

A-not-A questions in Cantonese^{*}

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Abstract

By examining Cantonese A-not-A questions containing quantificational elements and on the assumption of the Minimalist framework (Chomsky 1995), I propose that an A-not-A question is formed by the movement of the question operator base-generated in sentential Neg⁰ head to [Spec,CP] to check the question feature in the head C⁰. (Cf. Cheng 1991, Chomsky 1995) A reduplication of the verb or modal auxiliary immediately dominated by NegP is triggered and inserted before the negative morpheme before Spell-Out. Adopting this configuration, the ill-formedness of A-not-A questions containing elements of quantification in certain structural positions can be explained by the violation of Relativized Minimality (Rizzi 1990).

1 Introduction

Studies of A-not-A questions in Mandarin Chinese in the classical approach often treat this type of questions as disjunctive questions offering a choice between an affirmative sentence and its negative counterpart (Wang 1967, Chao 1968, Li & Thompson 1981 and others). For instance, the A-not-A question in example (1) offers the hearer a choice between "you like music" and "you do not like music".

- (1) ni xihuan-bu-xihuan yinyue?
you like-not-like music
"Do you like music?"

It is also well known that the morpheme A in an A-not-A question can not only be a verb, but also other grammatical categories such as modals, adjectives and coverbs or prepositions (Li & Thompson 1981, Matthews & Yip 1994). Thus, the following are all well-formed A-not-A questions.

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- (2) ni xi(huan)¹-bu-xihuan chi niurou? (Verb)
 you like-not-like eat beef
 "Do you like eating beef?"
- (3) wo ke(yi)-bu-keyi wan yi dian lai? (Modal)
 I can-not-can late one little come
 "Can I come later?"
- (4) zhe ge huaping piao(liang)-bu-piaoliang? (Adjective)
 this CL² vase pretty-not-pretty
 "Is this vase beautiful?"
- (5) ta zai-bu-zai jia? (Preposition/Coverb)
 s/he at-not-at home
 "Is s/he at home?"

In the classical tradition, it is suggested that these questions be derived from their corresponding disjunctive questions containing the explicit disjunctive morpheme *haishi* ("or") by transformational deletion of identical elements. Thus, example (1) is derived from the disjunctive coordinate structure in (6) in which the disjunctive morpheme *haishi* ("or") and the identical elements *yinyue* ("music") and *ni* ("you") are deleted.

- (6) ni xihuan yinyue haishi ni bu xihuan yinyue?
 you like music or you not like music
 "Do you like music or do you not like music?"

Functionally, A-not-A questions are also regarded as a type of yes-no questions since they are similar to yes-no questions to a large extent. (Cf. Huang 1982, Ernst 1994, McCawley 1994 and Matthews & Yip 1994) For instance, example (1) is said to be

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¹ The second syllable of a disyllabic verb, modal or adjective before the negative morpheme can be optionally omitted. Li & Thompson (1981) suggest that this is influenced by southern dialects such as Cantonese.

² The following abbreviations are used in this paper: ASP = aspect marker; CL = classifier; DE = Mandarin genitive marker, GEN = Cantonese genitive marker; ME = the question particle *meI*; PRT = postverbal particle; SFP = sentence-final particle; TIM = the additive focus particle *tim1*; ZAA = the restrictive focus particle *zaa3*.

equivalent to the following yes-no question marked by the question marker *ma* in Mandarin.

- (7) ni xihuan yinyue ma?
 you like music SFP
 "Do you like music?"

The difference between a particle question and an A-not-A question is that A-not-A questions are often construed as being 'neutral' presuppositionally or used in a neutral context. This means that the questioner does not hold any assumption that the proposition expressed by the question is either true or false (Li & Thompson 1981 among many others). The following Cantonese examples best illustrate the difference.

- (8) a. nei heoi-m-heoi Baalai aa3?
 you go-not-go Paris SFP
 "Are you going to Paris?"
- b. nei heoi Baalai me1?
 you go Paris SFP
 "Are you going to Paris? (I thought you were not going.)"
- c. nei m heoi Baalai me1?
 you not go Paris SFP
 "Are you not going to Paris? (I thought you were going.)"

The A-not-A question in (a) is in a neutral context, i.e. the speaker does not hold any assumption that the hearer is going or not going to Paris. On the other hand, in (b), the question with the final question particle *me1* conveys the speaker's belief which is contradictory to the proposition expressed by the question, i.e., that the speaker thought that the hearer was not going to Paris. Similarly, in (c), by asking a negative question using the particle *me1*, the speaker conveys his or her assumption that the hearer was going to Paris and seeks to confirm his/her belief or asks whether it should be revised.

Discussions on Chinese A-not-A questions largely centre on their formation (Li & Thompson 1981, Huang 1982, 1990 among others) or their presuppositional differences from particle questions (Li & Thompson 1981, Zhang 1997, etc.). Their syntactic behaviour and co-occurrence restrictions have been touched upon (such as Aoun & Li 1993, Ernst 1994, Huang 1982, Tsai 1994, Wu 1997) but are not fully explored yet.

This paper attempts to give a syntactic account of Cantonese A-not-A questions by examining the behaviours of quantifying elements in an A-not-A question, some of which independently observed by Wu (1997). In the following section, I will outline some previous proposals for A-not-A questions. Section 3 presents the observations of the interaction of Cantonese A-not-A questions and quantifying elements. An account based on the proposed syntactic configuration of A-not-A questions is given in Section 4 to explain these facts. Section 5 looks at a so-called 'special' type of A-not-A questions involving the copula *hai* and it will be shown that it need not receive any special treatment. Section 6 concludes the paper.

2 Some previous analyses of A-not-A questions

2.1 A-not-A questions as wh-questions

Huang (1990) departs from the traditional views and claims that A-not-A questions belong to the same question type as wh-questions based on the observation that A-not-A questions show similar syntactic behaviours to wh-questions rather than disjunctive questions. In his analysis, an A-not-A question³ is derived from a simplex sentence with

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³ Huang postulates that there are two types of A-not-A questions: A-not-AB and AB-not-A, which have distinct formation rules. For the question "Do you like music?", the A-not-AB type in Mandarin can be either of the following:

- (i) *ni xi-bu-xihuan yinyue?*
you like-not-like music
- (ii) *ni xihuan-bu-xihuan yinyue?*
you like-not-like music
- (iii) *ni xihuan yinyue bu xihuan yinyue?*
you like music not like music

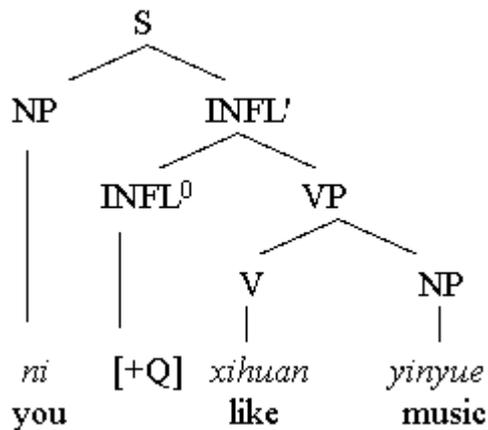
The AB-not-A type for the same question would be

- (iv) *ni xihuan yinyue bu xihuan?*
you like music not like

Since the AB-not-A type is not attested in Cantonese due to dialectal difference, Huang's proposal for the AB-not-A type will not be discussed in this paper. All A-not-A questions in the current discussion, Mandarin or Cantonese, necessarily refer to the A-not-AB type, unless stated otherwise.

an interrogative ([+Q]) INFL constituent that is phonetically realised by a reduplication rule which copies a sequence immediately following INFL and inserting the negative morpheme *bu* ("not") between the original and the copy (Huang 1990: 316). Example (1) then has the following D-structure.

(9)



This yields several possible surface structures, namely *ni xihuan-bu-xihuan yinyue* (as in (1)), or *ni xi-bu-xihuan yinyue*, or *ni xihuan yinyue bu xihuan yinyue*.

According to Huang, a wh-question also carries the [+Q] feature but, instead of being generated in INFL, it is generated in an NP or adverbial constituent and is realised as the corresponding wh-phrase. The parallel of wh-questions and A-not-A questions derives from the observation that both of them exhibit island effects, namely extraction from sentential subjects and relative clauses. On the assumption that, like a wh-phrase, an A-not-A constituent undergoes LF movement, the ungrammaticality of example (10a) in which the A-not-A constituent is extracted from a sentential subject results from the violation of the ECP. Similarly, example (10b) is a case where the A-not-A constituent is extracted from a relative clause, resulting again in the violation of the ECP, and is therefore ungrammatical.

- (10) a. *[wo qu-bu-qu Meiguo] bijiao hao? (=Huang's (33c))
 I go-not-go America comparatively good
 "Is it better for me to go to America or not go to America?"
- b. *ni xihuan [zunzhong-bu-zunzhong ni de] ren?

you like respect-not-respect you DE person
 "Do you like people who respect you or those who don't?"

In contrast, as noted by Huang, the corresponding disjunctive questions of (10a) and (10b) with the morpheme *haishi* ("or") are grammatical.

- (11) a. [wo qu haishi bu qu Meiguo] bijiao hao? (=Huang's (62b))
 I go or not go America comparatively good
 "Is it better for me to go to America or not go to America?"
 b. ni xihuan[zunzhong haishi bu zunzhong ni de] ren?
 you like respect or not respect you DE person
 "Do you like people who respect you or those who don't?"

Huang's analysis concludes that A-not-A questions and wh-questions belong to a single question type and the former are syntactically not the same type as disjunctive questions containing the morpheme *haishi* ("or").

Aoun & Li (1993) and Wu (1999) argue against the LF-movement account proposed by Huang (1982, 1990). Essentially, the A-not-A form stays in situ and is licensed by the Question operator. Furthermore, the A-not-A element is on a par with an adjunct wh-element as there is a contrast between wh-adjuncts and A-not-A on one hand and wh-arguments on the other in their behaviours in extraction from strong islands such as subject islands, adjunct islands and complex-NP islands (see Aoun & Li 1993, Huang 1982 and Tsai 1994). This is exemplified in examples (12) – (14) where extraction of wh-arguments from strong islands (a) is permitted while extraction of wh-adjuncts or A-not-A is not possible (b and c).

- (12) a. keoi jingwai nei maai matje zeoihou?
 s/he think you buy what best
 "What is the thing (x) such that s/he thinks that you buy x is the best?"
 b. *keoi jingwai nei dimgaai heoi Baalai zeoi hapei?
 s/he think you why go Paris most reasonable
 "Why (x), s/he thinks that you go to Paris x is the most reasonable?"
 c. *nei gokdak ngo jing-m-jinggoi heoi Baalai beigaau hou?
 you feel I should-not-should go Paris comparatively good
 "Do you feel that it is better for me to go to Paris or not go to Paris?"

- (13) a. John janwai Mary gong zo matje nau ne?
 John because Mary say ASP what angry SFP
 "What is the thing (x) such that John got angry because Mary said x?"
- b. *John janwai Mary dimgaai gongje nau ne?
 John because Mary why say-thing angry SFP
 "Why (x), John got angry because Mary said something x?"
- c. *John janwai Mary gong-m-gongje nau ne?
 John because Mary say-not-say-thing angry SFP
 "Did John get angry because Mary said something or Mary didn't say anything?"
- (14) a. nei zungji bingo se ge syu?
 you like who write GEN book
 "Who is the person (x) such that you like the books that x wrote?"
- b. *nei zungji keoi dimgaai se ge syu?
 you like s/he why write GEN book
 "Why (x), you like the books that s/he wrote x?"
- c. *nei gin gwo sik-m-sik tiuseoi ge jan?
 you see ASP know-not-know dive GEN person
 "Have you met people who can dive or people who cannot dive?"

The island effects observed in A-not-A questions and wh-adjunct questions can be explained by the fact that the A-not-A element and the wh-adjunct must be antecedent-governed (Aoun & Li 1993) or licensed by the question operator (Wu 1999) in the minimal clause in which they occur. Although Tsai (1994) also observes that the A-not-A element behaves like wh-adverbs, he argues that wh-adverbs (and A-not-A) do not enter into unselective binding as variables, as opposed to wh-arguments. Instead, they appeal to chain formation to avoid vacuous quantification.

2.2 A semantic account

Wu (1997) provides a model-theoretic account to explain some new observations with respect to the co-occurrence restrictions of A-not-A questions and certain quantifying elements. It is found that A-not-A questions are incompatible with quantified noun

phrases in the subject position, frequency adverbs such as *yizhi* ("always"), focusing adverbs *zhiyou* ("only") and *lian ... ye* ("even") and modal adverbs such as *yiding* ("necessarily") and *keneng* ("possibly"). On the assumption that the negation in an A-not-A form is adverbial, Wu proposes that an A-not-A question is a nonempty partition of the possible states of affairs into two mutually exclusive and jointly exhaustive cells. To answer such a question, a choice function is assigned to pick one of the cells as true and reject the other as false. As all of the above quantifying elements have scope over negation, partitioning may generate more than two cells; thus, the two answers are either not jointly exhaustive or mutually exclusive and ungrammaticality results. While I agree with the insights and basics of Wu's model-theoretic account, his formulation falls short of accounting for further observations involving quantifying elements, which will be explicated in the following sections.

3 A-not-A questions in Cantonese: some observations

3.0 A-not-A questions in Cantonese and those (A-not-AB type) in Mandarin are basically comparable. Nonetheless, Cantonese is not as free as Mandarin with respect to the possibilities of the string preceding the negative morpheme. For instance, the canonical way to ask the question 'Do you like music?' in Cantonese is (15a) in which the string preceding the negative morpheme is just the first syllable of the disyllabic verb *zungji* ("like"). (15b) and (15c) are considered marginal, though the Mandarin counterparts are fine.

- (15) a. *nei zung-m-zungji jamok?*
 you like-not-like music
- b. *??/*nei zungji-m-zungji jamok?*
 you like-not-like music
- c. *??/*nei zungji jamok m zungji jamok?*
 you like music not like music

Analyses of Mandarin A-not-A questions can be used as bases for probing into the properties of the Cantonese counterpart. Apart from being subject to island constraints, as in Mandarin, they also exhibit some other interesting co-occurrence restrictions with quantificational elements.

3.1 Quantified noun phrases in the subject position

Generally, quantified noun phrases can occur in A-not-A questions as shown in the following examples.

- (16) ni go jauwai gaiwaak kap-m-kapjan dou houndo haak aa3? (many)
 this CL discount plan attract-not-attract PRT many customer SFP
 "Did this promotion plan attract many customers?"
- (17) John ceoi-m-ceoi dou sojau ge laapzuk aa3? (all)
 John blow-not-blow PRT all CL candle SFP
 "Can John blow out all the candles?"
- (18) sinsaang gamnin wui-m-wui sunglaimat beimui go hoksaang aa3? (every)
 teacher this-year will-not-will give gift to every CL student SFP
 "Will the teacher give presents to every student this year?"
- (19) nei soeng-m-soeng ziugwu jat di dukgeoi ge loujangaa aa3?
 you want-not-want look-after one CL alone-live GEN elderly SFP
 "Do you want to look after some old people who live alone? (some)"
- (20) nei ho-m-hoji sungloeng go bo beigo siupangjau aa3? (numeral NP)
 you can-not-can give two CL balloon to CL child SFP
 "Can you give two balloons to this child?"

However, A-not-A questions are ill-formed when the quantified noun phrases occur in the subject position as in examples (21) to (27).

- (21) *mui go hoksaang dou zung-m-zungji tai dinsai aa3? (every)
 every CL student all like-not-like watch TV SFP
 "Does every student like watching TV?"
- (22) *go-go hoksaang dou jau-mou⁴ gaau hokfai aa3? (all)
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⁴ The *mou* ("not-have") in *jau-mou* ("have-not-have") is an incorporation of negation and the morpheme *jau* ("have"). It is equivalent to the Mandarin counterpart *you-mei-you* and is thus an A-not-A structure.

CL-CL student all have-not-have pay school fees SFP
 "Did all students pay the school fees?"

- (23) *sojau sansangdou sai-m-sai heoi tousyugwun boudou aa3? (all)
 all fresher all need-not-need go library report SFP
 "Do all freshers need to report at the library?"

- (24) *jau (jat-) di jan soeng-m-soeng waanjau saigai aa3? (some)
 have (one-) CL person want-not-want go-around world SFP
 "Do some people want to travel around the world?"

- (25) *jau houdo/housiu jan teng-m-teng Radio 3 gaa3? (many/few)
 have many/few person listen-not-listen Radio 3 SFP
 "Do many/few people listen to Radio 3?"

- (26) *jau loeng go hoksaang wui-m-wui caamgaa beicoi aa3? (numeral NP)
 have two CL student will-not-will participate contest SFP
 "Are two students going to participate in the contest?"

- (27) *moujan sik-m-sik gong Jingman gaa3? (negative QNP)
 nobody know-not-knowspeak English SFP
 "Does nobody speak English?"

At first glance, it seems that what matters is the surface position of the quantified noun phrase with respect to the A-not-A form, i.e. the question would be well-formed only when the quantified noun phrase occurs in a post-A-not-A position. However, when the quantified noun phrase is postposed as in examples (28) to (32), yielding a "right dislocation" construction which is prevalently found in Cantonese, the question still remains ill-formed.

- (28) *dou zung-m-zungji tai dinsi aa3, mui go hoksaang? (every)
 all like-not-like watch TV SFP every CL student
 "Does every student like watching TV?"

- (29) *dou jau-mou gaau hokfai aa3, go-go hoksaang? (all)
 all have-not-have pay school fees SFP CL-CL student
 "Did all students pay the school fees?"

- (30) *soeng-m-soeng waanjau saigaai aa3, jau (jat-) di jan? (some)
 want-not-want go-around world SFP have (one-)CL person
 "Do some people want to travel around the world?"
- (31) *teng-m-teng Radio 3 gaa3, jau houdo/housiu jan? (many/few)
 listen-not-listen Radio 3 SFP have many/few person
 "Do many/few people listen to Radio 3?"
- (32) *sik-m-sik gong Jingman gaa3, moujan? (negative QNP)
 know-not-knowspeak English SFP nobody
 "Does nobody speak English?"

As Cheung (1997) shows that the noun phrase being postposed originally occupies the subject position, it can be concluded that the incompatibility of quantified noun phrases and the A-not-A form indeed stems from the relative structural positions rather than their surface order.

3.2 Adverbs of quantification

Similar to the behaviour of quantified noun phrases, pre-A-not-A and post-A-not-A adverbs of quantification also exhibit this asymmetry. This is illustrated by the ungrammaticality of example (33a) in which the frequency adverb *gingsoeng* ("often") is pre-A-not-A and the grammaticality of (33b) in which the adverb is post-A-not-A.

- (33) a. *zou segung gingsoeng jiu-m-jiu ceot ngoizin gaa3?
 do social worker often need-not-need out outreach SFP
 "As a social worker, do you often need to do outreach work?"
- b. zou segung jiu-m-jiu gingsoeng ceot ngoizin gaa3?
 do social worker need-not-need often out outreach SFP
 "As a social worker, do you often need to do outreach work?"

The same pattern can be found in questions containing the focus adverb *zinghai* ("only") as in the following contrast.

- (34) a. *ngo zinghai ho-m-hoji gaau jat pin man?
 I only can-not-can submit one CL paper

"Can I only submit one paper?"

- b. ngo ho-m-hoji zinghai gaau jat pin man?
 I can-not-can only submit one CL paper
 "Can I only submit one paper?"

Modal adverbs such as *jatding* ("necessarily") show a similar asymmetry.

- (35) a. *ngo jatding jiu-m-jiu gaau loeng pin man?
 I necessarily need-not-need submit two CL paper
 "Do I necessarily have to submit two papers?"
- b. ?ngo jiu-m-jiu jatding gaau loeng pin man?
 I need-not-need necessarily submit two CL paper
 "Do I necessarily have to submit two papers?"

3.3 Epistemic necessity modal auxiliary *jinggoi*

Almost all epistemic and deontic modal auxiliaries can occur as the A in an A-not-A construction, as exemplified in examples (36) to (40).

- (36) sailouzai ho-m-hoji jam zau aa3? [deontic/permission]
 child can-not-can drink alcohol SFP
 "Can children drink alcohol?"
- (37) John ho-m-hoji jat-ci-gwo sik ng wun min aa3? [root/ability]
 John can-not-can one-time eat five bowl noodles SFP
 "Can John eat five bowls of noodles at one time?"
- (38) John tingjat jiu-m-jiu faan hok aa3? [deontic/necessity]
 John tomorrow need-not-need go school SFP
 "Does John need to go to school tomorrow?"
- (39) John jing-m-jinggoi sik siu-di jin aa3? [deontic/obligation]
 John should-not-should eat fewer cigarette SFP
 "Should John smoke less?"
- (40) ni tiu sou ho-m-hoji jung ling-jat-go fongfaat heoi gaai aa3?
 this CL problem may-not-may use other-one-CL method go solve SFP

"Is it possible to use another method to solve this problem?"
[epistemic/possibility]

Interestingly, the only exception is the epistemic necessity modal auxiliary *jinggoi* ('should'), as illustrated in examples (41) to (44). This peculiarity will be explained in due course in this paper.

(41) *gin T-seot jing-m-jinggoi wui sukseoi? [epistemic/necessity]
CL T-shirt should-not-should will shrink
"Should the T-shirt shrink?"

(42) *tingjat jing-m-jinggoi wui lokjyu aa3? [epistemic/necessity]
tomorrow should-not-should will rain SFP
"Should it rain tomorrow?"

(43) *John jing-m-jinggoi heoi zo Jatbun? [epistemic/necessity]
John should-not-should go ASP Japan
"Should John have gone to Japan?"

(44) *keoi jing-m-jinggoi hai ngodei ge loubaan? [epistemic/necessity]
s/he should-not-should be we GEN boss
"Should s/he be our boss?"

3.4 Focus sentence-final particles *zaa3* ('only') and *tim1* ('also')

Unlike Mandarin, Cantonese has two focus sentence-final particles: the restrictive focus particle *zaa3* ('only') and the additive focus particle *tim1* ('also'). They are also incompatible with A-not-A questions as shown in the following examples.

(45) a. *nei sik-m-sik gong Dakman zaa3?
you know-not-know speak German ZAA
"Do you only speak German?"

b. */??nei soeng-m-soeng sik zyugwulik tim1?
you want-not-want eat chocolate TIM
"Do you also want to eat chocolates?"

It should be noted that the sentence-final particles *zaa3* and *tim1* are compatible with the question particle *me1* which marks a yes-no question, as in the following examples.

- (46) a. *nei sik gong Dakman zaa3 me1?*
 you know speak German ZAA ME
 "Do you only speak German?"
- b. *nei soeng sik zyugwulik tim1 me1?*
 you want eat chocolate TIM ME
 "Do you also want to eat chocolates?"

This rules out the postulation that *zaa3* and *tim1* cannot occur in a question.

The incompatibility of A-not-A questions with quantified noun phrases in the subject position, pre-A-not-A adverbs of quantification, the epistemic necessity modal auxiliary *jinggoi*, and the focus final particles *zaa3* and *tim1* does not seem to be readily explained by previous accounts of (Mandarin) A-not-A questions and thus a re-analysis is necessary.

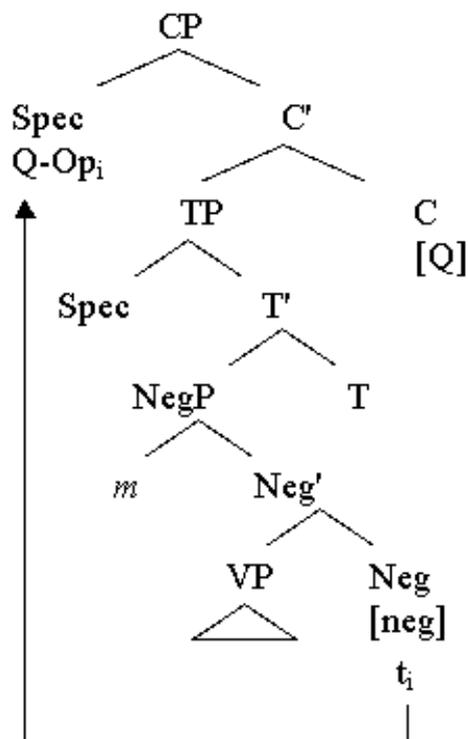
4 Explaining the facts

4.1 Syntax of A-not-A questions: a proposal

As opposed to traditional approaches, I suggest that an A-not-A question does not involve any underlying co-ordinate structure and phonological ellipsis process. Since A-not-A questions are alternative questions which are arguably comparable to wh-questions in the sense that they contain a two-valued variable instead of a many-valued variable, it is logical to assume a similar configuration for A-not-A questions to that of wh-questions. As it has been observed in the literature that A-not-A questions are sensitive to strong islands, similar to wh-adjuncts but different from wh-arguments (Aoun & Li 1993, Huang 1982, Tsai 1994, *inter alia*), unselective binding cannot be at work in A-not-A questions, unlike wh-questions involving arguments. Along the lines of Tsai (1994), I propose that, for A-not-A questions, an operator-variable pair is base-generated in the sentential Neg⁰ head and the non-overt Q(uestion)-operator undergoes successive-cyclic movement to check the question feature [Q] in C⁰. (Cf. Cheng 1991, Chomsky 1995) The sentential negative morpheme *m* is, as generally assumed for pure negators, generated in [Spec,NegP] and is in spec-head agreement with the [neg] feature on the Neg⁰ head. A reduplication of the verb or modal immediately dominated by NegP, and essentially the first syllable of it if it is disyllabic, occurs and the reduplicated

morpheme is inserted in a position immediately preceding the negative morpheme *m* before Spell-Out, thus yielding the A-not-A form. It is not clear, however, what triggers this reduplication process or why it occurs at all. Assuming that T^0 selects NegP (Pollock 1989), an A-not-A question has the following structure:

(47)



Although this approach, like Huang's (1990), postulates that A-not-A and wh-questions are associated with the same [wh] feature, one crucial difference is that it is more constrained than Huang's analysis which involves triggering an insertion of the negative morpheme and a reduplication of the verb by the [Q] feature generated at INFL. In this approach, the negative morpheme *m* is necessarily generated in its canonical sentential [Spec, NegP] position, by virtue of the [neg] feature in Neg^0 , which also semantically corresponds to one of the choices offered in an A-not-A question, i.e. the negated proposition. Moreover, as I claim here that the wh-variable is associated with the sentential Neg^0 head and the negative morpheme is generated in [Spec, NegP], the surface A-not-A structure must follow the subject (with certain optional adjuncts in between). Hence, there is no need to posit any Left Edge Condition (Dai 1990) which

stipulates that the A-not-A structure has to involve some left node dominated by the predicate.

Semantically, the claim here is that the negation in an A-not-A question is always sentential (contra Wu (1997), *inter alia*), albeit that the surface position of the negative morpheme seems to suggest that it is adverbial. It will be shown in the following that positing sentential negation rather than adverbial negation, contrary to most other analyses, has an advantage of providing a unified account for the ill-formedness of A-not-A questions containing elements of quantification.

4.2 Observations revisited

4.2.0 As the A-not-A variable is essentially like an adjunct variable in nature, it is expected that the chain formation is subject to Relativized Minimality (Rizzi 1990). This accounts for the island effects that A-not-A questions exhibit. Moreover, it is also predicted that intervening elements between the Q-operator and the variable can block the chain formation, resulting in the ungrammaticality of such questions. What constitutes these intervening elements? Since the Q-operator is quantificational in nature, potential intervening elements should also belong to the same natural class (Rizzi 1990). Thus, it is expected that elements of quantification such as quantifiers (as in quantified NPs), adverbs of frequency, modals and focus can all be potential interveners. It will be shown below that the ill-formedness of A-not-A questions containing quantificational elements as presented earlier is caused by the failure of movement of the A-not-A Q-operator across an intervening operator.

4.2.1 Quantified noun phrases in the subject position. Recall that pre-A-not-A quantified noun phrases in the subject position are not compatible with A-not-A questions. Example (21), repeated here as (48), contains the quantified noun phrase *mui-go hoksaang* ("every student") in the subject position.

- (48) *mui- go hoksaang dou zung-m-zungji tai dinsi aa3?
 every CL student all like-not-like watch TV SFP
 "Does every student like watching TV?"

Assuming that the subject is generated in [Spec,TP], the above question has the following structure:

- (49) * [CP Q-Op_i [TP *mui-go hoksaang* Op_(v) *dou* [NegP *zung m t_i zungji tai dinsi*]]]

As shown in (49), there exists a universal quantifier operator *dou*, which provides the subject *mui-go hoksaang* ("every student") with the universal quantificational force (Lin 1997), intervening between the Q-operator and the wh-variable. Since the universal quantifier has scopal interactions with the negative operator, the chain formation is blocked due to violation of Relativized Minimality.

The same holds true for an existential quantifier intervening between the operator and variable. For example,

- (50) **jau (jat-)di jan soeng-m-soeng waanjau saigaai aa3?* (some)
 have (one-)CL person want-not-want go-around world SFP
 "Do some people want to travel around the world?"

has the structure (51).

- (51) * [_{CP} Q-Op_i [_{TP} Op_(∃) *jau (jat-)di jan* [_{NegP} *soeng m t_i soeng waanjau saigaai*]]]

Similar to the case of universal quantification, the existential operator associated with *jau* ("have") binding the variable *(jat-)di jan* ((one-)CL-people) blocks the movement of the Q-operator.

Such intervention does not occur when the quantified noun phrase occurs in the object position or any position lower than Neg⁰. Consider the following example.

- (52) *hokhaau wui-m-wui giu mui go hoksaang gaau hokfai?* (every)
 school will-not-will ask every CL student pay school fees
 "Will the school ask every student to pay school fees?"

- (53) [_{CP} Q-Op_i [_{TP} *hokhaau* [_{NegP} *wui m t_i wui* [_{VP} *mui-go hoksaang_j* [_{VP} *giu t_j gaau hokfaai*]]]]]

In the above example, either *mui-go hoksaang* ("every student") undergoes Quantifier Raising (May 1985) to adjoin to VP or it stays in situ and the situation quantification associated with it is licensed by existential closure, where a situation is taken to be the context against which the domain of *mui* is specified (Lin 1997). As the Neg⁰ head which carries the wh-variable is structurally higher than the quantified noun phrase, there is no intervening operator blocking the movement of the Q-operator. Thus, the A-not-A question is well-formed.

4.2.2 Adverbs of quantification. The asymmetry between pre-A-not-A and post-A-not-A adverbs of quantification such as *gingsoeng* ("often") can also be accounted for along the same lines. For instance, example (54)

- (54) *ni gaan poutau gingsoeng maai-m-maai gwai je aa3?
 this CL shop often sell-not-sell expensive thing SFP
 "Does this shop often sell expensive things?"

is not well-formed because the frequency adverb *gingsoeng* ("often") as an operator intervenes between the Q-operator and the wh-variable. It has the following structure.

- (55) * [CP Q-Op_i [TP *ni-gaan poutau* Op *gingsoeng* [_{NegP} *maai m t_i maai gwai je*]]]

Interestingly, a parallel case can be found in the interaction of adverbs of quantification, such as *only*, and wh-adjuncts. The following wh-question is ill-formed.

- (56) *dimgaai_i John waa Mary zinghai maai zo saam bun syu t_i?
 why John say Mary only buy ASP three CL book
 "Why did John say that Mary only bought three books?"

Here, the movement of the wh-adjunct *dimgaai* ("why") is blocked by the restrictive focus operator *zinghai* ("only"). The ungrammaticality of A-not-A questions containing adverbs of quantification lends support to the suggestion that A-not-A questions and adjunct wh-questions are comparable in nature. (Cf. Aoun & Li 1993, Tsai 1994)

4.2.3 Epistemic necessity modal auxiliary jinggoi. The behaviour of the epistemic necessity modal *jinggoi* ("should") in A-not-A questions with respect to other modal auxiliaries seems peculiar since all modals but *jinggoi* are compatible with A-not-A questions. Although questioning one's epistemic evaluation is rare, it is not impossible to do so; thus semantic anomaly as a reason for the impossibility of the epistemic necessity modal *jinggoi* occurring in an A-not-A question is ruled out.

If we adopt the postulation that there are two modal positions, one above and one below sentential negation (Cormack & Smith 1998, 2000 and to appear) and posit that the Cantonese epistemic necessity modal *jinggoi* is merged in a pre-Neg position, the ill-formedness of those A-not-A questions involving this modal operator can be readily explained. To illustrate, consider the following example.

- (57) *gin T-seot jing-m-jinggoi wui sukseoi? [epistemic/necessity]
 CL T-shirt should-not-should will shrink
 "Should the T-shirt shrink?"

Jinggoi ("should") is merged above NegP while *wui* ("will") is merged below it. Since the epistemic necessity modal operator intervenes between the Q-operator and the wh-variable in Neg⁰, chain formation is impossible owing to violation of Relativized Minimality.

- (58) * [CP Q-Op_i [TP gin T-seot [ModalP₁ Op jing(goi) [NegP m t_i jinggoi [ModalP₂ wui [VP sukseoi]]]]]]]

As other kinds of modal operators are merged below NegP, i.e. ModalP₂ such as *wui* ("will") as in above, they do not block the movement of the Q-operator and thus are compatible with A-not-A questions.

One may argue that the ungrammaticality of (57) actually owes to the fact that the modal *jinggoi* is 'wrongly' reduplicated, i.e., what is reduplicated before Spell-Out ought to be the verb or modal dominated by NegP. In this case, *jinggoi* is merged above NegP and therefore renders the sentence ungrammatical. If that is indeed the reason, one should predict that *gin T-seot jinggoi wui-m-wui suk sei?* in which Modal₂ *wui* ("will") merged below NegP is reduplicated instead of *jinggoi* ("should") should be well-formed. However, this is still marginal and thus lends support to the intervening role played by the epistemic necessity modal *jinggoi*.

A further note on this is that this fact is not observed by Wu (1997) who only considers modal adverbs. While I agree with the basics of Wu's model-theoretic account, it does not seem to be able to explain why only the epistemic necessity modal auxiliary *jinggoi* cannot participate in an A-not-A question whereas all other modal auxiliaries are fine. In particular, if the negation in the A-not-A form is adverbial, as suggested by Wu, all modal auxiliaries are necessarily higher than negation structurally and therefore all necessity and possibility modal auxiliaries ought to behave the same, contrary to the facts observed. In other words, the postulation of adverbial negation in the A-not-A form cannot capture the different behaviours of different types of modal auxiliaries.

4.2.4 Focus sentence-final particles *zaa3* and *tim1*. Since the focus final particles, the restrictive *zaa3* and the additive *tim1*, also contribute quantificational force, it is worth examining how they behave in an A-not-A question as well. As noted earlier, both of

them are incompatible with A-not-A questions. Adopting the proposal that the two focus particles project their respective focus phrases which select a VP with optional intervening elements such as negation and the epistemic modal (Law 2001), the incompatibility of these particles with A-not-A questions can be readily explained. For instance, example (59) is the structure for the ungrammatical question **nei sik-m-sik gong Dakman zaa3?* ("Do you only speak German?"). As shown below, the sentence-final particle *zaa3*, which projects a Res(trictive) Phrase, stands between the Q-operator and the *wh*-variable and blocks the chain formation, resulting in the ungrammaticality of the question. The same holds true for the additive focus particle *tim1*.

(59) * [CP Q-Op_i [TP *nei* [ResP Op *zaa3* [NegP *sik m t_i sik gong Dakman*]]]]

In sum, the ill-formedness of A-not-A questions containing quantified noun phrases in the subject position, adverbs of quantification in the pre-A-not-A position, the epistemic necessity modal auxiliary *jinggoi* and the sentence-final particles *zaa3* ("only") and *tim1* ("also") can be accounted for by the impossibility of movement of the Q-operator in Neg⁰ to [Spec,CP] due to violation of Relativized Minimality arising from intervening potential operators.

5 *hai-m-hai* ('be-not-be') as A-not-A

An interesting fact about the four categories discussed earlier is that they can actually participate in an A-not-A question if *hai-m-hai* ("be-not-be") is used instead of reduplicating the verb or modal. Why is this so? This fact can actually be explained if we adopt the configuration for A-not-A questions as proposed in the preceding section. But first, we need to determine the status of *hai*.

Some previous studies (e.g. Matthews & Yip 1994 and others) treat questions containing the morpheme *hai-m-hai* ("be-not-be") as yes-no questions and they are thus distinct from A-not-A questions. However, the distinction between the two types of questions is not at all clear. In fact, conceptually the difference between a yes-no question and an alternative or disjunctive question is debatable. It has also been suggested that *hai-m-hai* questions have an emphatic function and *hai* is treated as an emphatic particle rather than the copula verb; thus, *hai-m-hai* questions are not included

in the set of A-not-A questions that involve verbs and modals as the A element (Shi 1994). However, the claim is rather dubious.⁵

A question containing *hai-m-hai* ("be-not-be"), solely from the surface form, certainly fits into the category of A-not-A questions: *hai* is the copula verb and the two *hai*'s are separated by the negative morpheme. From the point of view of economy, classifying *hai-m-hai* questions and other A-not-A questions into two distinct types does not seem appealing. Hence, contrary to some previous suggestions, I maintain that *hai* is not any special emphatic particle but the copula verb. The emphatic function arises from the syntactic structure rather than the verb *hai* per se.

Returning to the question why the four categories of quantification discussed earlier are grammatical in *hai-m-hai* questions, we shall consider some examples as follows.

(60) *hai-m-hai mui go hoksaang dou zungji tai dinsi aa3?* (Cf. (21))
 be-not-be every CL student all like watch TV SFP
 "Is it that every student likes watching TV?"

(61) *ni gaan poutau hai-m-hai gingsoeng maai gwai je aa3?* (Cf. (54))
 this CL shop be-not-be often sell expensive thing SFP
 "Is it that this shop often sells expensive things?"

(62) *gin T-seot hai-m-hai jinggoi wui sukseoi?* (Cf. (41))
 CL T-shirt be-not-be should will shrink
 "Is it that the T-shirt should shrink?"

(63) *nei hai-m-hai sik gong Dakman zaa3?* (Cf. (45))
 you be-not-be know speak German ZAA
 "Is it that you only speak German?"

Adopting the proposed configuration for Cantonese A-not-A questions, the grammaticality of these examples is actually predicted since there exist no intervening quantificational elements between the Q-operator and the wh-variable, unlike their 1.

⁵ Shi's (1994) conclusion that *shi* (the Mandarin counterpart of *hai*) is not the copula verb is drawn from his opposition to the claim that in the so-called emphatic *shi ...de* construction, *de* is a nominaliser and *shi* is the copula verb. He shows that actually no nominalisation is involved in such a construction and therefore *shi* need not be the copula verb. Instead, he suggests that *shi* is a modal which has an emphatic function.

ungrammatical counterparts in the earlier examples where *hai-m-hai* is absent. To illustrate, consider example (60). If we assume that the verb *hai* takes a CP complement, *mui go hoksaang dou zungji tai dinsi* ("every student likes watching TV") will be an embedded clause and (60) will have the following structure.

(64) [_{CP} Q-Op_i [_{NegP} *hai m t_i hai* [_{CP} *mui-go hoksaang dou zungji tai dinsi*]]]

As shown above, the quantified noun phrase *mui-go hoksaang* ("every student") is now below sentential NegP and does not intervene between the Qoperator and the wh-variable. Therefore, Relativized Minimality is respected and the question is well-formed. Similarly, the other three cases can be accounted for in the same vein.

Through this preliminary examination, I claim that *hai* ("be") is not an emphatic marker but the copula verb and questions containing *hai-m-hai* ("be-not-be") are in fact A-not-A questions in which the verb takes an embedded clause. This has an advantage over Wu's (1997) suggestion that Mandarin *shi-bu-shi* ("be-not-be") questions are different from other A-not-A questions in the sense that the negation in the former is sentential while that in the latter is not. The postulation presented here treats all A-not-A questions, no matter whether the A is a copula verb or not, constitute a uniform type. No special treatment is needed for *hai-m-hai/shi-bu-shi* questions while the facts can still be accounted for.

However, examples (61) – (63) seem to deviate from this postulation in that *hai-m-hai* does not occur in the sentence-initial position as in the previous example. Here I offer a speculation: the apparent subject, e.g. *ni gaan poutau* ("this shop") in (61), is actually the topic which originates in the subject position of the embedded clause. If the subject stays where it originates, as in the following

(65) *hai-m-hai ni gaan poutau gingsoeng maai gwai je aa3?*
 be-not-be this CL shop often sell expensive thing SFP
 "Does **this shop** often sells expensive things?"

the most salient reading is "Does this shop often sell expensive things?" in which *ni gaan poutau* ("this shop") is in focus. (This is why, as mentioned before, *hai* is often analysed as an emphatic marker.) The movement of the subject *ni gaan poutau* ("this shop") is either one of topic movement or occurs in the phonological component motivated by the need to disambiguate the emphatic and non-emphatic readings.

6 Summary

I have proposed that Cantonese A-not-A questions, contrary to previous analyses of the Mandarin counterpart, are not derived from any underlying co-ordinate structures. They involve a question operator-variable pair base-generated in sentential Neg⁰ head and the operator moves to [Spec,CP] to check the Q-feature in the head C⁰. Such movement is subject to Relativized Minimality. The first syllable of the verb or modal immediately dominated by NegP is reduplicated before Spell-Out and is inserted before the negative morpheme *m*. The occurrence of quantified noun phrases in the subject position, adverbs of quantification in the pre-A-not-A position, the epistemic necessity modal auxiliary *jinggoi* ("should") and the focus final particles *zaa3* ("only") and *tim1* ("also") in A-not-A questions is not possible due to the violation of Relativized Minimality arising from intervening operators between the question operator and the wh-variable. The ungrammaticality of these constructions can thus receive a unified account.

References

- Aoun, Joseph & Yen-hui Audrey Li (1993) *Wh*-elements in situ: Syntax of LF? *Linguistic Inquiry* 24: 199-238.
- Chao, Yuen Ren (1968) *A Grammar of Spoken Chinese*. Berkeley and Los Angeles: University of California Press.
- Cheng, Lisa Lai Shen (1991) *On the Typology of Wh-questions*. Doctoral dissertation, MIT.
- Cheung, Yam Leung (1997) *A Study of Right Dislocation in Cantonese*. M.Phil. thesis, Chinese University of Hong Kong.
- Chomsky, Noam (1995) *The Minimalist Program*. Cambridge, Mass.: MIT Press.
- Cormack, Annabel & Neil Smith (1998) Negation, polarity and V positions in English. *UCL Working Papers in Linguistics* 10.
- Cormack, Annabel & Neil Smith (2000) Head movement and negation in English. *Transactions of the Philological Society* 98,1: 49-85.
- Cormack, Annabel & Neil Smith (To appear) Modals and negation in English. In Barbiers, Sjeff & Frits Beukema (eds.). *Modality in Generative Grammar*. Amsterdam: John Benjamins.
- Dai, John Xiang-ling. (1990) Some issues on A-not-A questions in Chinese. *Journal of Chinese Linguistics* 18,2: 285-317.
- Ernst, Thomas (1994) Conditions on Chinese A-not-A questions. *Journal of East Asian Linguistics* 3: 241-264.
- Huang, C.-T. James (1982) *Logical Relations in Chinese and the Theory of Grammar*. Doctoral dissertation, MIT.

- Huang, C.-T. James (1990) Modularity and Chinese A-not-A questions. In Georgopoulos, C. & R. Ishihara (eds.). *Interdisciplinary Approaches to Language: Essays in Honor of S.-Y. Kuroda*. 305-332. Dordrecht: Kluwer.
- Law, Ann (2001) Syntax of Cantonese sentence-final focus particle *tim1*. Ms. UCL.
- Li, Charles N. & Sandra A. Thompson (1981) *Mandarin Chinese: A Functional Reference Grammar*. Berkeley: University of California Press.
- Lin, Tzong-Hong (1997) Quantificational force parameter and the determiner *ge* in Chinese. *LSA Linguistics Workshop: Interface strategies in Chinese: Syntax and Semantics of Noun Phrases*. 156-181. Cornell University.
- Matthews, Stephen & Virginia Yip (1994) *Cantonese: A Comprehensive Grammar*. London: Routledge.
- May, Robert (1985) *Logical Form*. Cambridge, Mass.: MIT Press.
- McCawley, James D. (1994) Remarks on the syntax of Mandarin yes-no questions. *Journal of East Asian Linguistics* 3: 179-194.
- Pollock, Jean-Yves (1989) Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry* 20: 365-424.
- Rizzi, Luigi (1990) *Relativized Minimality*. Cambridge, Mass.: MIT Press.
- Shi, Dingxu (1994) The nature of Chinese emphatic sentences. *Journal of East Asian Linguistics* 3,1: 81-100.
- Tsai, Wei-Tien Dylan (1994) *On Economizing the Theory of A-bar Dependencies*. Doctoral dissertation, MIT.
- Wang, Williams S-Y. (1967) Conjoining and deletion in Mandarin Chinese. *Monumenta Serica* 26: 224-236.
- Wu, Jianxin (1997) More on A-not-A questions: A model-theoretic approach. *The Proceedings of the Sixteenth West Coast Conference on Formal Linguistics* 16: 463-477.
- Wu, Jianxin (1999) *Syntax and Semantics of Quantification in Chinese*. Doctoral dissertation, University of Maryland at College Park.
- Zhang, Zheng-sheng (1997) Focus, presupposition and the formation of A-not-A questions in Chinese. *Journal of Chinese Linguistics* 25,2: 227-257.