NEGATIVE PARTICLE QUESTIONS:
A DIALECTAL COMPARISON*

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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 which uses negation markers to form yes-no questions, as
in (1)-(3).

(1)   Mandarin
        hufei   kan-wan-le   nei-ben   shu   *meiyou*
        Hufei   read-finish-PERF that-CL   book   not-have
        "Has Hufei finished reading that book?"

(2)   Cantonese
        wufei   lei-zo   *mei*
        Wufei   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)-(3), the question is marked by a negation marker at the end of the sentence. We call yes-no questions such as these Negative Particle Questions (henceforth NPQs). As shown in (1)-(3), the negation marker appears at the end of the sentence in NPQs, in contrast with the typical preverbal position of negation markers, as shown in (4)-(6).

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

(5)   Cantonese
       wufei *mei* lei
       Wufei not-yet come
       "Wufei has not come yet."

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

In this paper, we will first discuss the negation markers in Mandarin, Cantonese and Taiwanese as they are significant for the formation of NPQs. We show that negation markers vary depending on the aspect or verb type. In section 3, we briefly consider NPQs in Classical Chinese, which sheds light on the historical development of negation markers as question particles. We then compare the formation of NPQs in these three dialects in Chinese. It is shown that Mandarin NPQs observe the typical agreement requirement between negation and aspect/verb while Cantonese and Taiwanese do not maintain such a requirement in NPQs. We argue that the contrast between Mandarin NPQs and Cantonese/Taiwanese NPQs results from a difference in the derivation of NPQs: NPQs in Mandarin Chinese involve the movement of a negation marker to the sentence final position while no such movement is involved in the formation of NPQs in Cantonese and Taiwanese.

1.1   *Are NPQs reduced A-not-A or VP-not-V questions?*[1]

Before we proceed to the discussion on the formation of NPQs in different dialects, we need first to address the question of whether or not they are derived from other types of yes-no questions in Chinese. There are numerous ways of forming yes-no questions in Chinese (see Appendix). Among them, two might appear to resemble NPQs, namely A-not-A and VP-not-V questions. In particular, one may question the status of NPQs as a different type from A-not-A and VP-not-V questions. In this section, 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, as we will see in the discussion in Section 2, 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 for NPQs being separate from A-not-A questions. See § 7 & 8 for further comparisons between NPQs and other types of yes-no questions (see also Yue-Hashimoto 1988, 1992 and 1993).

1.1.1   *Preverbal adjuncts*

Non-temporal and locative preverbal adjuncts can appear in NPQs (7) but not in A-not-A (8) and VP-not-V (9) questions.

(7)   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?"

(8)   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?"

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[1] 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)   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 deleting the post-negation part, the contrast between (7) and (8)-(9) cannot be explained.

1.1.2 Co-occurrence with ma/ne

In Mandarin Chinese, question particles such as *ma* and *ne* can occur in sentence final position in questions, as shown in (10). *Ma* is a yes-no question particle while *ne* is the optional WH-question particle.

(10)   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 (11), A-not-A and VP-not-V questions can co-occur with the question particle *ne*, though they cannot appear with *ma*.[2] However, NPQs cannot co-occur with either *ma* or *ne*, as in (12).

(11)   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?"

(12)   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 by deleting the post-negation elements, we would expect *ne* to be able to appear in NPQs. However, as shown above, neither *ma* or *ne* can appear in this type of question.

The two arguments presented above show that 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.

2. Negation 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 on the verb or the verb type itself. In other words, there is a matching or agreement requirement which holds 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 two negation markers: *bu* and *meiyou* (see Wang 1965, Chao 1968 and Li & Thompson 1981). *Bu* is used with bare verbs and modals. *Meiyou* is used with various aspects and with accomplishment verbs.[3] In the ex-

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[2] Though 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.

[3] There are some apparent counterexamples to this description of the usage of *bu* and *meiyou*. As we can see in (i), *bu* seems able to appear with the aspectual marker -*zhe* "PROG":

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

amples below, we see that *meiyou* cannot appear with the modal *hui* (13b), while *bu* cannot appear with the perfective aspect *-le* (14b) or the experiential aspect *-guo* (14e). (14a) shows that *meiyou* is interpreted as perfective without the presence of the perfective aspect *-le* (and in fact, *meiyou* cannot co-occur with *-le* (14c), see Wang (1965) for an account of this restriction).

(13) a.   ta   bu   lai
           he   not come
           "He is not coming."

      b.   hufei   bu/*meiyou   hui   qu
           Hufei   not/not-have will go
           "Hufei will not go."

(14) a.   hufei   meiyou   qu xuexiao
           Hufei   not-have go school
           "Hufei did not go to school."

      b. * hufei   bu   qu-le   xuexiao
           Hufei   not go-PERF   school
           "Hufei did not go to school."

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

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

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

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 be noted that *meiyou* appears able to co-occur with *neng* "can":
(iii)   ta   mei(you)   neng   qu
           he   not-have   can   go
           "He could not go."

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

(15)   hufei   hui   qu bu
            Hufei   will go not
            "Will Hufei go?"

(16)   hufei   qu-le   meiyou
            Hufei   go-PERF   not-have
            "Did Hufei go?"

Note that both *bu* and *meiyou* can be used in A-not-A questions.[4] As we will see in subsequent sections, in Cantonese and Taiwanese, not all negation markers can appear in A-not-A questions, further supporting our claim that NPQs cannot be derived from A-not-A questions.

(17) a.   qiaofeng   qu-bu-qu
            Qiaofong   go-not-go
            "Is Qiaofeng going?"

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

2.2   Cantonese

Cantonese has three negation forms: *m*, *mou*, and *mei* (see Cheung 1972 and Yue-Hashimoto 1993).[5] *M* is used with bare verbs and modals (on a par with *bu* in Mandarin) and cannot be used with aspectual markers (18a-c). *Mou* is

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[4] In Beijing Mandarin, instead of (17b), it is possible to say (i):
(i)   qiaofeng   qu-mei-qu
             Qiaofeng   go-not-go
             "Did Qiaofeng go?"
[5] It should be noted that Mandarin also has a negation marker, *wei* "not yet" which corresponds to *mei* "not-yet" in Cantonese. However, the negation form *wei* "not-yet" has to co-occur with the adverbials *shang* "yet" or *hai* "yet".
(i)   a.   ta   shang/hai   wei   lai.
             he   yet   not   come
             "He has not come yet."
      b. * ta   wei   lai
             he   not   come
             "He has not come yet."
The contrast in (i) shows that *wei* is no longer a free form in Mandarin.

used with various aspects and accomplishment verbs and, like *meiyou* in Mandarin, 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".

(18) 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 didn't come."

(19) a. keoi mou   lei
          he   not-have come
          "He didn't come."

      b. * keoi mou   lei-zo
          he   not-have come-PERF
          "He didn't come."

(20) 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:[6]

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[6] It should be noted that *mou* "not-have" can be used in NPQs only when the verb is the possessive verb *jau* "to have", as shown in (i):

(i)   keoi jau   tsin   mou
             he   have money not-have
             "Does he have money?"

This indicates that there is a contrast between *mou* being the suppletive form of NEG plus the aspectual *jau* "perfective" and *mou* being the suppletive form of NEG plus the verb *jau* "to have". We will leave this issue open.

(21) 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?"

However, both *m* and *mou* can appear in A-not-A questions while *mei* cannot.

(22) 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. We will come back to the complementary distribution noted here in section 5.4.

2.3   Taiwanese

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

(23) 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 (23a-d) show that *bo* "not-have" and *buei* "not-yet" cannot appear with modals (such as *e* "will" and *gaN* "dare"). *M* can appear with typical modals except *e* "will" (probably due to the fact that *be* "not-future" is the suppletive form of NEG and *e* "will").

(24) 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 didn't go to school."

(25) a. i   a   buei   lai
          he   yet   not-yet   come
          "He has not come yet."

      b. * i   a   buei   lai   a
           he   yet   not-yet   come-PERF
           "He has not come yet."

All four negation markers in Taiwanese can appear in NPQs.

(26) 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?"

A-not-A questions in Taiwanese are restricted to certain verbs such as *si* "to be" and only the negation marker *m*.

(27) 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?"

(28) 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, Taiwanese offers further evidence for our claim that NPQs are not derived from A-not-A questions.

3. *Classical Chinese*

NPQs can be traced back to Classical Chinese—Pre-Qin Dynasty to Han Dynasty. Zhang (1990) notes that the appearance of NPQs in Classical Chinese predates the appearance of other types of yes-no questions. This further supports our analysis that NPQs are not derived from other types of yes-no questions. Furthermore, Zhang (1990) proposes that some NPQs are from [VP-NEG +

Q-PARTICLE]. He shows that there were sentences of the VP-NEG form followed by a question particle, as in (29), 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.

(29)   ruci   ze   dongxin   *fou-hu*   (Gongsunchou, Shang)
              if-so then move-heart   not-Q-PARTICLE
              "If this is so, will you be inclined (to do it)?"

According to Zhang (1990), the sentence-final question particle later disappeared in these cases (i.e., in sentences with negation following the VP), as in (30). 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.

(30)   zhi   ke   *fou*   (Zhuangzi, 10)
              know   possible not
              "(Someone) knows whether it's possible."

(31)   jie   *wei*   (Zhongbenqijing, 148)
              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:

(32)   jia-zhong suo you mi   dang yu *bu-ye* (Zapiyujing, 509)
              house-in   have rice should give not Q-PARTICLE
              "Should we give the rice in the house to (someone)?"

(33)   you gui   mai *bu* (Zapiyujing, 507)
              have ghost sell not
              "Do you have ghost for sale?"

The data in Classical Chinese above show the historical development of negation markers as question particles. We will see that this 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 which one(s) can be used 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 is maintained in NPQs in Mandarin while in Cantonese and Taiwanese, the agreement collapses in NPQs.

Consider first examples of NPQs in Mandarin.

(34)   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?"

(35)   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)?"

(36)   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 (34a-b), the negation marker *bu* which appears as a question particle (henceforth NEG-particle) cannot appear with the perfective aspect *-le* or the experiential aspect *-guo*. In contrast, we can use the NEG-particle *meiyou* with

these two aspects, as shown in (35).[7] (36) further shows that in NPQs, *bu* can appear with modals 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 agreement were to hold in NPQs in Cantonese, we would expect that NPQs cannot contain modals, as *mei* cannot appear with modals, as we have seen in (18b). It turns out however that though *mei* carries the interpretation of "not-yet", it can still appear with modals (37), as well as the typical perfective and experiential aspects in NPQs (38).[8]

(37) 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?"

(38) 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 (38) and (37) 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 (39)-(40).

(39) 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?"

(40) a. i   u   ki hak-hao m/bo
          he have go school   not/not-have
          "Did he go to school?"

      b. i   lai   buei
          he come not-yet
          "Has he come?"

The examples in (39) and (40) contrast with the ones in (23)-(25). In (23), we see that *m*, *bo*, and *buei* cannot appear with the modal *e* "will". However, in the NPQ in (39a), all the negation markers can appear with *e* "will". Similarly, in (24b), we see that *m* cannot appear with the perfective aspect. In contrast, in the NPQ in (40a) 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:

i.   What is the relationship between Classical NPQs and synchronic NPQs in different dialects?

ii.   Why do dialects differ with respect to the presence of agreement in NPQs?

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[7] 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 that the structural description that leads to the non-co-occurrence in this case is no longer met when the negation is in the C⁰ position.

[8] 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.

We have noted in Section 3 that the development in Classical Chinese NPQs can be considered as incorporation of the question particle into the negation marker ('incorporation' here is used in a non-technical sense). Hence, NEG takes over the function of the question particle and the presence of 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 NEG and a Q-particle.[9] Instead, we see only 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 view does not explain the second question, that is, it does not offer an explanation for the dialectal difference we have observed in terms of agreement in NPQs.

Before we address this question, we must first consider the position of the NEG-particle. We assume, following T.-C. Tang (1989), that the sentence final question particles in Mandarin (e.g. *ne, ma*) as well as those in other dialects are in the C^0 position. Since negative 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^0 position, though they clearly differ from typical question particles in their ability to function as negation markers in a sentence.

5.1   *Agreement vs. 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 consider these dialects to resemble Classical Chinese in the formation of NPQs. In particular, as we have noted ear-

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[9] 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	(ii)	yi	qi	le	va	(iii)	yi	ve	qi
	he	go	PERF	Q		he	go	PERF	not-Q		he	not	go
	"Did he go?"					"Did he go?"				,	"He is not going."		

As we can see in (iii), the typical negation form is *ve* and the one used in NPQ is the combination of *ve* and the question particle *a*. We need to examine Shanghai 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 what we find in Classical Chinese:

(iv)	ni	qu	ma	bu
	you	go	Q	not
	"Are you going?"			

Further tests are needed to see whether these are genuine NPQs (see Appendix for some basic tests).

lier, in Classical Chinese the negation markers were grammaticalized as question particles. In other words, we propose that the negation markers in the non-agreement dialects are base-generated in the C^0 position on a par with typical question particles. 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 can be construed with verb types and aspect types. Certain issues related to these two non-agreement dialects as well as to the nature of negation remain and we will come back to these issues in section 5.3.

Consider now 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 (34)-(36)). That is, the use of *bu* vs. *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 that 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 negation marker moves to the C^0 position in overt syntax. The agreement which holds for typical negation forms thus also holds for NEG-particles since they are in fact the same elements. Given this hypothesis, the difference between Mandarin and Cantonese/Taiwanese in the formation of NPQs is that the former involves movement of a negation marker to C^0 while the latter involves a base-generated negation marker in the C^0 position.

Some immediate questions arise given this analysis:

(41) a.   Why can't negation markers in Mandarin be base-generated in NPQs?

b.   Why can negation markers in Mandarin be moved to the C^0 position?

c.   Why can't negation markers in Cantonese/Taiwanese undergo movement in NPQs?

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

These questions are related to the nature of negation as well as to the nature of the NEG-particle in these dialects. Before we turn to these questions, we will first consider some supporting evidence for the movement vs. base-generation distinction.

5.2   *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 movement analysis 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:

(42)   ta   yiwei   ni   qu   bu
           he   think   you   go   not
    (a)   "Does he think or not think that you are going?"
    (b)   "Does he think that you are going or not going?"

(43)   a.   ta   bu   yiwei   ni   (hui)   qu
            he   not   think   you   will   go
            "He doesn't think that you will go."

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

In (42), the NEG-particle is in the matrix C^0 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 verb *qu* "to go" can both occur with the negation marker *bu*. As the (a) and (b) readings indicate, the sentence in (42) is ambiguous. We call the (a) readings the matrix reading and the (b) reading the embedded reading. For the moment, we simply assume that the embedded reading arises when the NEG-particle moves to the matrix (regardless of whether or not the NEG-particle originates from the embedded NEG^0 or C^0). Compare (42) with (44) below:

(44)   * 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 (42), (44) is ungrammatical (i.e., neither the matrix nor the embedded reading is available). The ungrammaticality of (44) is in fact not surprising. Recall that the NEG-particle in Mandarin must 'agree' with the verb/aspect of the sentence. The NEG-particle in (44) cannot agree with the matrix or the embedded predicate: the matrix contains the modal *hui* "will" while the embedded clause has the modal *yinggai* "should". Since *meiyou* cannot appear with modals, (44) is ungrammatical.

The ungrammaticality of (44) is not at all surprising given our basic generalization that the NEG-particle needs to agree with the verb/aspect type. Assume for the moment, in contrast with the movement hypothesis presented earlier, that the agreement requirement is a result of some non-local constraint. That is, let us tentatively assume a constraint that requires the NEG-particle in C^0 to agree with the verb/aspect type. Such a constraint may indeed account for the sentences in (42) and (44). In (42), the embedded reading can be accounted for if we assume that *bu* is base-generated in the embedded C^0 position and subsequently moves to the matrix C^0 position (due to the fact that verbs such as *yiwei* "to think" do not take embedded questions). The matrix reading will simply involve a base-generated NEG-particle in the matrix C^0. On the other hand, in (44), the constraint will rule out both matrix and embedded readings since the NEG-particle *bu* cannot be generated in either C^0 position because of the incompatibility between the matrix and embedded verb/aspect.

Such a non-local constraint however runs into problems when there are mixed verb/aspect types in the sentence. The data presented above are sentences in which the matrix and the embedded predicate belong to the same type with respect to agreement with the NEG-particle. Consider now 'mixed' cases in (45) and (46) below.

(45)   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 haven't been (there)?"

(46)   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 haven't been (there)?"

In (45), the NEG-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 NEG-particle in (46) 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.

If the agreement constraint is some sort of non-local constraint on the C^0 and the verb/aspect, it is possible to account for (45) but not for (46). For (45), it is still possible to maintain that the NEG-particle cannot be base-generated in the embedded C^0 due to the constraint. Thus, the only possibility is for it to be base-generated in the matrix. However, (46) presents a problem for such an analysis. It should be noted that even though the allowed reading in (46) is an embedded reading, it is still a matrix question. Thus, though *meiyou* is allowed to be base-generated in the embedded clause since it can occur with the experiential aspect marker *-guo*, it has to move to the matrix C^0. That is, the NEG-particle will eventually end up in the matrix C^0, even though the modal *hui* "will" is present in the matrix. The non-local agreement constraint which rules out sentences such as (44) will also rule out (46).

The above data show that if NEG-particles in Mandarin were to be base-generated in C^0 positions, sentences such as (46) cannot be accounted for. On the other hand, given a movement analysis, the grammaticality and the readings of the sentences in (42), and (44)-(46) naturally follow. Let us consider the sentences one by one. In the grammatical and ambiguous (42), the NEG-particle *bu* can be either generated in the embedded NEG or matrix NEG. In the embedded case, the NEG-particle moves to the matrix C^0 via the embedded C^0. In (44), the NEG-particle *meiyou* cannot be generated in either the embedded NEG or the matrix NEG due to the selectional restriction between the verb/aspect and the NEG and thus the sentence is ruled out. On the other hand, in (45), even though the NEG-particle *bu* cannot be generated in the embedded NEG due to the experiential aspect marker *-guo*, it can be generated in the matrix NEG and subsequently moves to the matrix C^0. Turning now to the problematic case for the non-movement analysis, in (46) we see that the NEG-particle *meiyou* can indeed be base-generated in the embedded NEG. As in the ambiguous case in (42), *meiyou* first moves to the embedded C^0 and it subsequently moves to the matrix C^0. The movement from the embedded C^0 to the matrix C^0 does not involve the matrix predicate, nor does it involve the matrix NEG. Hence, even though the verb/aspect type of the matrix in (46) does not appear to agree with the NEG-particle which ends up in the matrix C^0, 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 is expected that even in mixed cases, ambiguous readings are allowed since NEG-particles are base-generated in C^0s and can undergo movement. This prediction is borne out, as (47)-(54) show.[10]

Taiwanese

(47) i   giosi   li   (e)   ki   m
      he think   you will go   not
  (a) "Does he think or not think that you are leaving?"
  (b) "Does he think that you are leaving or not leaving?"

(48) i   e   giosi   li   yinggai   ki   bo
      he will   think   you   should   go   not-have
  (a) "Will he think or not think that you can leave?"
  (b) "Will he think that you can leave or cannot leave?"

(49) i   giosi   li   ki-gue   m
      he think   you go-EXP   not
  (a) "Does he think or not think that you have left?"
  (b) "Does he think that you have left or you have not left?"

(50) 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 haven't been (there)?"

Cantonese

(51) 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?"

(52) 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?"

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

(53)　　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?"

(54)　　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 haven't been (there)?"

As we can see, all the counterparts of (42)-(46) 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
(55)　　ta xiang-zhidao ni　lai-le　meiyou
　　　　he wonder　　　you come-PERF not-have
　　　　"He wonders whether you came."

(56)　　* 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 (55) and (56). The verb *xiang-zhidao* "to wonder" requires an embedded interrogative and the ungrammaticality of (56) 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 (57) and (58):

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

(58)　　* huangrong xiang-zhidao hufei zou-le　ma
　　　　Huangrong wonder　　　Hufei 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 (59).

(59)　　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.

5.3　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 (41), repeated below as (60):

(60)　a.　Why can't negation markers in Mandarin be base-generated in NPQs?
　　　b.　Why can negation markers in Mandarin be moved to the C^0 position?
　　　c.　Why can't negation markers in Cantonese/Taiwanese undergo movement in NPQs?
　　　d.　Why is it the case that some negation markers cannot be used in NPQs?

These questions all relate to the properties of negation and C^0.

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 C^0 position or to SPEC of C (see also Chomsky 1995). Consider first the non-movement dialects. In Cantonese and Taiwanese, we maintain that some negation markers are base-generated in C^0 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 it to be [Q] (Chomsky 1995, among others). Thus, they are elements with a dual status, as negation markers or as question particles. In other words, these elements have a [Q, NEG] feature. Note that we maintain that only certain negation mark-

ers 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 like some negation markers in Classical Chinese in that they can function as a negation marker or as a question particle.

Let us turn now to the movement dialect, Mandarin. Following Chomsky (1995), we assume that overt movement is triggered by unchecked features. Hence, in Mandarin, movement of the negation markers is to check some formal feature in C^0. Note that the negation markers in Mandarin cannot be inserted as question particles in C^0 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^0. We propose that Mandarin has a phonologically null C^0 with the formal features [Q, NEG]. This C^0 can be considered to be another residue of the historical development of negation as question particles. That is, instead of having a full-fledged negation marker functioning as a question particle, Mandarin has a C^0 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, negation markers *bu* and *meiyou* can and must move to C^0 to check the [NEG] feature.

The picture that has emerged here provides answers to the questions in (60). In particular, the answers all relate to the properties of C or NEG. With respect to Mandarin, its negation markers cannot be base-generated in NPQs because they are 'pure' negation markers rather than those with a dual status. And what 'allows' negation markers to move in Mandarin is the particular feature [NEG] in the C^0. The answer to the question raised in (60c) may have to do with Economy. Given the fact that Cantonese and Taiwanese also have negation markers, why is it the case that they cannot undergo movement, just as negation markers do in Mandarin? There are indeed two different possibilities:

(a)   Cantonese / Taiwanese also has a C^0 with a [Q, NEG] feature;
(b)   Cantonese / Taiwanese does not have such a C^0.

Consider possibility (b) first. If these two dialects do not have such a C^0, there is then no motivation for the negation markers to undergo movement. On the other hand, if we have possibility (b), the trigger for movement is present, and the question then is why movement is lacking. Note however that these dialects have negation markers as question particles which can be directly merged into the computation. Assuming that Merge is less costly than Move (see Chomsky 1995), the Merge option and thus the insertion of these negation markers always rules out the movement possibility.

5.4   Extension

We have pointed out in the initial discussion of negation markers in these three dialects that the distribution of negation markers in NPQs and in A-not-A questions may differ. In the following summary of this distribution, * indicates that the negation marker cannot appear while √ indicates that it can.

Distribution of NPQs and A-not-A Questions

	NPQs	A-not-A Questions
Cantonese		
m	*	√
mou	*	√
mei	√	*
Taiwanese		
m	√	(*)
bo	√	*
be	√	*
bue	√	*
Mandarin		
bu	√	√
mei	√	√
meiyou	√	*

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 (61) (see also foonote 4). We assume here that *mei* is a reduced form of *meiyou*, which has a verbal element *you* "to have" in it.

(61)   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 immediately below). The complementarity in

Cantonese and Taiwanese as well as the dialectal split may appear to be 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 into the computation. At 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 thus explained. In both dialects, the negators that can be used in NPQs have dual status. They thus do not qualify as 'pure' negators. On the other hand, in Mandarin, negators differ from the ones in Cantonese/Taiwanese in that they 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 analyis 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^0-to-C^0 movement 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^0-to-C^0 movement.

The dialectal variation we have seen may be traced back to historical development of negation markers as question particles. It appears that Cantonese/Taiwanese maintains the grammaticalization of negation markers as question particles and thus these negation markers can be simply inserted in the C^0 position to form a yes-no question. On the other hand, Mandarin negation markers are no longer question particles. The only 'trace' of the grammaticalization of negation markers as question particles that remains in this dialect can be seen in the C^0 feature [Q, NEG], which triggers the movement of NEG in NPQs.

Lastly, we would like to point out that NPQs are not just found in Chinese dialects. It appears that NPQs exist in languages such as Cambodian, Thai and Vietnamese:

Cambodian (Griffith p.c.).

(62) a.   Sowan min məəl səphin nul tee
           Sowan not read book   that NEG
           "John didn't read the book."

      b.   Sowan məəl səphin nul tee
           Sowan read book   that Q
           "Didn't John read the book?"

(63) a. * Sowan min məəl səphin nul tee
           Sowan not read book   that Q
           "Didn't John read the book?"

      b. * Sowan min məəl səphin nul tee tee
           Sowan not read book   that NEG Q
           "Didn't John read the book?"

Thai (Noss 1964)

(64)   thaan kaa-fee ïig: mǎj
          want   coffee   more   yes/no
          "Will you have some more coffee?"

(65)   phǒm mâj-khəəj paj: ləəj
          I   not-have   go   there
          "I have not gone there."

Vietnamese (Huynh p.c.)

(66) a.   John có   hôn   Mary không
           John has kiss Mary not
           "Has John kissed Mary?"

      b.   John không có   hôn   Mary
           John not   has kiss Mary
           "John has not kissed Mary."

If our analysis is correct, it may be extended to explain these sentences in languages other than Chinese. We leave this for future research.

Appendix
Comparison of NPQs with other kinds of yes-no questions

We examine here in detail the properties of NPQs and show that they are interpreted as other types of yes-no questions (such as Mandarin *ma* questions, tag-questions, *haishi*-questions, A-not-A questions, VP-not-V questions, VP-VP questions), but that they differ from other types of yes-no questions. We will discuss Mandarin and Taiwanese, the former a representative of the movement type in NPQs, the latter a representative of the base-generation type in NPQs.

Mandarin 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.

(67)   *Ma*-question
         ta   lai-le   *ma*
         he   come-PERF Q
         "Did he come?"

(68)   Tag-question
         ta   hui   lai,   *bu   shi   ma*
         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.

(69)   *Haishi*-question
         ta   lai   *haishi* bu   lai
         he   come   or   not   come
         "Is he coming or is he not coming?"

(70)   A-not-A question
         ta   *xihuan-bu-xihuan*   ni
         he   like-not-like   you
         "Does he like you?"

(71)   VP-not-V question
         ta   *xihuan   ni-bu-xihuan*
         he   like   you-not-like
         "Does he like you?"

(72)   VP-VP question
         ni   *chi*   fan   *chi*   mian
         you   eat   rice   eat   noodle
         "Do you want to eat rice or noodle?"

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

Comparisons

Besides the two differences noted in section 1.1. in the main text, there are other differences between NPQs and the other types of yes-no questions.

Negated vs. non-negated verb

Some yes-no questions have a constraint on the verb form. In particular, the constraint is that the verb has to be affirmative.[11] For example, in NPQs, the verb has to be affirmative as shown in (73).[12]

(73)   a.   ta   qu   bu
              he   go   not
              "Is he going?"

       b. *   ta   bu   qu   bu
              he   not   go   not
              "Isn't he 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 (74) and (75).

_____

[11] 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 and a no part. As for tag-questions and *haishi*-questions, there is no requirement on the co-occurrence of yes and no parts. VP-VP questions require that both VPs consist of non-negated verb forms.

[12] The NPQs with the negation marker *m* in Taiwanese are an exception. See example (86) for details.

(74)   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?"

(75)   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 seem to be related to A-not-A questions or VP-not-V questions. However, we saw earlier that NPQs cannot be derived from A-not-A or VP-not-V questions: preverbal adjuncts and *ne*, which may appear with these question types, may not appear in NPQs.

Co-occurrence with aspect markers

Each Chinese dialect has a number of aspectual markers. As already pointed out in section 2.1., aspect markers can appear in NPQs, as shown in (76).

(76)   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, neither A-not-A questions nor VP-not-V questions take aspectual markers.

(77)   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 (77b), at a first glance, there seems to be co-occurrence between A-not-A questions and aspectual markers. However, comparison of (77b) and (77a, c) shows that the verb which has the A-not-A form cannot take aspectual marking. In (77b), 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 from reduced forms of the other yes-no questions, the asymmetry noted above cannot be accounted for.

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 & Thompson (1981), *ma*-questions serve to question the validity of a statement (example (78) is from Li & Thompson 1981:549).

(78)   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?
be   Q   you   see I   thin-PERF Q

wo   ziji   dao   bu   juede
I   self   on:the:contrary not   feel

"Is that so? Do you think I've lost weight?
I haven't noticed it myself."

Speaker B:

* shi-bu-shi? ??ni   kan wo   shou-le   *meiyou*?
be-not-be   you   see I   thin-PERF not-have

wo   ziji   dao   bu   juede
I   self   on:the:contrary not   feel

As we have seen in (78), to question the validity of speaker A's statement, speaker B can use a *ma* question but not an A-not-A question nor an NPQ. The latter question types are used in neutral contexts.

Co-occurrence with nandao and daodi

Another difference between *ma*-questions and NPQs is that adverbials like *nandao* "really" only appear in *ma*-questions.

(79) 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, adverbials like *daodi* "on earth" can only occur in NPQs.[13]

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

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      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?"

Taiwanese yes-no questions

Compared to Mandarin, Taiwanese has *ma*-type questions, tag-questions and *haishi*-type questions, but not A-not-A questions (except in cases with the copula *si* "be"), VP-not-V questions, and VP-VP questions. However, Taiwanese has other kinds of yes-no questions like *gam*-questions and VP-a-VP questions.[14,15]

(81) *Ma*-type question
      i   lai-a   hio
      he   come-PERF Q
      "Did he come?"

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

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

(84) *Gam*-question
      i   gam   e   lai
      he   Q   will come
      "Is he coming?"

(85) VP-*a*-VP question
      i   jiak beng   a   jiak miN
      he   eat   rice   or   eat   noodle
      "Does he want to eat rice or noodle?"

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[13] In addition to NPQs, *daodi* can also appear in *haishi*-questions, A-not-A questions and VP-not-V questions. It however cannot occur in VP-VP questions.

[14] We will not discuss all kinds of Taiwanese yes-no questions here.
[15] For a discussion of the pragmatic function of various Taiwanese sentence final question particles, see Chen (1993).

Comparisons

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

Positive and negative

Except for *m*, in NPQs the verb has to be in a non-negation form, as shown in (86).

(86) 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 has neither A-not-A nor 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 a yes and no part. As for *sibo*-questions and *asi*-questions, there is no requirement on the co-occurrence of yes and no parts. VP-a-VP questions require both VPs to consist of negation or non-negation verb forms.

Non-temporal preverbal adjuncts

As with Mandarin NPQs, in Taiwanese it is possible for NPQs to have preverbal adjuncts, as in (87).

(87) 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.

(88) a. i yiging lai-a   hio
               he already come-PERF Q
               "Did he already come?"

         b. i jinjiaN m   lai,   shi 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?"

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

Aspectual markers

In Taiwanese NPQs, aspect markers can appear, as in (90).

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

         b. i jiak-a   buei
               he eat-PERF not-yet
               "Has he eaten?"

However, aspect markers cannot appear in VP-a-VP questions, though they can occur in the other types of Taiwanese yes-no questions.

(91)   * i ki-gue migok a ki-gue yinggok
             he go-EXP America or go-EXP England
             "Has he been to America or England?"

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. 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 non-*gam*-questions are all barred from taking this question particle.

(92) 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?"

(93) a. * i   jinjiaN m   lai,   si   bo   hio
         he   really   not come   be   not-have   Q
         "He really isn't coming, is 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?" '

Presupposition

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

Co-occurrence with gamgong *and* daote

Lastly, the adverbials like *gamgong* "really" can appear only in *hio*-type questions, whereas adverbials such as *daote* "on earth" can occur only in NPQs.

(94) 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?"

(95) 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?"

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

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