involves a PF insertion of a negator. In other words, the negator in A-not-A questions does not enter the computation. At Phonetic Form (PF), the insertion of a negator is to occupy the 'not' slot in A-not-A questions. It is thus reasonable to assume that only pure negators can be inserted. The complementary distribution in Cantonese and Taiwanese is thereby explained. In both dialects, the negators that can be used in NPQs have dual status. Therefore they do not qualify as pure negators. In Mandarin, on the other hand, negators are simple Neg elements and thus they can also be inserted in A-not-A questions. Note that *meiyou* cannot be inserted in A-not-A questions because *meiyou* is a composite form.
consisting of both the negator mei and the verb you 'to have', thus PF insertion will only see mei listed as a Neg. The analysis of NPQs presented above thus provides a rather simple account of the complementarity noted as well as the dialectal split in terms of A-not-A questions.

6. CONCLUSION

We have argued that the main dialectal difference between Mandarin and Cantonese/Taiwanese is due to the Neg°-to-C° reanalysis in the former and the lack of it in the latter. We have seen a basic difference in terms of agreement patterns in these two types of dialects. Sentences involving embedding further support our claim that in Mandarin there is Neg°-to-C° reanalysis.

The dialectal variation we have seen may be traced back to historical development of negation markers as question particles. It appears that Cantonese and Taiwanese maintain the grammaticalization of negation markers as question particles and thus these negation markers can be simply inserted in the C° position to form a yes-no question. In contrast, Mandarin negation markers are not grammaticalized as question particles. The only trace of the grammaticalization of negation markers as question particles that remains in this dialect can be seen from the C° feature [Q, Neg], which triggers the reanalysis of the preverbal Neg in haishi questions to form NPQs.

APPENDIX:

COMPARISON OF NPQs WITH OTHER YES-NO QUESTIONS

The interpretation of NPQs is on a par with yes-no questions, such as Mandarin ma questions, tag questions, haishi questions, A-not-A questions, VP-not-V questions and VP-VP questions. We examine here in detail the properties of NPQs and show that they differ from the other types of yes-no questions. We will discuss Mandarin and Taiwanese; the former is a representative of the agreement-type NPQs while the latter is a representative of the non-agreement-type NPQs.
1. MANDARIN

1.1 Yes-No Questions

Before we compare NPQs with the other types of yes-no questions, we first provide a brief overview of some yes-no question types in Mandarin.

(1) *Ma* question

\[\text{ta lai-le ma}\]
\[\text{he come-PERF Q}\]
\['Did he come?'

(2) Tag question

\[\text{ta hui lai, bu shi ma}\]
\[\text{he will come not be Q}\]
\['He is coming, isn't he?'

*Ma* questions are characterized by the sentence final particle *ma*. As we can see, *ma* is also needed in tag questions.

(3) *Haishi* question

\[\text{ta lai haishi bu lai}\]
\[\text{he come or not come}\]
\['Is he coming or is he not coming?'

(4) A-not-A question

\[\text{ta xihuan-bu-xihuan ni}\]
\[\text{he like-not-like you}\]
\['Does he like you?'

(5) VP-not-V question

\[\text{ta xihuan ni-bu-xihuan}\]
\[\text{he like you-not-like}\]
\['Does he like you?'

(6) VP-VP question
ni chi fan chi mian
you eat rice eat noodle
'Do you want to eat rice or noodles?'

VP-VP questions do not use any question particle or conjunction. The question is indicated by the juxtaposition of VPs.

1.2 Comparisons

Besides the two differences noted in section 5.2 in the main text, there are other differences between NPQs and the other types of yes-no questions.

1.2.1 Negated versus non-negated verbs

Some yes-no questions have a constraint on the verb form. In particular, the constraint is that the verb has to be affirmative. For example, in NPQs the verb has to be affirmative, as shown in (7).

(7) a. ta qu bu
    he go not
    'Is he going?'

b. *ta bu qu bu
   he not go not
   'Is he not going?'

c. ta ku-le meiyou
   he cry-PERF not-have
   'Did he cry?'

d. *ta meiyou ku meiyou
   he not-have cry not-have
   'Didn't he cry?'

The same restriction can be found in A-not-A questions and VP-not-V questions, as in (8) and (9).
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(8) a. ta qu-bu-qu
  he go-not-go
  'Is he going?'

   b. *ta bu qu-qu
     he not go-go
     'Isn't he going?'

   c. ta you-meiyou qu
      he have-not-have go
      'Did he go?'

   d. *ta meiyou qu qu
      he not-have go go
      'Didn't he go?'

(9) a. ta xihuan ni-bu-xihuan
     he like you-not-like
     'Did he like you?'

   b. *ta bu xihuan ni-xihuan
      he not like you-like
      'Did he like you?'

   c. ta kan-wan nei-ben shu meiyou kan-wan
      he read-finish that-CL book not-have read-finish
      'Did he finish reading that book?'

   d. *ta meiyou kan-wan nei-ben shu kan-wan
      he not-have read-finish that-CL book read-finish
      'Did he finish reading that book?'

This property alone may indicate that NPQs are related to A-not-A questions or
VP-not-V questions. However, we have seen earlier in section 5.2 in the main text that NPQs cannot be derived from A-not-A or VP-not-V questions due to the co-occurrence with preverbal adjuncts as well as with *ne.*

1.2.2 Co-occurrence with aspect markers

Each Chinese dialect has a number of aspectual markers. As already pointed out in section 2.1 in the main text, aspect markers can appear in NPQs, as shown in (10).

(10) a. ta qu-guo meiyou
    he go-EXP not-have
    'Has he been there?'

    b. ta qu-le meiyou
    he go-PERF not-have
    'Has he gone?'

However, A-not-A questions as well as VP-not-V questions cannot take aspectual markers.

(11) a. *ta you-mei-you-guo qian
    he have-not-have-PERF money
    'Did he ever have money?'

    b. ta you-mei-you qu-guo meiguo
    he have-not-have go-EXP America
    'Has he been to America?'

    c. *ta you-mei-you-le qian
    he have-not-have-PERF money
    'Did he have money?'

Note that in (11b), at a first glance, there seems to be co-occurrence between A-not-A questions and aspectual markers. However, the comparison between
(11b) and (11a, c) shows that the verb which has the A-not-A form cannot take aspectual marking. In (11b), it is the aspectual marker *you 'have' which carries the A-not-A form while the main verb *qu 'go' takes the aspectual marker -*guo.

So far we have seen that NPQs differ from the other types of yes-no questions. If NPQs are derived simply from reduced forms of the other yes-no questions, the asymmetry noted above cannot be accounted for.

1.2.3 Conflict of presupposition

We have so far shown that NPQs differ from A-not-A, VP-not-V and VP-VP questions. Now let us turn to the difference between NPQs and *ma questions. As noted in Li and Thompson (1981), *ma questions serve to question the validity of a statement. (Example 12 is from Li and Thompson, pp. 548-49.)

(12) Speaker A: ni haoxiang shou-le yidian
you seem thin-PERF a:little 'You seem to have lost some weight.'

Speaker B: shi ma? ni kan wo shou-le ma? wo ziji dao bu juede
be Q you see I thin-PERF Q I self on:the:contrary not feel
'Is that so? Do you think I have lost weight? I haven't noticed it myself.'

Speaker B: ??shi-bu-shi? ??ni kan wo shou-le meiyou? wo ziji dao
be-not-be you see I thin-PERF not-have I self
bu juede
on:the:contrary not feel

In this situation, to question the validity of speaker A's statement, speaker B can use the *ma question but not the A-not-A question nor an NPQ. The last two question types are used in neutral contexts.

1.2.4 Co-occurrence with *nandao and *daodi

Another difference between *ma questions and NPQs is that adverbials like *nandao 'really' only appear in *ma questions.
(13)  a. nandao ta hui qu ma
   really he will go Q
   'Is he really going?'

   b. *nandao ta hui qu bu
   really he will go not
   'Is he really going?'

   c. *nandao ta lai-le meiyou
   really he come-PERF not-have
   'Did he really come?'

In contrast, the adverbials like daodi 'on earth' can only occur in NPQs.\(^\text{16}\)

(14)  a. *daodi ta hui qu ma
   on-earth he will go Q
   'Is he really going?'

   b. daodi ta hui qu bu
   really he will go not
   'Is he really going?'

   c. daodi ta lai-le meiyou
   really he come-PERF not-have
   'Did he really come?'

2. TAIWANESE
2.1 Yes-No Questions

   Like Mandarin, Taiwanese has \textit{ma}-type questions, tag questions, and \textit{haishi}-type questions, but it does not have A-not-A questions (except in cases with a very small number of verbs like \textit{si} 'be'), VP-not-V questions and VP-VP questions. However, Taiwanese has other kinds of yes-no questions like \textit{gam} questions and VP-\textit{a}-VP questions.\(^\text{17}\)
(15) *Ma*-type question
   i lai-a hio
   he come-PERF Q
   'Did he come?'

(16) Tag question
   i m lai, si bo
   he not come be not-have
   'He is not coming, is he?'

(17) *Haishi*-type question
   i e lai asi be lai
   he will come or not-FUT come
   'Is he coming or is he not coming?'

(18) *Gam* question
   i gam e lai
   he Q will come
   'Is he coming?'

(19) VP-α-VP question
   i jiak beng a jiak miN
   he eat rice or eat noodle
   'Does he want to eat rice or noodles?'

2.2 Comparisons

Let us now turn to the comparison between Taiwanese NPQs and these other types of yes-no questions.

2.2.1 Negated versus non-negated verbs

Except with *m*, the verb in NPQs has to be in a non-negation form, as shown in (20).

(20) a. i ki/m ki m
he go/not go not
'Is he going?/Is he not going?'

b. i u/*bo ki bo
he have/not-have go not-have
'Did he go?'

c. i e/*be ki be
he will/not-FUT go not-FUT
'Will he go?'

Since Taiwanese does not have A-not-A and VP-not-V questions, no comparison can be made with such sentences. This constraint is irrelevant for hio questions, sibo questions, asi questions and gam questions. The hio and gam questions are irrelevant because they cannot be treated as consisting of yes and no parts. As for sibo questions and asi questions, there is no requirement regarding the co-occurrence of yes and no parts. VP-a-VP questions require that both VPs consist of negation or non-negation verb forms.

2.2.2 Non-temporal/locative preverbal adjuncts

Similar to Mandarin NPQs, Taiwanese NPQs can have non-temporal/locative preverbal adjuncts, as in (21).

(21) a. i tiaNtiaN ki m
he often go not
'Does he go often?'

b. i yiting e ki be
he certainly will go not-FUT
'Will he certainly go?'

Note that, except for VP-a-VP questions, other types of Taiwanese yes-no questions can also take non-temporal/locative preverbal adjuncts.
(22) a. i yiging lai-a hio  
   he already come-PERF Q  
   'Did he already come?'

   b. i jinjiaN m lai, si bo  
   he really not come be not-have  
   'He is really not coming, is he?'

   c. i yiting e lai asi be lai  
   he certainly will come or not-FUT come  
   'Is he definitely coming or is he definitely not coming?'

   d. i gam tiaNtiaN e lai  
   he Q often will come  
   'Is he coming often?'

(23) ?*i tiaNtiaN jiak beng a jiak miN  
   he often eat rice or eat noodle  
   'Does he often eat rice or noodles?'

2.2.3 Co-occurrence with aspect markers
   In Taiwanese NPQs, aspect markers can appear, as in (24).

(24) a. i ki-gue bo  
   he go-EXP not-have  
   'Has he ever been there?'

   b. i jiak-a buiei  
   he eat-PERF not-yet  
   'Has he eaten?'

However, aspect markers cannot appear in VP-α-VP questions, even though they can occur in the other types of Taiwanese yes-no questions.
(25)  *i ki-gue migok a ki-gue yinggok  
    he go-EXP America or go-EXP England  
    'Has he been to America or England?'

2.2.4 Co-occurrence with other particles

According to Chen (1993), there are at least nine kinds of sentence final question particles in Taiwanese. They are -haN, -hio, -hoN, -le, -lio, -lo, -ne, -ni, and -o (cf. Cheng 1977). With respect to -hio, Chen claims that it cannot appear in wh questions, disjunctive questions, hypothetical questions, truncated questions and confirmation questions. It seems that NPQs and questions without gam are not allowed to take this question particle.

(26)  a.  *i ki m hio  
      he go not Q  
      'Does he go?'

      b.  *i u ki bo hio  
          he have go not-have Q  
          'Did he go?'

      c.  *i e ki be hio  
          he will go not-FUT Q  
          'Will he go?'

(27)  a.  *i jinjiaN m lai, si bo hio  
      he really not come be not-have Q  
      'He really does not come, does he?'

      b.  *i yiting e lai asi be lai hio  
          he certainly will come or not-FUT come Q  
          'Will he certainly come or not come?'

      c.  ?i gam tiaNtiaN e lai hio  
          he Q often will come Q
'Is he coming often?'

d. *i jiak beng a jiak miN hio
   he eat rice or eat noodle Q
   'Does he eat rice or noodles?'

2.2.5 Presupposition

According to Chen (1993), -hio is used to indicate strong assumption, but NPQs are used in neutral contexts (cf. Cheng 1977).

2.2.6 Co-occurrence with gamgong and daote

Lastly, adverbials like gamgong 'really' can appear only in hio-type questions, whereas adverbials such as daote 'on earth' can occur only in NPQs (see also Tang 1993).

(28) a. i gamgong m lai hio
   he really not come Q
   'Does he really not come?'

   b. *i daote m lai hio
   he on-earth not come Q
   'Is he really not coming?'

(29) a. *i gamgong u lai bo
   he really have come not-have
   'Did he really come?'

   b. i daote u lai bo
   he on-earth have come not-have
   'Did he really come?'

3. Conclusion

The comparisons discussed above clearly show that while NPQs and certain other questions are semantically yes-no questions, they are syntactically
very distinct from one another.

NOTES

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There are some apparent counterexamples to this description of the usage of *meiyou*. As we can see in (i), *bu* is able to appear with the aspectual marker -zhe.

(i)  ta bu bao-zhe zhen-tou shui-jiao
he not hold-PROG pillow sleep
'He does not sleep by holding a pillow.'

However, it should be noted that (ii) is ungrammatical.

(ii) *ta bu bao-zhe zhen-tou
he not hold-PROG pillow
'He is not holding a pillow.'

Example (ii) shows that *bu* cannot appear with the progressive marker -zhe. The contrast between (i) and (ii) is due to the fact that -zhe does not really have an aspectual reading in (i) but rather an instrumental reading.

It should also be noted that *meiyou* appears to be able to co-occur with deontic modals like hui 'can'.
(iii)  

\[
\begin{align*}
\text{ta meiyou hui shuo yingyu} \\
\text{he not-have can speak English} \\
\text{'He could not speak English.'}
\end{align*}
\]

It should be noted that Mandarin also has a negation marker \textit{wei} 'not yet' which corresponds to \textit{mei} 'not-yet' in Cantonese. However, the negation form \textit{wei} 'not-yet' has to co-occur with the adverbials \textit{shang} 'yet' or \textit{hai} 'yet'.

(i)  

\[
\begin{align*}
a. \quad \text{ta shang/hai wei lai} \\
\text{he yet not come} \\
\text{'He has not come yet.'}
\end{align*}
\]

b.  

\[
\begin{align*}
* \text{ta wei lai} \\
\text{he not come} \\
\text{'He has not come yet.'}
\end{align*}
\]

The contrast in (i) shows that \textit{wei} is no longer a free form in Mandarin. The same condition is also found in Taiwanese, as shown in (ii).

(ii)  

\[
\begin{align*}
a. \quad \text{i a beui lai} \\
\text{he yet not come} \\
\text{'He has not come yet.'}
\end{align*}
\]

b.  

\[
\begin{align*}
*i \text{ beui lai} \\
\text{he not come} \\
\text{'He has not come yet.'}
\end{align*}
\]

It should be noted that \textit{mou} 'not-have' can be used in NPQs only when the verb is the possessive verb \textit{jau} 'to have', as shown in (i).

(i)  

\[
\begin{align*}
\text{keoi jau tsin mou} \\
\text{he have money not-have} \\
\text{'Does he have money?'}
\end{align*}
\]
This restriction indicates that there is a contrast between mou being the suppletive form of the Neg plus the aspectual jau 'perfective' and mou being the suppletive form of the Neg plus the verb jau 'to have'. We will leave this issue open.

4 There are different proposals which address the question of why -le cannot appear with mei(you) in regular negation contexts. We assume here that whatever the constraint is, it is not a semantic incompatibility and whatever structural description that leads to the non-co-occurrence is no longer met when the negation is in the Complementizer (C°) position.

5 There is a yes-no question particle me in Cantonese which differs from mei in that it is not a negation marker and does not have any restriction on the verb form. Thus, it is quite similar to the ma question particle in Mandarin.

6 It should be noted that in Shanghai, the sentence final negative particle has a "literal" incorporated question particle, as shown below.

(i)  yi qi le a
     he go PERF Q
     'Did he go?'

(ii) yi qi le va
     he go PERF not-Q
     'Did he go?'

(iii) yi ve qi
     he not go
     'He is not going.'

As we can see in (iii), the typical negation form is ve and the one used in NPQs is the combination of ve and the question particle a. We need to examine the Shanghai dialect more closely to see the pattern of NPQs. Furthermore, it is pointed out to us (Sybesma, p.c.) that in a Northern dialect of Mandarin, NPQs with bu can co-occur with ma, though the ordering of the Q-particle and the negation marker appears to differ from the Classical Chinese data presented here.
Further tests are needed to see whether these are genuine NPQs (cf. Liu 1986, Zhang 1990, Yue-Hashimoto 1993, and see Appendix for some basic tests).

7 Alternatively, the difference between Mandarin and Cantonese/Taiwanese in the formation of NPQs may be that the former involves movement of a negator to C° while the latter involves a base-generated negation marker in the C° position. See Cheng et al. (to appear) for details.

8 There are other types of questions on a par with VP-not-V, such as VP-not-VP and V-not-VP. We will only discuss VP-not-V questions. The arguments can be easily extended to the other types.

9 Although A-not-A questions take ne as a question particle, they are still interpreted as yes-no questions. This may seem strange at first glance. However, given Huang’s (1991) proposal which treats the formation of A-not-A questions on a par with typical wh questions, the fact that ne is used is not unexpected.

10 In Beijing Mandarin, instead of (38b), it is possible to say (i).

(i) qiaofeng qu-meiqu NAME go-not-go 'Did Qiaofeng go?'

11 In Cantonese m, mou and mei can all appear in ding 'or' questions, but only mei is found in NPQs. Cheng (1977) and Teng (1992) both suggest a deletion approach for Taiwanese NPQs. Such an approach, however, is problematic. For one reason, as Lin (1974) claims, only fused negators can be deleted in Taiwanese a-shi 'or' questions, which will incorrectly predict that not all the four discussed negators can occur in NPQs. Another reason is that there appears agreement between the negation form and the aspect/verb type in a-shi questions, one that is not observed in NPQs. These facts further support our claim that Mandarin and Cantonese/Taiwanese NPQs have different sources of Neg Q-particles.
Note that NPQs require non-negated verbs and it does not matter whether they are of the agreement or non-agreement type of language, as shown in Mandarin (ia) and Taiwanese (ib).

(i) a. ta (*bu) qu bu
    he not go not
    'Is he going?'

b. i (*b)e ki bo
    he not-FUT go not-have
    'Will he go?'

We attribute this to the semantics of yes-no questions denoted by Neg Q-particles and leave this for future study.

It should be noted that even though the sentences are ambiguous, in some cases there is a preferred reading.

Some yes-no questions are irrelevant in this sub-section, such as ma questions, tag questions and haishi questions. The ma questions are irrelevant because the questions cannot be considered to consist of a yes part and a no part. As for tag questions and haishi questions, there is no requirement regarding the co-occurrence of yes and no parts. VP-VP questions require that both VPs consist of non-negated verb forms.

The NPQs with the negation marker m in Taiwanese are an exception. See sentence 20 for details.

In addition to its use in NPQs, daodi can also appear in haishi questions, A-not-A questions and VP-not-V questions. However, it cannot occur in VP-VP questions.

We will not discuss all the kinds of Taiwanese yes-no questions here. For a discussion of the pragmatic functions of various Taiwanese sentence final question particles, see Cheng (1977) and Chen (1993).
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