On the derivation of Mandarin A-not-A and alternative questions*

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Abstract: The current paper aims to provide derivational mechanisms for Mandarin A-not-A and alternative questions that can capture their syntactic peculiarities. Contrary to C.-T. Huang's (1991) proposal, I argue that both types of questions share essentially the same underlying structure that contains a coordination subtree. Surface structures can then be derived through Conjunction Reduction at S-structure or ellipsis at PF or both. Crucially, however, A-not-A questions differ from alternative questions in that the former have the A-not-A operator that has to move at LF to matrix [Spec, CP] position to take the question scope when required, whereas the latter have variables that enter into a binding relation with a Q-operator at [Spec, CP] without LF movement. This difference in the necessity of LF movement underpins the island effects and the ban on quantificational DP subjects observed only for A-not-A questions, but not for alternative questions.

Keywords: A-not-A question, alternative question, Mandarin, island effects, LF movement

1 Introduction

The A-not-A questions in Mandarin are a type of question that is functionally similar to yes/no questions, with their surface form involving two copies of a predicate with one copy negated. A typical A-not-A question is exemplified in (1) below.[1] Another type of question that is surficially and semantically comparable to A-not-A questions is the alternative question, which also contains a positive predicate and its negated counterpart, but characteristically with the disjunctive coordinator *haishi* 'or' in between, as shown in (2). For ease of description, I will refer to the predicate preceded by a (partial) copy of itself plus a negation marker in an A-not-A question (e.g., *xihuan bu xihuan*

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[1] There are a few question constructions that have been claimed to be subtypes of A-not-A questions, apart from the V-not-VP type in (1). These include the VP-not-VP type in (ia), the VP-not-V type in (ib), and the negative particle question in (ic).

(i) a. Yuehan xihuan zheben shu bu xihuan zheben shu? [VP-not-VP]
John like this book not like this book
'Does John like this book or doesn't [John] like this book?'

b. Yuehan xihuan zheben shu bu xihuan? [VP-not-V]
John like this book not like
'Does John like this book or doesn't [John] like [it]?'

c. Yuehan xihuan zheben shu bu? [negative particle question]
John like this book not
'Does John like this book or not?'

In this paper, my analysis will center on the V-not-VP type, but it can be easily extended to all the other types. For discussion on these subtypes of A-not-A questions, the reader is referred to works by Hagstrom (2006), R.-h. Huang (2008, 2009), C.-T. Huang (1991), and McCawley (1994).

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zheben shu 'like or not like this book' in (1)) as the A-not-A predicate, and the positive predicate-*haishi*-negated predicate sequence in an alternative question (e.g., *xihuan haishi bu xihuan zheben shu* 'like or not like this book' in (2)) as the *haishi*-predicate.

(1) Yuehan **xihuan bu xihuan** zheben shu? [A-not-A question]
John like not like this book
'Does John like or not like this book?'

(2) Yuehan xihuan **haishi** bu xihuan zheben shu? [alternative question]
John like or not like this book
'Does John like or not like this book?'

Despite the apparent similarities, A-not-A questions are actually different from alternative questions vis-à-vis a number of syntactic behaviors. For instance, C.-T. Huang (1991) notes that only A-not-A predicates, but not *haishi*-predicates, show island effects, as demonstrated in the following examples where they function as a sentential subject or are embedded in a complex DP, respectively:[2]

(3) a. * [wo qu bu qu Meiguo] bijiao hao? [A-not-A predicate]
I go not go America more good
'Is it better that I go to America or that I don't?'

b. [wo qu haishi bu qu Meiguo] bijiao hao? [*haishi*-predicate]
I go or not go America more good
'Is it better that I go to America or that I don't?'

(4) a. * ni xihuan [renshi bu renshi ni de] ren? [A-not-A predicate]
you like know not know you REL person
'Do you like the person who knows you or the person who doesn't know you?'

b. ni xihuan [renshi haishi bu renshi ni de] ren? [*haishi*-predicate]
you like know or not know you REL person
'Do you like the person who knows you or the person who doesn't know you?'

In addition, parallel to the Cantonese examples in Law (2001), even though quantificational DPs (QPs) can occur as objects in A-not-A questions, A-not-A questions are ill-formed when QPs occupy the subject position, as contrasted in (5a) and (5b) below. On the contrary, as shown in (6a) and (6b), QPs can occur in both subject and object positions in alternative questions without altering grammaticality.

(5) a. ta renshi bu renshi **henduo xuesheng**? [QP in object position]
he know not know many student
'Does he know or not know many students?'

b. * **henduo xuesheng** dou renshi bu renshi ta? [QP in subject position]
many student all know not know him
'Do many students know or not know him?'

[2] The abbreviation REL refers to a relative clause linker.

(6) a. ta renshi haishi bu renshi **henduo xuesheng**? [QP in object position]
he know or not know many student
'Does he know or not know many students?'

b. **henduo xuesheng** dou renshi haishi bu renshi ta? [QP in subject position]
many student all know or not know him
'Do many students know or not know him?'

The question that naturally arises is then why the two apparently similar constructions — the A-not-A questions and alternative questions — diverge in some of their syntactic behaviors, and how these differences should be accounted for. The main goal of this paper is to devise derivation mechanisms with regard to the A-not-A and alternative questions in Mandarin that can capture their respective syntactic properties and explain the differences between them simultaneously. To foreshadow the analysis very briefly, I argue that both types of questions have as their underlying structure some coordination construction, and that, following R.-h. Huang (2010), an A-not-A question has a null A-not-A operator that must move at LF to the relevant [Spec, CP] position to check the [+Q] feature on C^0, whereas the [+Q] feature on C^0 in alternative questions is checked via unselective binding with the variable residing on the *haishi*-phrase without movement. It is the presence of movement going along with A-not-A predicates that induces island effects and prohibits QPs in subject position. By the same token, the fact that *haishi*-predicates do not give rise to island effects or interfere with QP subjects follows from the fact that there is no movement involved at all.

The rest of this paper is organized as follows: Section 2 reviews existing approaches to deriving A-not-A and alternative questions. Section 3 details out my proposed approach and how it can account for the syntactic properties mentioned above and presents additional evidence to buttress my proposal. This paper is concluded in Section 4.

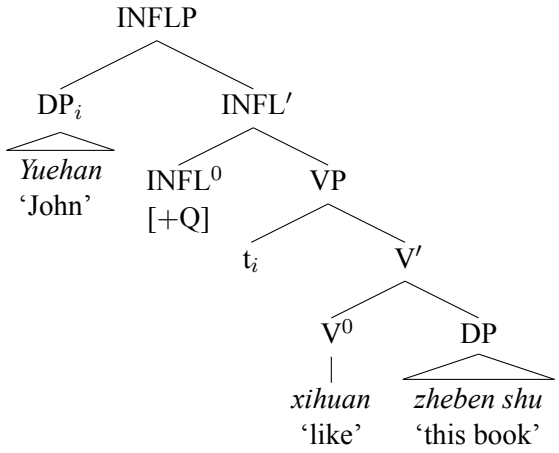
2 Existing accounts for A-not-A and alternative questions

In this section, major accounts for A-not-A and alternative questions in Mandarin will be briefly reviewed, respectively. The A-not-A structure, especially, has sparked extensive inquiry in the past decades, and various approaches have been put forth. Section 2.1 below is dedicated to A-not-A questions. Due to the scope of this paper and limitations of space, this section is not meant to exhaust all the accounts. Among all the accounts in the literature, the one proposed by C.-T. Huang (1991) is probably the most evolutionary and influential. I will therefore only focus on his proposal and evaluate its strengths and weaknesses. Likewise, accounts on alternative questions and their pitfalls will be addressed in Section 2.2.

2.1 Deriving A-not-A Questions

Deviating from the traditional view that A-not-A questions are derived from alternative questions, C.-T. Huang (1991) argues that they are actually syntactically on a par with *wh*-questions, based on the observation that A-not-A questions pattern syntactically more closely to *wh*-questions than to alternative questions. C.-T. Huang (1991) suggests that the A-not-A question is derived from a simplex underlying structure that contains an interrogative $INFL^0$ constituent, as schematized below:

(7)



In Mandarin, the INFL^0 with [+Q] is realized phonetically with a reduplication rule that copies a sequence immediately after INFL^0 and then inserts the negation marker *bu* 'not' in between. Depending on the length of the reduplicated sequence, the A-not-A predicate generated can take the form *xi- bu xihuan zheben shu*, *xihuan bu xihuan zheben shu*, or *xihuan zheben shu bu xihuan zheben shu*, all of which constitute grammatical A-not-A questions:

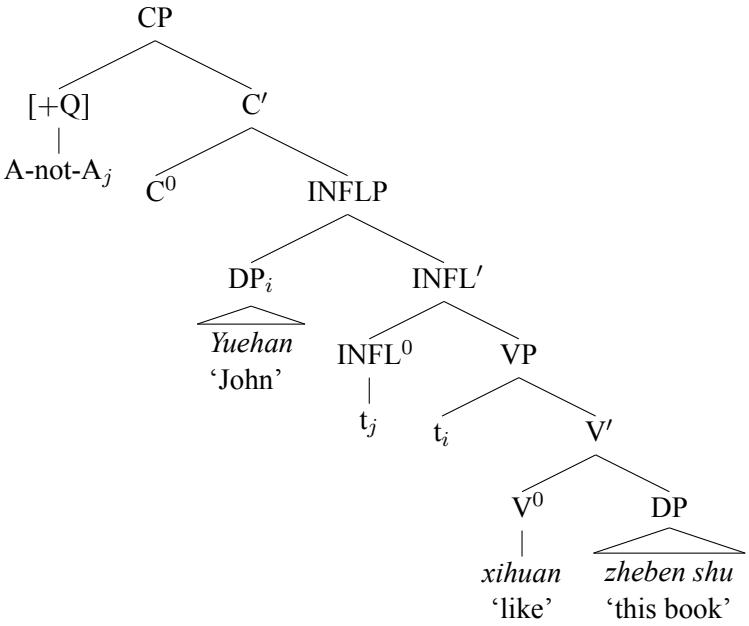
(8) a. Yuehan xi- bu xihuan zheben shu?
John li- not like this book
'Does John like or not like this book?'

b. Yuehan xihuan bu xihuan zheben shu?
John like not like this book
'Does John like or not like this book?'

c. Yuehan xihuan zheben shu bu xihuan zheben shu?
John like this book not like this book
'Does John like or not like this book?'

This interrogative INFL^0 with the feature [+Q], being an operator of some sort, also has to move to [Spec, CP] at LF, parallel to the case with *wh*-phrases. The LF-representation for A-not-A examples like those in (8) is therefore:

(9)

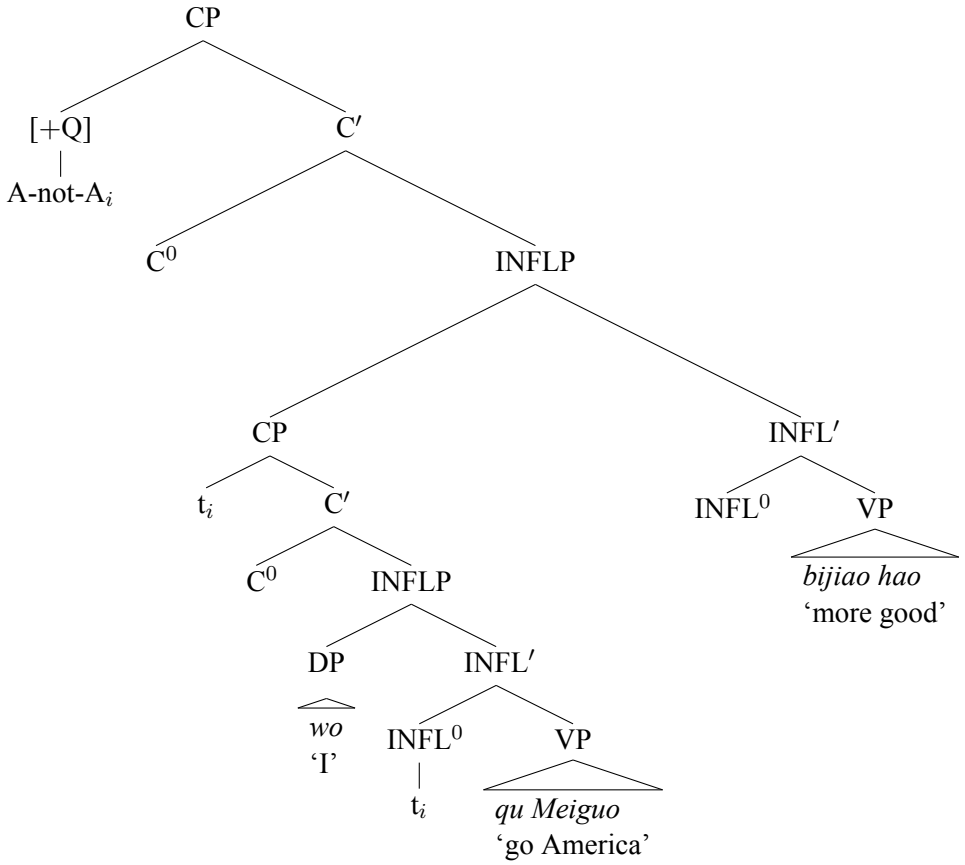


The account suggested by C.-T. Huang (1991) has a number of appealing points. Firstly, it explains why some A-not-A predicates (e.g., *xi- bu xihuan zheben shu* in (8a)) seem to disobey the Lexical Integrity Hypothesis (LIH), which states that phrase-level rules that belong to the syntax proper cannot affect a subpart of a lexical category (word). In (8a), the first "A" part of the A-not-A predicate *xi- bu xihuan zheben shu* is just a syllable that does not carry any meaning of its own. If the A-not-A structure were derived from some syntactic process like ellipsis, then the A-not-A predicate in (8a) would be totally unexpected since purely syntactic processes cannot target just part of a word. However, if we take that the A-not-A structure is generated from a morphological (or even phonological) reduplication rule, as claimed here, then we have an explanation for this apparent violation of the LIH — the output from a morphological reduplication rule is not subject to a syntactic constraint like the LIH, and (8a) should thus be acceptable.

Secondly, by positing that the A-not-A element undergoes movement at LF to take the question scope, we are also able to account for the island effects (i.e., Sentential Subject Constraint here) observed in (3a), repeated below in (10). C.-T. Huang (1991) attributes the ungrammaticality of (10) to the violation of the Empty Category Principle (ECP): The LF movement of the A-not-A element would leave the A-not-A trace not properly governed either by a lexical category or by an antecedent, as pictured below in (11).

(10) * [wo qu bu qu Meiguo] bijiao hao? [Sentential Subject Constraint]
I go not go America more good
'Is it better that I go to America or that I don't?'

(11) *



However, C.-T. Huang's (1991) account is not entirely without shortcomings. One such shortcoming, as remarked by McCawley (1994), concerns the form of the negation marker in the A-not-A structure. Mandarin has two types of negation markers — *bu* and *mei* — that are used under different circumstances, with *bu* being used for statives and imperfectives while *mei* is used for bound events or perfectives. Both types of negation markers are allowed in A-not-A questions, as illustrated in (12) below. In the example, when the predicate *youqian* is negated with *bu*, as in (12a), the question is asking about someone's wealth. In comparison, when the predicate is negated with *mei*, as in (12b), the question inquires whether one possesses money or not.

(12) a. ta youqian **bu** youqian? [A-not-A with *bu*]
he rich not rich
'Is he rich or not rich?'

b. ta you qian **mei** you qian? [A-not-A with *mei*]
he have money not have money
'Does he have or not have money?'

In C.-T. Huang's (1991) original account, which only requires the morpheme *bu* to be inserted between the original predicate and its copy, this distinction between *bu* and *mei* is not captured. McCawley (1994) also points out that, because the underlying structure does not involve the negation marker, the negation in the A-not-A structure is a "fake" negation rather than a real one in C.-T.

Huang's (1991) treatment of A-not-A questions. However, McCawley (1994) demonstrates that the negation in the A-not-A structure is semantically real by showing that an A-not-A question formed with a predicate that cannot be negated (e.g., a compound predicate whose first element already negates the second) is likewise ungrammatical. Compare (13a) and (13b) below, where the VP *wuquan* 'to have no right' is not negatable:

(13) a. * ta bu/mei wuquan ganyu [declarative]
he not no.right interfere
'He doesn't have no right to interfere.'

b. * ta wuquan bu/mei wuquan ganyu? [A-not-A question]
he no.right not no.right interfere
'Does he have no right to interfere?'

I echo McCawley's (1994) critique by adding another piece of evidence concerning Negative Polarity Items (NPIs) licensing. Much like in English, the appearance of NPIs like *renhe* 'any' needs to be licensed by negation or a [+Q] feature, and the licenser must c-command the NPI. If the negation in an A-not-A predicate is indeed real, then we should expect NPIs to be compatible within A-not-A predicates. This prediction is actually borne out, as can be seen in (14) below, where a DP containing the NPI *renhe* 'any' can be part of the A-not-A predicate:

(14) [ta renshi bu renshi **renhe** ren] hen zhongyao
he know not know any person very important
'It's important whether or not he knows anyone.'

Note that in (14) the NPI *renhe* 'any' is licensed by the negation in the A-not-A predicate, not by any [+Q] feature, since the sentence in question is a declarative clause where [+Q] is not present at all.

To recapitulate and conclude this section, the strengths and weaknesses of C.-T. Huang's (1991) approach are reiterated below. By positing that the A-not-A predicate is generated by some post-syntactic reduplication rule triggered by the [+Q] feature residing on the INFL^0, his account explains why some A-not-A predicates apparently violate LIH. The movement of the [+Q] feature to matrix [Spec, CP] at LF to take the question scope also neatly predicts island effects observed in some constructions containing an A-not-A predicate. However, this derivation mechanism does not satisfactorily explicate the form the negation marker in an A-not-A predicate should take and does not correctly predict the real negative force associated with the negation marker either. We will see how my proposal waives these problems later in this paper. In the next section, we turn our attention to the accounts for the formation of alternative questions.

2.2 Deriving alternative questions

Most of the literature agrees that alternative questions like (15) (= (2)) below begin their life with a coordination structure.

(15) Yuehan xihuan haishi bu xihuan zheben shu?
John like or not like this book
'Does John like or not like this book?'

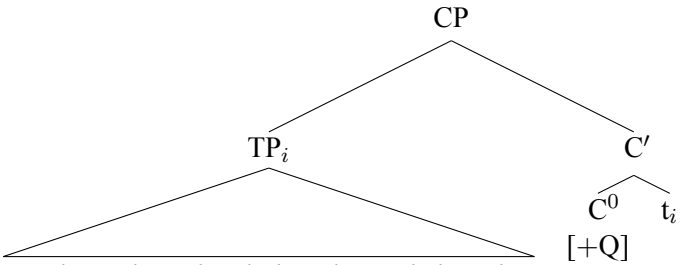
For C.-T. Huang (1991), alternative questions result from full bi-sentential sources followed by a deletion process termed Conjunction Reduction (CR), possibly applied at PF. (15) is therefore assumed to be derived from an underlying structure, which contains a coordination subpart, via successive application of CR, as shown in (16) below:

(16) ? [Yuehan xihuan e_1] haishi [e_2 bu xihuan zheben shu]?
John like or not like this book
[e_1 = *zheben shu*; e_2 = *Yuehan*]

'Does John like this book or doesn't John like this book?'

Similar to A-not-A questions, C.-T. Huang (1982) also assumes that the *haishi*-predicate in an alternative question has to move to [Spec, CP] at LF to yield a question reading. The LF representation of (15) is therefore something like the following:

(17)

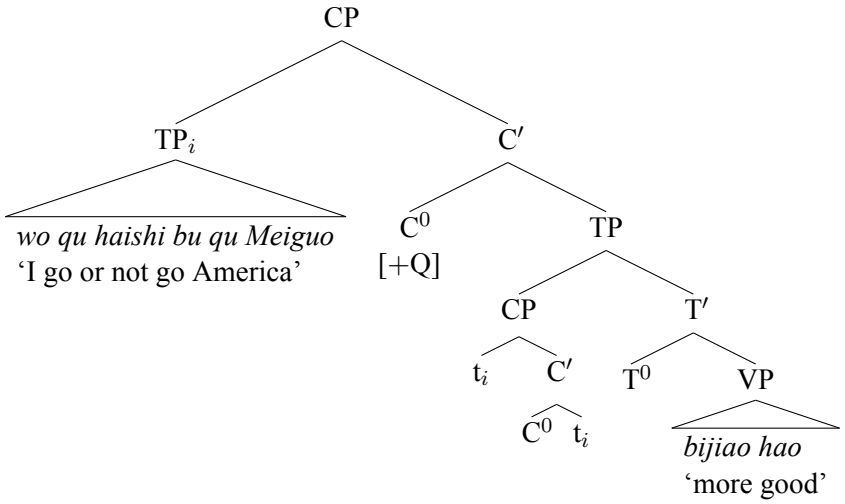


Yuehan xihuan haishi bu xihuan zheben shu
'John like or not like this book'

This account, however, would wrongly predict examples like (3b), repeated below as (18a), to be ungrammatical because the trace left by the *haishi*-predicate is neither head-governed in its local domain nor long-distance governed by its antecedent, which results in the violation of the ECP, as depicted in (18b). Some modifications to this account are therefore in order.

(18) a. [wo qu haishi bu qu Meiguo] bijiao hao?
I go or not go America more good
'Is it better that I go to America or that I don't?'

b.



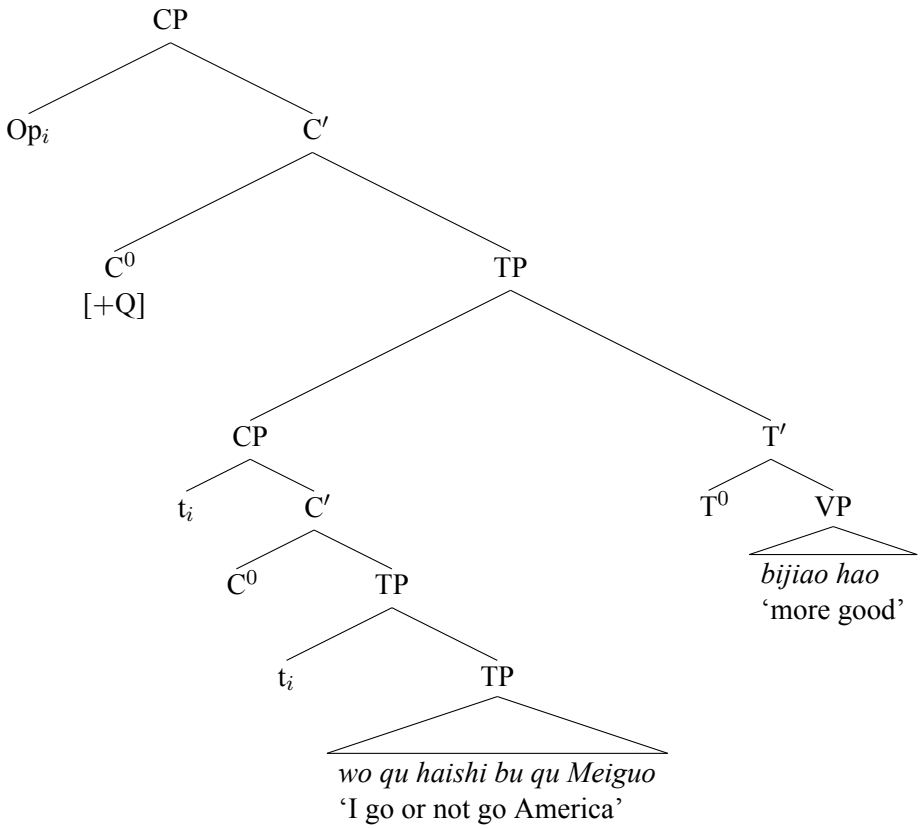
R.-h. Huang (2009) modifies this account by claiming that, instead of the *haishi*-predicate itself, it is a null Q-operator adjoined to TP that undergoes LF movement in alternative questions. The underlying structure and the LF-representation for (15) are therefore (19a) and (19b) below, respectively:

(19) a. [$_{TP}$ Op [$_{TP}$ [Yuehan xihuan zheben shu] haishi [Yuehan bu xihuan
John like this book or John not like
zheben shu]]]
this book

b. [$_{CP}$ Op$_i$ [$_{TP}$ t$_i$ [$_{TP}$ [Yuehan xihuan ***e***] haishi [***e*** bu xihuan zheben shu]]]]
John like or not like this book

However, even this account would wrongly predict (18a) to be ungrammatical because the trace of the operator in its LF-representation is still not properly governed, violating the ECP, as shown below:

(20)



The problem with these two accounts assuming movement, either direct movement of TP or movement of a null Q-operator adjoined to TP, should become clear now: As long as we need to appeal to movement of a constituent out of an embedded CP to take the question scope, sentences like (18a) will be erroneously predicted to be ungrammatical. In the next section, we will see how this problem can be avoided once and for all if the trouble-causing movement is eliminated altogether.

3 Solving the problem

Before my proposal is laid out, it may be useful to restate the syntactic properties of A-not-A and alternative questions that an adequate account should capture or be able to explain. We first look at the properties associated with A-not-A questions and then move on to those associated with alternative questions.

For a typical A-not-A question, one peculiar property is that, in an A-not-A predicate, the first "A" can simply be the first (meaningless) syllable of the verb (e.g., as seen in (8a)). Another property is that the "not" element in the A-not-A structure represents real negation; however, this negation does not seem to have a sentential scope — A-not-A questions are essentially neutral in the sense that they do not have a predisposition toward either of the positive and negative alternatives. In addition, A-not-A elements display island effects, and a QP cannot function as the subject in an A-not-A question.

For alternative questions, one also finds a property that mirrors the first property mentioned above for A-not-A questions. That is, the positive predicate (i.e., the first predicate) in the *haishi*-

predicate can also be reduced to just the first syllable, as illustrated below in (21). Similar to A-not-A questions, alternative questions are also not biased toward either alternatives semantically. In contrast to A-not-A predicates, however, *haishi*-predicates do not show island effects and allow QPs to be the subject.

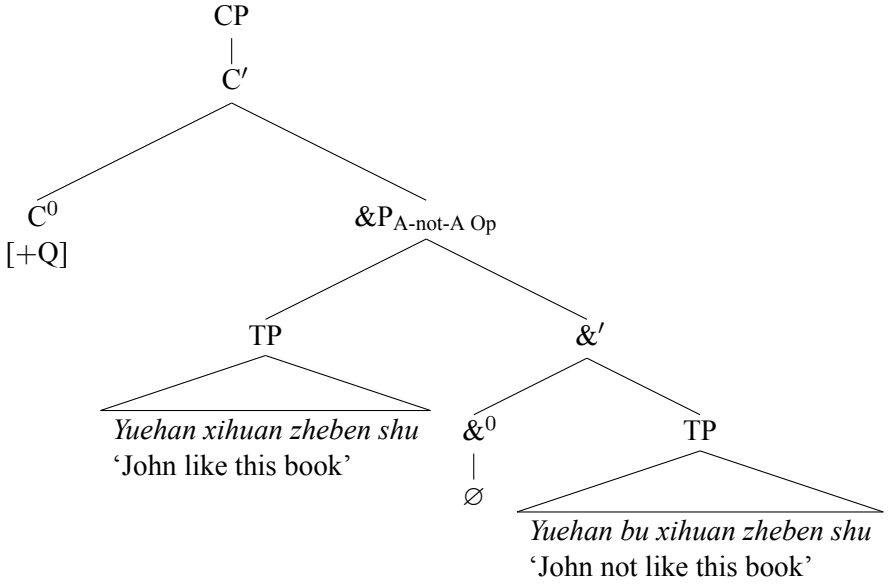
(21) Yuehan **xi-** haishi bu xihuan zheben shu?
John li- or not like this book
'Does John like or not like this book?'

In what follows, I will advance a proposal for deriving A-not-A and alternative questions that attempts to capture all the properties just mentioned.

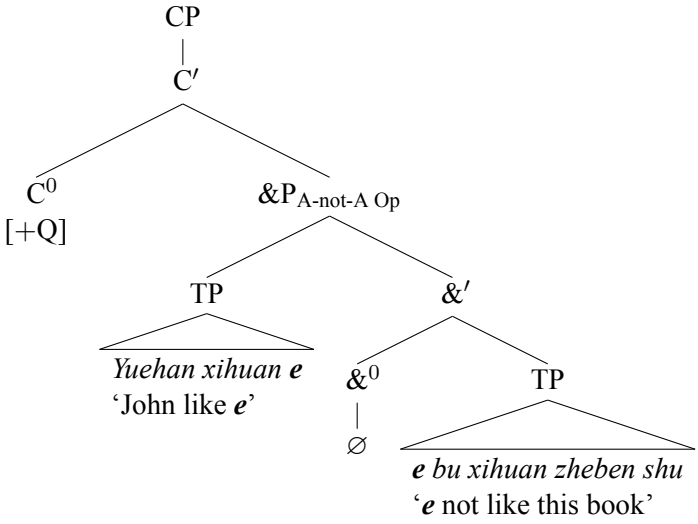
3.1 The proposal

Contra C.-T. Huang's (1991) analysis on A-not-A questions, I assume that both A-not-A and alternative questions share similar underlying structures that involve a coordination structure. The underlying structure then undergoes either (multiple) CRs to derive potential S-structures or ellipsis at PF to generate phonetic realizations. To illustrate the assumptions made here, the underlying structure and the structures after CR or PF ellipsis are shown below for an A-not-A question (22) and an alternative question (23) respectively:

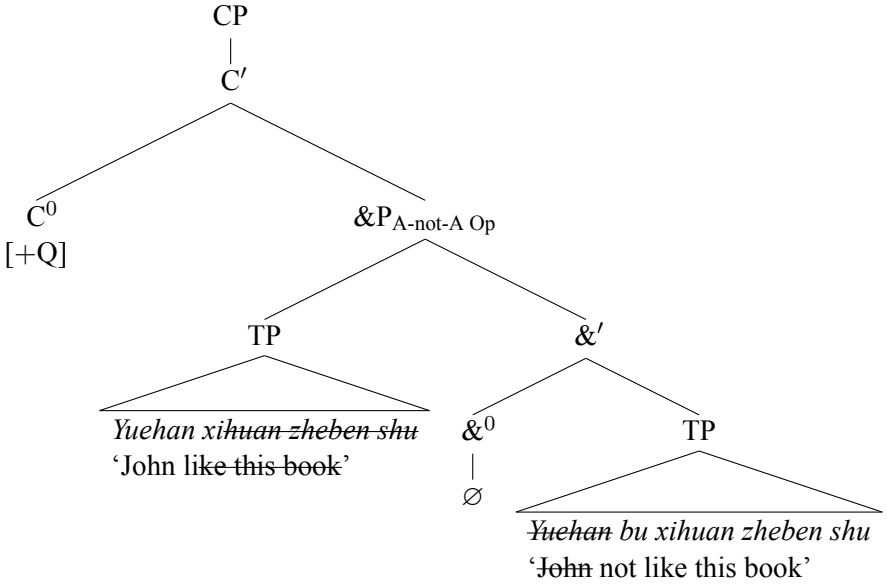
(22) a. Underlying structure:



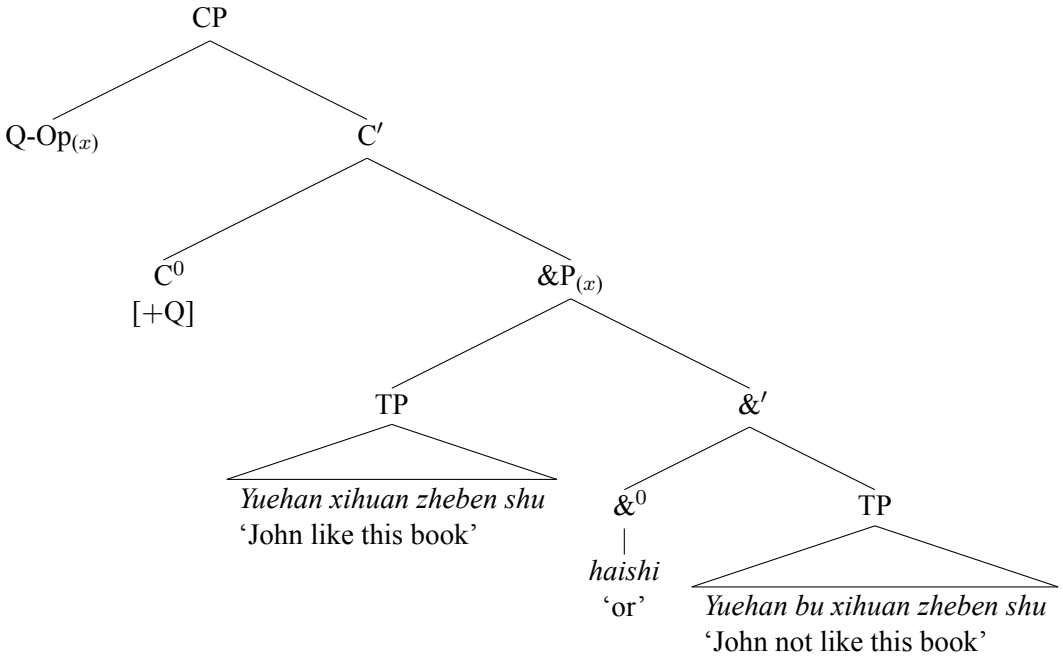
b. **S-structure after CR**: Note that the constituents *zheben shu* 'this book' and *Yuehan* 'John' are elided.
End result: *Yuehan xihuan bu xihuan zheben shu?*



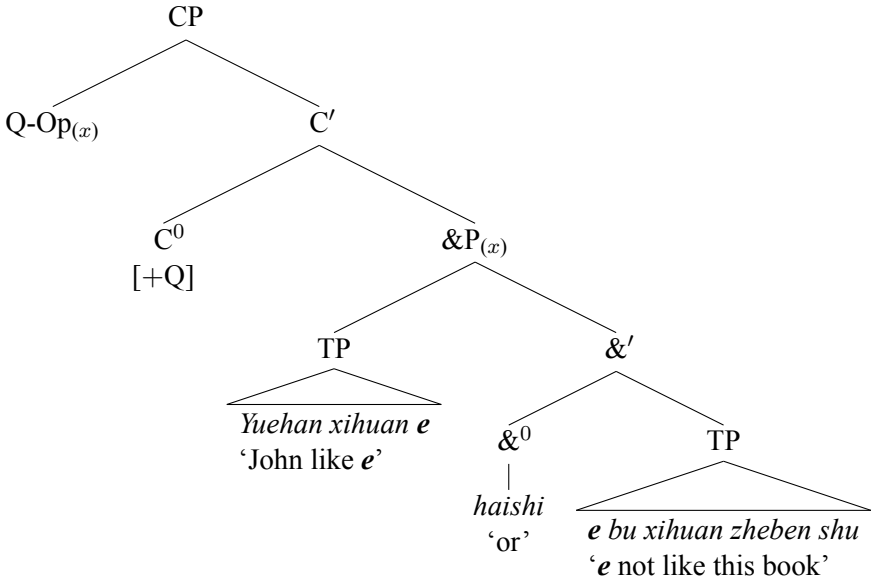
c. **Phonetic realization after ellipsis at PF**: Here the strings (i.e., not necessarily constituents) *-huan zheben shu* '-ke this book' and *Yuehan* 'John' are elided.
End result: *Yuehan xi- bu xihuan zheben shu?*



(23) a. Underlying structure:



b. **S-structure after CR**: Note that the constituents *zheben shu* 'this book' and *Yuehan* 'John' are elided.
End result: *Yuehan xihuan haishi bu xihuan zheben shu?*



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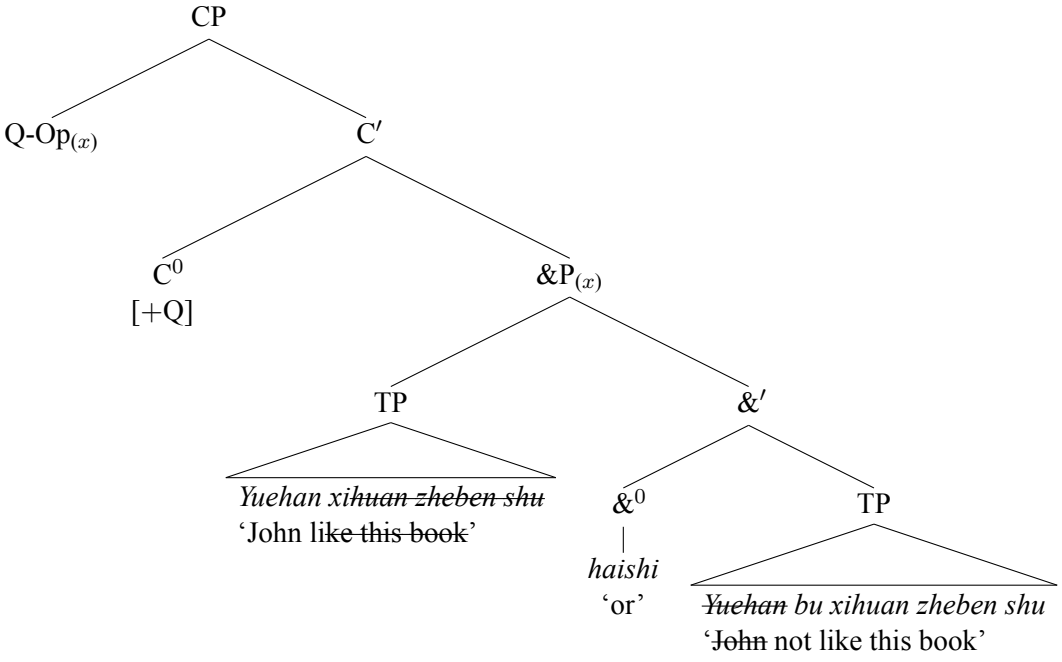
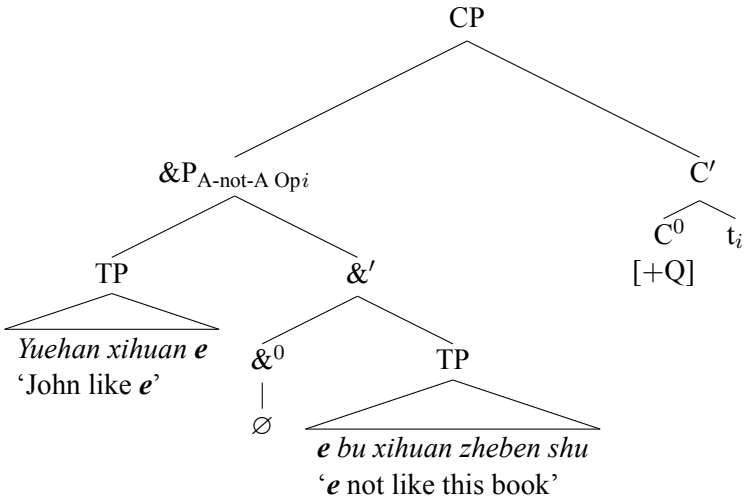
End result: *Yuehan xi- haishi bu xihuan zheben shu?*



However, A-not-A questions differ from alternative questions with respect to two points — the phonetic realization of the conjunction and operatorhood. Specifically, whereas the conjunction in an alternative question can be phonetically null or realized as *haishi* 'or', the conjunction in an A-not-A question has to be phonetically null. More crucially, the coordination structure, which consists of a positive predicate, a conjunction, and a negated predicate, in an A-not-A question is an operator (termed A-not-A operator), which has to move to the appropriate [Spec, CP] position to take proper scope at LF, as shown in (24) below. As for alternative questions, I follow R.-h. Huang's (2010) proposal and assume that the coordination structure is on a par with Chinese *wh*-nominals, which enter into a binding dependency, instead of a movement dependency, with the Q-operator in [Spec, CP], as already shown in (23) above.

(24) The LF-representation of the A-not-A question *Yuehan xihuan bu xihuan zheben shu?* 'Does John like or not like this book?':



3.2 Problem Solved

Let us now see how this proposal can account for the syntactic properties associated with these two question constructions.

To begin with, we have seen that, for both A-not-A and alternative questions, the positive predicate can be reduced to just the first (meaningless) syllable of the verb, as repeated again below in (25), in apparent violation of the LIH. If we adopt the assumption that ellipsis can take place at PF, shown above in (22c) and (23c) for the two constructions, respectively, then the fact that these sentences are grammatical follows naturally, since PF-ellipsis does not need to respect the LIH.

(25) a. Yuehan **xi-** bu xihuan zheben shu? [A-not-A question]
John li- not like this book
'Does John like or not like this book?'

b. Yuehan **xi-** haishi bu xihuan zheben shu? [alternative question]
John li- or not like this book
'Does John like or not like this book?'

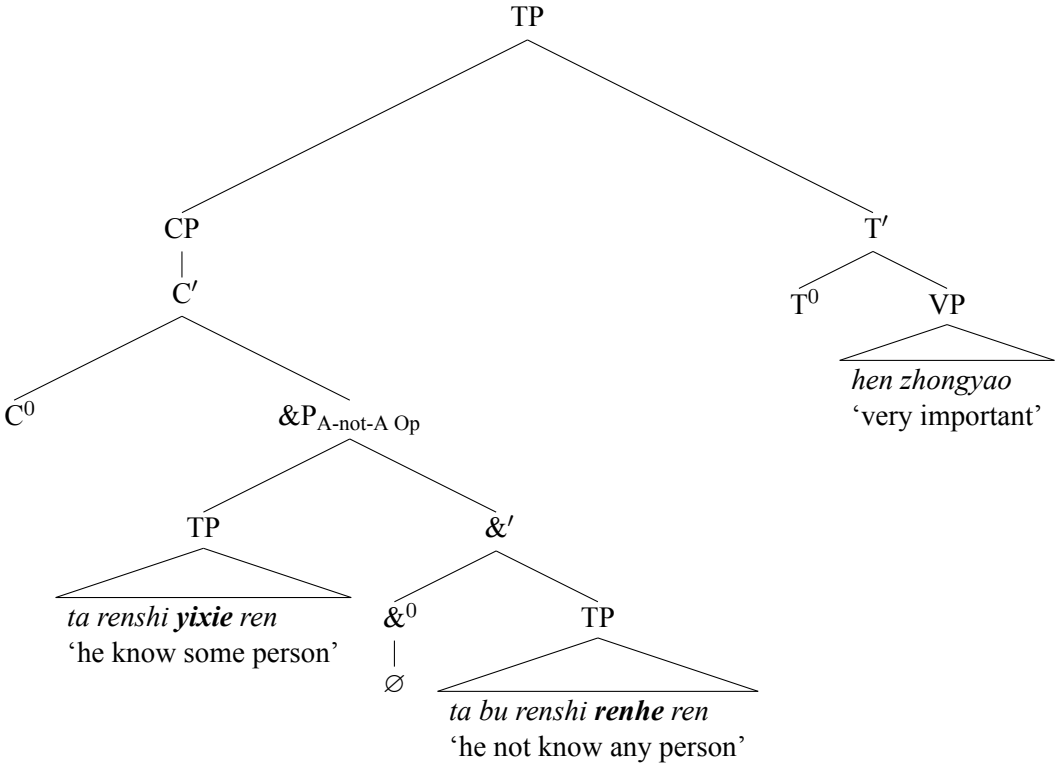
The second property concerns the form and semantic reality of the "not" element in the A-not-A structure. In particular, the form of the negation marker needs to agree with the aspect of the clause, and it also has real negative force. Again, this property follows straightforwardly from the assumption that A-not-A predicates are derived from full bi-sentential sources — the "not" element is simply the negation marker of the second clause and therefore retains all characteristics of a negation marker throughout the derivation.

The fact that the negative element in the A-not-A structure is "real" also partially motivates CR at S-structure, alongside ellipsis at PF. We saw above that NPIs like *renhe* 'any' are licensed in an A-not-A predicate in (14), repeated below as (26). In our approach, (26) is supposedly derived from the underlying structure in (27). Note that the quantifier in the positive predicate is *yixie* 'some',

while that in the negative predicate is *renhe* 'any'. If we were to solely rely on ellipsis at PF to derive the surface form, we would run into an obstacle here: The string *yixie ren* 'some people' that should be elided is not equivalent to the string *renhe ren* 'any people' that remains, so ellipsis of the string *yixie ren* 'some people' is predicted to fail, as in (28), which runs counter to the fact.

(26) [$_{\&P}$ ta renshi bu renshi **renhe** ren] hen zhongyao
he know not know any person very important
'It's important whether or not he knows anyone.'

(27)



(28) * [$_{\&P}$ [$_{TP}$ ta renshi ~~yixie ren~~] ∅ [$_{TP}$ ~~ta~~ bu renshi **renhe ren**]] hen zhongyao
he know some person he not know any people very important

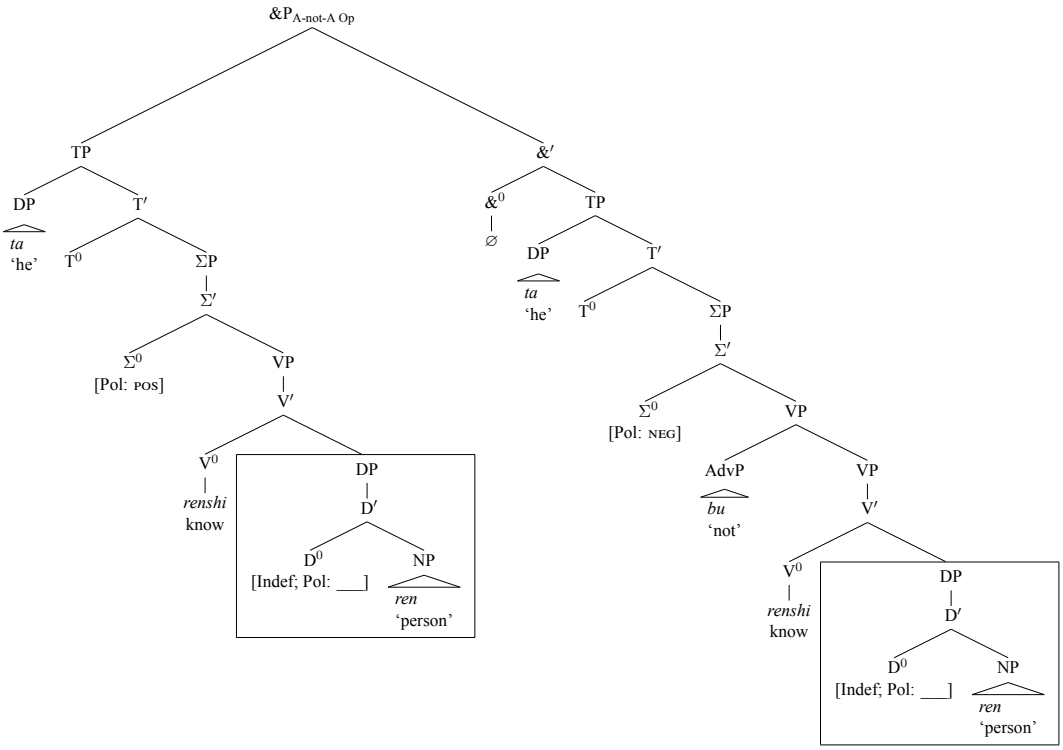
To amend this problem, I follow Merchant's (2013) proposal that syntactic identity conditions on ellipsis should be defined independent of morphological realizations. Merchant (2013) studies VP-ellipsis in English sentences like (29) and concludes that, because certain expressions like polarity items have varying morphological realizations that depend on their syntactic environment, syntactic identity conditions on ellipsis should not refer to surface morphological realizations, which can disguise underlying syntactic features. Adopting his approach, the underlying structure for the A-not-A predicate in (26) should be something like (30), and it is this level of representation, prior to PF where phonological/phonetic information gets introduced, that syntactic identity conditions on ellipsis (e.g., CR in our case) refer to. Along this line of reasoning, the derivation for examples such as (31a) in fact involve two ellipsis processes, shown in (31b): One is CR at S-structure where the QP *yixie shi* 'some matter' is elided and the other ellipsis at PF where the syllable *dao* from *zhidao*

'know' is silenced. This example therefore demonstrates the necessity to posit ellipsis at different levels of derivation if the final surface form is to be correctly generated.

(29) a. John didn't see anyone, but Mary did ***e***. [***e*** = see someone]

b. John saw someone, but Mary didn't ***e***. [***e*** = see anyone]

(30)

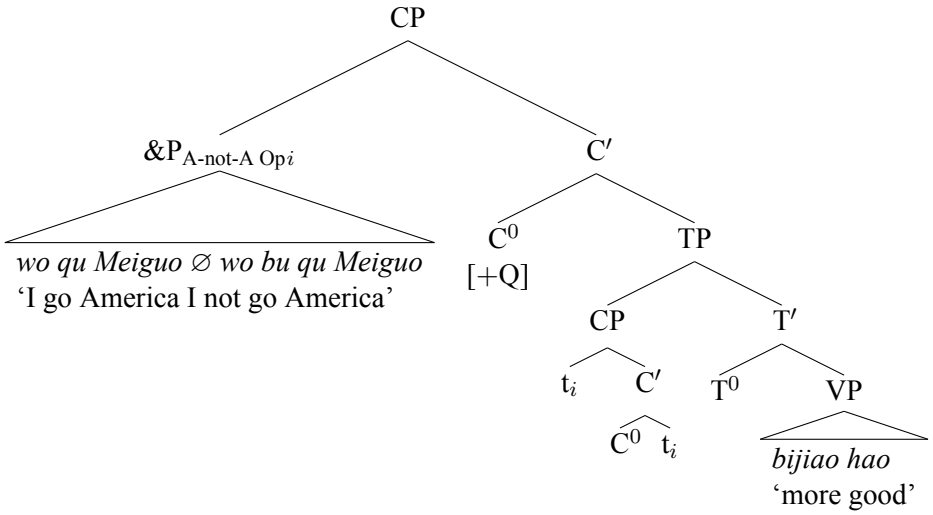


(31) a. [&P ta zhi- bu zhidao **renhe** shi] hen zhongyao
he kn- not know any matter very important
'It's important whether or not he knows anything.'

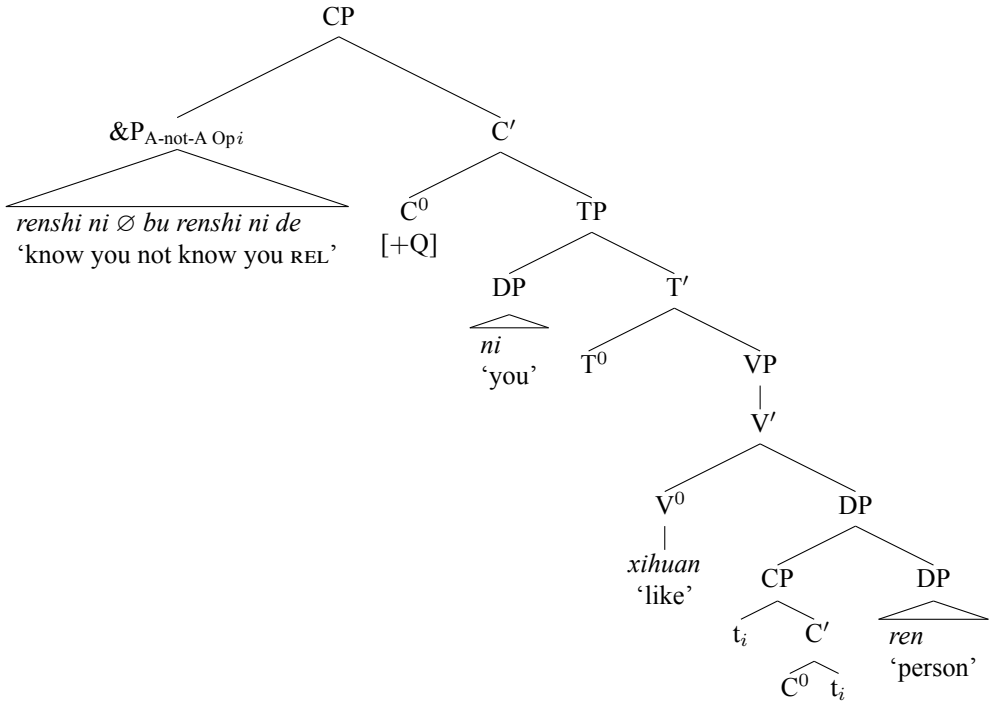
b. [&P [TP ta zhi~~dao~~ ***e***] ∅ [TP ta bu zhidao renhe shi]] hen zhongyao
he know he not know any matter very important
[***e*** = *yixie shi* 'some matter']

The third property we need to explain regards the island effects of A-not-A predicates that are absent for their *haishi*-predicate counterparts, as exemplified in (3) and (4). The explanation for the island effects of embedded A-not-A predicates overlaps largely with that covered in Section 2.1. Very briefly, movement of the A-not-A operator from the embedded clause to the [Spec, CP] position in the matrix clause will trigger a violation of the ECP, as shown in (32a) and (32b) below, thus rendering (3a) and (4a) ungrammatical. As for constructions (3b) and (4b), which involve *haishi*-predicates, the current non-movement approach correctly predicts them to be grammatical since no empty categories are created, and therefore no violation of the ECP will be incurred.

(32) a. *



b. *



If this analysis is on the right track, then we should expect that, when an embedded A-not-A operator does not have to be extracted from an island, the sentence is grammatical. This prediction is borne out. Compare (33a) and (33b) below, where one is a question and the other a statement. Because the A-not-A operator does not need to move to the [Spec, CP] position of the matrix clause in (33b), no violation of the ECP occurs, so (33b) is predicted to, and is indeed, grammatical.

(33) a. * [$_{\&P}$ wo qu bu qu Meiguo] bijiao hao?
I go not go America more good
'Is it better that I go to America or that I don't?'

b. [$_{\&P}$ wo qu bu qu Meiguo] bu zhongyao
I go not go America not important
'It's not important whether I go to America or not'

The final property we need to account for is the penalization of a QP in the subject position of an A-not-A question, as illustrated in (34) (= (5b)) below, which is, however, not observed for its alternative question counterpart (35) (= (6b)). To explain this, I assume with Lin (1997) that there is a universal quantifier operator ($Op_{(\forall)}$) that provides the universal quantificational force for the QP subject *henduo xuesheng* 'many students'. Since the universal quantifier operator here intervenes between the A-not-A operator and the matrix [Spec, CP] position, where the A-not-A operator has to land eventually, their scopes interact with each other, and the chain formation for the A-not-A operator and its trace is blocked due to a violation of Relativized Minimality (Rizzi 1990), as schematized below in (36). This violation of Relativized Minimality results in (36) being ungrammatical.

(34) * **henduo xuesheng** dou renshi bu renshi ta? [A-not-A question]
many student all know not know him
'Do many students know or not know him?'

(35) **henduo xuesheng** dou renshi haishi bu renshi ta? [alternative question]
many student all know or not know him
'Do many students know or not know him?'

(36) * [$_{CP}$ [$_{\&P_{\text{A-not-A Op}}}$ henduo xuesheng dou renshi ta ∅ henduo xuesheng dou bu renshi ta]$_i$ [$_{TP}$ $Op_{(\forall)}$ t_i]]
many student all know him many student all not know him

In contrast, such intervention does not happen when the QP occupies the object position, as in (37) (= (5a)) below, because the universal quantifier operator in this case does not get in the way of the LF movement of the A-not-A operator to the [Spec, CP] position. In the same vein, because the derivation for alternative questions does not require movement at LF, naturally the issue of scopal interaction between operators does not arise, rendering both alternative questions in (35) and (38) (= (6a)) grammatical.

(37) ta renshi bu renshi **henduo xuesheng**? [A-not-A question]
he know not know many student
'Does he know or not know many students?'

(38) ta renshi haishi bu renshi **henduo xuesheng**? [alternative question]
he know or not know many student
'Does he know or not know many students?'

The argument that A-not-A question formation entails LF movement of the A-not-A operator is further buttressed by the observation that quantificational adverbs like *jingchang* 'often' can only occur in post-A-not-A position, but not pre-A-not-A position.

(39) a. * Yuehan **jingchang** chang bu chang ge? [pre-A-not-A position]
John often sing not sing song
'Does John sing often?'

b. Yuehan shi bu shi **jingchang** chang ge? [post-A-not-A position]
John be not be often sing song
'Is it the case that John sings often?'

The sentence in (39a) is not well-formed because the adverb *jingchang* 'often' acts as an operator intervening between the A-not-A operator and its final [Spec, CP] destination.

3.3 Remaining Issues

One potential caveat of the current approach is the unrestricted nature of PF ellipsis. In particular, there is still no mechanism built into the proposed approach that would rule out ungrammatical constructions like (40a) below. Obviously what we need is some well-motivated means to explicitly regulate what strings can and what cannot undergo ellipsis at PF. As the solution to this problem lies beyond the scope of this paper, I will leave this issue open for future research.

(40) a. * Yuehan xihuan zhezhi qian- bu xihuan zhezhi qianbi?
John like this pen- not like this pencil
'Does John like or not like this pencil?'

b. * [$_{\&P}$ [$_{TP}$ Yuehan xihuan zhezhi qian~~bi~~] ∅ [$_{TP}$ ~~Yuehan~~ bu xihuan zhezhi
John like this pencil John not like this
qianbi]]
pencil

4 Conclusion

The aim of the current paper is to devise derivational pathways for A-not-A and alternative questions that can characterize their respective syntactic peculiarities. Specifically, the account elucidates why island effects observed for A-not-A questions are absent for their alternative question counterparts, and why QPs fail to be in the subject position for A-not-A questions but seem to have no problem functioning as subjects for alternative questions. Following R.-h. Huang's (2010) proposal, I argue that these differences boil down to the fact that A-not-A predicates are operators, which have to move to the appropriate [Spec, CP] position, while *haishi*-predicates are variables that can be licensed in situ through binding with the Q-operator at [Spec, CP]. Island effects arise for A-not-A questions due to violation of the ECP when the A-not-A operator is extracted from a syntactic island; similar constructions with *haishi*-predicates are immune to island effects because no LF movements are required.

My proposal also diverges from C.-T. Huang's (1991) in that I take A-not-A questions to be derived through CR or PF ellipsis from bi-clausal underlying structures, similar to those assumed for alternative questions. In addition to explaining the fact that the first "A" can be a simple meaningless syllable, I argue that this approach has advantages over the morphological reduplication approach

developed in C.-T. Huang (1991) in its capability to account for the form of the negation marker in the A-not-A structure without additional assumptions.

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