

## Negative Wh-words (NWHs) in Cantonese<sup>1</sup>

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In Cantonese, some wh-words (including *bin(dou)* 'where', *dim* 'how' and *me* 'what') can occur in a post-subject position to convey negative meaning. This is what I called “Negative Wh-words” (NWHs). Hsieh (2001) examined the equivalent phenomenon in Mandarin. She analyzed it as a kind of rhetorical question and assumed the NWH-word to be a negative operator. In this paper, it will be argued that the NWH-construction is not a rhetorical question. The NWH-construction (but not rhetorical wh-questions) fails some important diagnostics of questionhood such as *doudai* test and matrix verb selection of wh-complement. I will also discuss the similarities between the NWH-construction and rhetorical questions concerning NPI-licensing and island effects. With these findings, I will put forth an alternative proposal that assumes that the NWH-word is bound by a covert negative operator in the local CP.

### 1. INTRODUCTION<sup>2</sup>

In Cantonese, a subset of wh-words can be used to convey negative meaning when they are used in pre-modal/pre-auxiliary<sup>3</sup> position. The wh-words include *bin(dou)* ‘where’, *dim* ‘how’ and *me* ‘what.’ The construction is paraphrasable as ‘no way ...’, as in (1)—(3). These sentences do not have interrogative question reading. Henceforth these wh-words will be referred to as “Negative Wh-words” (NWHs).

*bin* 'where' (Mandarin equivalent = *nali* or *na(r)*)

- (1) a Zoengsaam bin jau luksap sei aa.<sup>4</sup>  
Zoengsaam where have sixty year.old SP  
(i) ‘No way is Zoengsaam 60 years old.’  
(ii) \*‘Where will Zoengsaam be 60 years old?’

<sup>1</sup> I want to thank D. Buring, T. Stowell, A. Mahajan, D. Tsai, A. Li, and P. Law for comments at different stages.

<sup>2</sup> Abbreviation: IWH = interrogative wh; NWH = negative wh; RWH = rhetorical wh

<sup>3</sup> By auxiliary, here I mean *jau* perfective marker, and *hai* copular ‘be’/emphatic marker

<sup>4</sup> Unless otherwise specified, the examples given in this paper are Cantonese sentences.

- b Zoengsam bin wui haai Amazon maai syu aa.  
 Zoengsaam where will at Amazon buy book SP  
 (i) ‘No way will John buy the book.’  
 (ii) \*‘Where will John buy the book?’

dim 'how'

- (2) Zoengsaam dim wui maai go bun syu aa.  
 Zoengsaam how will buy DEM CL book SP  
 (i) ‘No way will Zoengsaam buy the book.’  
 (ii) \*‘How (instrumental/manner) will Zoengsaam buy the book?’

me 'what' (me is not related to any argument)

- (3) Zoengsaam me wui maai go bun syu aa.  
 Zoengsaam what will buy DEM CL book SP  
 ‘No way will John buy the book.’

Note that the negative reading is available only when the NWH-words are in some specific syntactic position. For example, the NWH reading vanishes when the NWH word is moved to the post-modal position. In (5), only interrogative reading is available.

- (4) \*John wui bin/dim/me maai go bun syu aa.  
 John will where/how/what buy DEM CL book SP  
 ‘No way will John buy the book.’
- (5) Zoengsaam wui dim maai go bun syu aa  
 Zoengsaam will how buy DEM CL book SP  
 (i) \*‘No way will Zoengsaam buy the book.’  
 (ii) ‘How will Zoengsaam buy the book?’

Given the use of wh-words and the negative meaning, it is unreasonable to relate the NWH-construction with the rhetorical wh (RWH) question. In this paper, the two types of questions will be compared. In Section 2, I will review the literature on the NWH-construction, especially its connection with the RWH-question. In Section 3, it will be argued that contrary to the assumption in the literature, evidence will be presented to show the important differences between NWH-construction and RWH-question. Finally, I will give some remarks on some alternative direction to analyzing the NWH-construction.

## 2. HSIEH'S (2001) ANALYSIS OF NWH-CONSTRUCTION

The discussion of the NWH interpretation in the generative literature is very limited, although it is often noted in the descriptive grammar of Chinese such as Lü (1980). To the best of my knowledge, Hsieh (2001) is the only study that documents the syntactic properties of NWHs and examines the phenomenon from the generative perspective. She studied what she called “*na(r)*<sup>5</sup> rhetorical question” in Mandarin, which is essentially the Mandarin equivalent of Cantonese NWH-construction. The goal of her argument is to establish that “negation can be expressed by a question form. (p. 189)” In other words, the NWH-construction has a rhetorical question form that expresses negative proposition. Her claim that the NWH-construction is a rhetorical question is made based on the semantics of *na(r)* rhetorical question. According to Hsieh, “a question is termed rhetorical when the speaker knows the answer, and does not intend to elicit an answer that is different from what he/she has in mind. (p. 192)” As the NWH-construction obligatorily implies a negative proposition, the speaker does not intend to elicit an answer from the hearer. As a result, the NWH-construction is considered rhetorical using the semantic characterization.

While the rhetorical approach is not unreasonable, her claim is not without problems on closer look. First, following Hsieh's definition of rhetorical question, a rhetorical question is a question. To claim that the NWH-construction is a kind of rhetorical question, one needs to first establish that the NWH-construction is a question. However, she simply assumed without justifying that the NWH-construction is a question in the first place<sup>6</sup>. The reason why this is important is that wh-words in Chinese can serve functions other than marking a question, e.g. indefinite wh-reading, donkey wh-reading, etc. The fact that the wh-word *na(r)* occurs in the NWH-construction does not entail that it is a question. The negative reading could well be a new interpretation that has not been well-documented. Further, many native speakers' intuition is that the NWH-construction does not sound like a question. Unlike typical RWH-questions, many sentences involving NWH-words, however, do not have an interrogative wh (IWH)-question counterpart. Typical RWH-questions do not have the same problem because as Hsieh has noted, they are derived from IWH-questions. RWH-questions often share the same form as IWH-questions.

Second, in Hsieh's study, the NWH-word is analyzed technically as the an overt

<sup>5</sup> The Mandarin morpheme *na(r)* corresponds to *bin* 'where' in Cantonese.

<sup>6</sup> This is not a problem for rhetorical wh-questions because she largely assumes that rhetorical wh-questions are derived from interrogative wh-questions.

realization of the negative operator ([+NEG, -Q]) in the Spec of QP<sup>7</sup>. Basically that essentially means the NWH-words have nothing to do with questions. Third, Hsieh noticed that the NWH-construction fails some important diagnostics. The results are not shared by RWH-question.<sup>8</sup> They raised doubts about treating the NWH-construction as rhetorical questions. Generally speaking, there is a lack of adequate support for analyzing the NWH-construction as rhetorical questions.

### 3. NWH-CONSTRUCTION VS. RWH-QUESTION

In this section, the NWH-construction and the RWH-question will be compared. The findings support my claim that the NWH-construction is not a rhetorical question. In Section 3.1, the NWH-construction will be shown to fail the questionhood diagnostics, including *doudai* test and embedding under verbs that takes questions. Section 3.2 will highlight some characteristics shared with rhetorical wh-questions, e.g. NPI licensing, which will be useful for analyzing the NWH-construction in Section 4.

#### 3.1 DIFFERENCES

##### *Doudai*

An important difference between the NWH-construction and rhetorical question is the co-occurrence between the wh-words and *doudai* (the *wh-the-hell morpheme* in Cantonese). According to Huang and Ochi (2004), *daodi*<sup>9</sup> must occur in the scope of an interrogative CP. Hsieh (2001) found that *daodi* can occur in regular or rhetorical wh-questions but not in "*na(r)* rhetorical questions."

- |     |  |   |
|-----|--|---|
| (6) | *Ta daodi na(r) zhidao?<br>he indeed where know<br>'How did he know?'                                | (Mandarin)                                      |
| (7) | Daodi yikuai keyi mai shenme?<br>indeed one-dollar can buy what<br>'What can one dollar buy indeed?' | (Mandarin)<br><br>[ok for IWH- and RWH-reading] |

<sup>7</sup> In Hsieh's analysis, QP is a projection between TP and PredP.

<sup>8</sup> They will be discussed in Section 3.1.

<sup>9</sup> i.e. the Mandarin counterpart for *doudai*

The above shows that rhetorical questions are questions but the NWH-construction is not. If the NWH-construction were a kind of rhetorical questions, such contrast would go unexplained.

Selection of wh-complement

The NWH-construction and the RWH-question also differ in embedding under verbs that takes a wh-complement. As discussed in Huang (1982), Chinese verbs like *wen* 'ask', *xiang zhidao* 'want to know' selects for an indirect interrogative question. The prediction is that wh-complement of the same type should be selected by the same set of verbs/predicates. If the RWH-question and the NWH-construction are both rhetorical questions, they should pattern with each other in embedding. It turns out that the sets of verbs for the NWH-construction and the RWH-question are different.

Let us first consider *man* 'ask' and *soeng zidou* 'want to know' in Cantonese.

- (8) Keoi man John wai taaitaai zou-gwo me aa.  
 he ask John for wife do-EXP what SP  
 'He asked what John has done for his wife.'
- (9) Keoi soeng zidou keoidei hoji hai bindou wandou seoi aa.  
 he want know they can at where find water SP  
 'He wanted to know where they could find some water.'

The embedded clauses in (8)-(9) can be interpreted as indirect rhetorical questions (in addition to interrogative reading). In contrast, a clause containing an NWH-word cannot be embedded under *man* 'ask' or *soeng zidou* 'want to know.' For example, it is impossible to embed (10) under *man* 'ask' (11) or *soeng zidou* 'want to know' (12). The contrast between (8)/(9) and (11)/(12) again confirms that the NWH-construction is not a question.

- (10) Keoidei bindou hoji wandou seoi aa.  
 they where can find water SP  
 'No way can they find any water.'
- (11) \*Keoi **man** keoidei bindou/dim/me hoji wandou seoi aa.  
 he ask they where/how/what can find water SP
- (12) \*Keoi **zoeng zidou** keoidei bindou/dim/me hoji wandou seoi aa.  
 he want know they where/how/what can find water SP

Table 1 summarizes the verbs that can take the NWH-clause and the RWH-question. Note that there is some variation in judgment among speakers. For example, some consider it marginal to embedded an NWH-complement under *zatji* 'call into question.' We also note that *me* 'what' is highly resistant to embedding under any verb. Overall speaking, the embedding possibilities of the two types of clauses are not the same.

Table 1. Selection of different types of wh complement clauses

	<i>NWH</i>			<i>RWH</i>
	<i>bin</i>	<i>dim</i>	<i>me</i>	
<i>zatji</i> 質疑 'call into question'	ok/? (E)	ok/? (E)	*	ok (E)
<i>m-mingbaak</i> 唔明白 'do not understand'	ok/? (E)	ok/? (E)	*	ok (E)
<i>waaiji</i> 懷疑 'suspect'	ok/? (E)	ok/? (E)	*	ok (E)
<i>man</i> 問 'ask'	*	*	*	ok (E)
<i>zidou</i> 知道 'know'	ok/? (E)	ok/? (E)	*	*
<i>soeng zidou</i> 想知道 'want to know'	*	*	*	ok (E)
<i>soengseon</i> 相信 'believe'	*	*	*	*
<i>hou hangding</i> 好肯定 'be certain'	*	*	*	*

Key: E = embedded scope; M = matrix scope

Morphology of Wh-words

A characteristics pertaining to NWH-construction is that only the short wh-word forms can serve as NWH-words. No such morphological restriction is observed in IWH- and RWH-questions. In Cantonese, some wh-words come in two forms, namely short form and long form. The correspondence is given in the Table 2. They can largely be used inter-changeably in interrogative and rhetorical questions.

Table 2. Grammaticality of Short vs. Long Forms in NWH-construction

<i>NWH-words</i>	<i>Short Form</i>	<i>Long Form</i>
'where'	bin	bindou
'how'	dim	*dimjoeng
'what'	me/mat	?matje

The preference for short forms in NWH-construction is more significant for *dim* and *me*. The judgment of an NWH construction becomes degraded if the long form, *dimjoeng* and *matje*, is used.

Nor can D-linked wh-phrases ever serve as an NWH-word, e.g. *bindou-deifong* 'which place/which-place', *dimjoeng-joeng* 'how manner/what manner' and *matje-je* 'what thing.'

- (13) a \*John bin(dou)-deifong wui maai go bun syu aa.  
       John where-place will buy DEM CL book SP  
       'No way will John buy the book.'
- b \*John dimjoeng-joeng wui maai go bun syu aa.  
       John how-manner will buy DEM CL book SP  
       'No way will John buy the book.'
- c \*John matje-je wui maai go bun syu aa.  
       John what-thing will buy DEM CL book SP  
       'No way will John buy the book.'

The above restriction is found only in the NWH reading. These D-linked wh-phrases are perfectly fine in interrogative and rhetorical questions.

- (14) Keoidei hai bindou hoji wandou seoi aa? (rhetorical or interrogative)  
       they at where can find water SP  
       'Where can they find any water?'
- (15) Keoidei hoji maaidou di me aa? (rhetorical or interrogative)  
       they can buy some what SP  
       'What can they buy?'

To summarize, the diagnostic tests demonstrate that the NWH-construction is not a question but the RWH-questions is. The observations about NWH morphology strongly suggests that the NWH-construction constitutes a distinct phenomenon different from IWH- and RWH-questions. The evidence presented lends further support against Hsieh's analysis that the NWH-construction is a kind of rhetorical questions.

## 3.2 SIMILARITIES

Though it has been argued that the NWH-construction is not a rhetorical question, they share some similarities. They include NPI-licensing and sensitivity to syntactic islands. This suggests that the NWH-construction and the RWH-question may be treated similarly in certain ways, as will be elaborated further in Section 4.

Licensing of Negative Polarity Items (NPIs)

In Chinese, NPIs such as wh-indefinites and minimizers can be licensed by affective contexts such as negation, conditionals, questions, etc (Li 1992, Lin 1996). (16a) shows that without the licensing environment, the indefinite wh-interpretation becomes impossible.

- (16) a. \*Ta xihuan shenme. (from Li / Mandarin)  
           he like what  
           'He likes something/anything.'
- b. Ta bu xihuan shenme.  
           he not like what  
           'He doesn't like anything.'

The availability of NPI-licensing effects in the NWH-construction has motivated Hsieh (2001) to posit that NWH-words are negative operators. Sentences containing an NWH-word or an RWH-phrase can license various NPIs.

- (17) Keoi bin jau maai matje aa. (indef. wh licensed by NWH)  
       he where have buy what SP  
       'No way has he bought anything.' (He is so stingy.)
- (18) Bingo wui hai neidou maai di me aa? (indef. wh licensed by RWH)  
       who will at here buy some what SP  
       'Who would buy anything here?'

Similar to indefinite wh, minimizers also require licenser. NWH and RWH can license minimizer *bun fan cin* 'any money' (literally, 'half a cent').

- (19) Bingo wui bei bun fan cin ngo aa? (RWH)  
       who will give half cent money I SP  
       'Who will give me half a cent?'



- (20) Keoi bin/dim/me wui bei bun fan cin ngo aa. (NWH)  
 he where/how/what will give half cent money I SP  
 'No way will he give me half a cent.'

As advocated in Hsieh (2001), the observations imply that negation is present in both RWH- and NWH-construction.

*Syntactic Islands*

It is well-known that in Chinese, nominal interrogative wh-phrases (IWH-phrases) can occur in syntactic islands without triggering island violations. However, neither NWH-words nor RWH-words can occur in syntactic islands. The behavior of the three types of wh-phrases are summarized in the table below.

Table 3. Island effects in three types of wh-words

	<i>Cantonese Wh</i>	<i>Complex NP</i>	<i>Sentential Subj</i>	<i>Adjunct Island</i>	<i>Wh-Island</i>
IWH <sup>10</sup>	Nominal (who, what, where, when)	✓	✓	✓	✓
	Non-nominal (A-not-A, how, why)	*	*	*	*
RWH <sup>11</sup>	Nominal	*	*	*	*
NWH	<i>bin, dim, me</i>	*	*	*	*

✓ = wh can occur in a syntactic island      \* = wh cannot occur in a syntactic island

Let me illustrate the facts using complex NP island. In (21a), the interrogative locative wh-phrase is fine in the complex NP island. Placing an NWH-word or a RWH-phrase in the complex NP island results in strong ungrammaticality.

Complex NP Island

- (21) a Keoi soengseon [<sub>DP</sub> [ John hai bindou saat go go gingcaat] ge gongfaat]?(IWH)  
 he believe John at where kill DEM CL policeman GE claim  
 'Where is *x* such that he believed the claim that John killed the policeman at *x*?'

<sup>10</sup> Huang 1982; Cheng 1991; Tsai 1994

<sup>11</sup> Sprouse (submitted)

- b \*Keoi soengseon [<sub>DP</sub> [ John bin jau saat go go gingcaat ] ge gongfaat]. (NWH)  
 he believe John where have kill <sub>DEM CL</sub> policeman <sub>GE</sub> claim  
 'He believed the claim that no way did John kill the policeman.'
- c \*Keoi soengseon [<sub>DP</sub> [ bingo wui maai nei gaa gau ce ] ge gongfaat]? (RWH)  
 he believe who will buy <sub>DEM CL</sub> old car <sub>GE</sub> claim  
 Intended to mean: 'He believed the claim that no one would buy the old car.'

The sentences would be equally bad if *dim* 'how' or *me* 'what' are used in syntactic islands. Here is another set of examples involving adjunct island.

#### Adjunct Island

- (22) a janwai dinlaam hai bin(dou) tyun-zo, soji keoi soeng-m-dou mong. (IWH)  
 because cable at where broken-PERF so he get.on-not web  
 'Where is the place *x* such that because the cable at *x* was broken, he could not access the Internet?'
- b \*janwai dinlaam bin jau tyun-zo, soji keoi soeng mong. (NWH)  
 because cable where have broken- PERF so he get.on web  
 Intended to mean: 'Because no way was the cable broken, he could access the Internet.'
- c \*janwai bingo wui jung go bou dinnou, soji keoi hoji soeng mong. (RWH)  
 because who would use <sub>DEM CL</sub> computer, so he could get.on web  
 Intended to mean: 'Because no one would use the computer, he could access the Internet.'

#### 4. REMARKS ON THE SYNTACTIC ANALYSIS OF NWH

In this section, Hsieh's analysis of the syntactic structure of the NWH-construction and its problems will be discussed. I will then give some remarks on an alternative way of analyzing the NWH-construction. Hsieh (2001) proposed that *na(r)* is an overt realization of the negative operator in the Spec of QP. The motivation for the claim is that a wh-word can have indefinite wh interpretation if it is under the scope of *na(r)* but not outside it. Consider (23).

- (23) a. \**Shei na(r) chi-guo na zhong dongxi?!* (Mandarin)  
 who where eat-*ASP* that kind thing  
 'How can it be possible that anybody has eaten that kind of things?'
- b. *Ta na(r) chi-guo shenme dongxi?!* (Mandarin)  
 he where eat-*ASP* what thing  
 'How can it be the case that he has eaten anything?!'

Hsieh's proposal explains why (23a) but not (23b) is bad because *shei* 'who' is outside the scope of negation operator *na(r)*. Nevertheless, there are several disadvantages. First, the proposal amounts to saying that the NWH-word *na(r)* is a negation marker. However, the regular negation markers such as *m* 'not' and *mou* 'have-not' do not show sensitivity to islands or selection of wh-complements by matrix verbs<sup>12</sup>. These properties are traditionally explained in relation to CP. Second, it is not clear what variable in the sentence the negative operator binds. Third, the analysis fails to connect NWH-words to the bigger picture wh-words in general. The fact that Cantonese can use any of the three wh-words for negative interpretation strongly suggests that the negative interpretation contributed by NWH-words is not the lexical idiosyncrasy of individual words. They should better be related to the general picture of wh-morphology.

Here I would like to suggest an alternative view of NWH-words. Many previous studies (e.g. Nishigaushi 1990, Cheng 1991, 1994, Tsai 1999) on interrogative wh and indefinite wh across languages suggest that wh-words inherently lack quantificational force. Wh-words are variables bound by an operator (e.g. question operator) via unselective binding. The interpretation of wh-words depends on the nature of the binder. I assume that the NWH-word should be treated uniformly as other types of wh-words in Chinese. They are variables bound by a covert negative operator in the local CP.

[<sub>CP</sub> *NegOp* [IP ... [ NWH Modal/Aux VP ] ] ]

<sup>12</sup> Here is an example of selectional restriction. The regular negation marker *m* is not sensitive to the clause type requirement imposed by *soengseon* 'believe' but *bin* is.

- (a) Keoi soengseon nei m wui heoi jincoengwui.  
 he believe you not will go concert  
 'He believed that you would not go to the concert.'
- (b) \*Keoi soengseon nei bin wui heoi jincoengwui.  
 he believe you where will go concert  
 'He believed that no way would you would go to the concert.'

There is some advantage in assuming a negative operator in the left periphery. First, as mentioned earlier, NWH-clauses are difficult to be embedded. It is possible that the negative operator is generated only in the root CP or embedded CP required by a limited set of verbs like those listed in Table 1. This may also explain why RWH-questions are not possible to be embedded in syntactic islands. RWH-questions may involve the same negative operator in the local CP domain in addition to a +Q operator. Second, there is evidence that NWH-words are subject to intervention effects (Beck 1996). Here is a couple of examples.

- (24) \*Hou do jan bin/dim/me wui heoi jincoengwui aa. (QP ... NWH)  
 very many people where/how/what will go concert SP  
 'No way will many people go to the concert.'
- (25) \*Zinghai John bin/dim/me wui heoi jincoengwui aa. (only ...NWH)  
 only John where/how/what will go concert SP  
 'No way will only John go to the concert.'

(24) and (25) demonstrate the blocking effect when the NWH-word is preceded by an intervener such as a quantified DP or *zinghai* 'only.' On Hsieh's account, the ungrammaticality of the above two sentences is surprising. My proposal, however, will receive a more natural account because the intervener stands between the covert negative operator and the NWH-word, thus triggering the blocking effect.

Having said that, we still have a number of puzzles to solve. Let me point out a few. First, why should the NWH interpretation be associated with particular syntactic position? What is the semantic content of the NWH variable? Second, how do the three NWH-words differ from each other? Native speakers seem to have difficulty telling the subtle semantic differences. These three NWH-words are not homogeneous because they are not always inter-changeable. For example, NWH-clauses involving *bin* and *dim* can be embedded under some verbs (Table 1) but *me* consistently fails to do so. Last, the negative reading is likely not to be a unique phenomenon in Chinese. Comparable use of wh-words is also found in Classical Chinese, Japanese, Korean, Malay, Farsi, Hebrew and Russian. I will leave these questions open for future research.

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