The syntax of negative questions

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The meaning of questions

Hamblin (1958): To know the meaning of a question is to know what counts as a possible answer to the question.

A question is semantically equivalent to the disjunctive set of propositions which constitute possible answers to the question.

(1)   a.   Does Mary drink tea or coffee?
       b.   Mary drinks tea or Mary drinks coffee.

(2)   a.   Does Mary drink tea?
       b.   Mary drinks tea, or Mary does not drink tea.

(3)   a.   What does Mary want to drink?
       b.   She wants to drink tea, or she wants to drink coffee, or she wants to drink orange juice, or... [restricted by the meaning of 'drink' and by the context].

The meaning of the direct question *Does Mary drink tea?*

'Tell me which of the following alternative statements is true: Mary drinks tea or Mary does not drink tea.'

Indirect questions:
x has cognitive attitude y towards the set of alternative propositions denoted by the sentence.

(4)   a.   John wonders whether Mary drinks tea.
        b.   I need to know whether Mary drinks tea.
        c.   They argue about whether Mary drinks tea.
        d.   Whether Mary drinks tea is not interesting.

'I need to know which proposition is true: Mary drinks tea or Mary does not drink tea.'

How does the syntax of questions determine this meaning?

Even if the meaning of *Do you drink tea?* can be paraphrased as
Tell me which of the following alternative statements is true:
You drink tea or you do not drink tea.

It cannot then be answered by *yes* or *no*.

   Q: *Tell me which of the following alternative statements is*
          true: You drink tea or you do not drink tea.
  A1: **Yes.*
  A2: **No.*
  A3: *I drink tea.*
  A4: *I don't drink tea.*

Formulated as a question, it can be answered *yes* or *no*.

(6) Q: *Do you drink tea?*

    A1:   *Yes.*

    A2:   *No.*

    A3:   *I drink tea.*

    A4:   *I don't drink tea.*

Even if we rephrase the paraphrase as a question explicitly listing the two alternatives:

Q: *Do you drink tea or do you not drink tea?*

it still can't be answered *yes* or *no*.

    A1:   **Yes.*

    A2:   **No.*

What is it about the question format in *Do you drink tea?* that makes the answers *yes* and *no* possible?

The syntactic structure of *Do you drink tea?* includes a variable with two possible values, the polarity variable [±Pol].

(7)   [$_{CP}$ do [$_{IP}$ you [±Pol] drink tea]]

Another paraphrase of the question:

Tell me the value of [±Pol] such that 'you [±Pol] drink tea' is true?

Yes = [+Pol]
No = [−Pol]

A sentence with a free variable denotes a set of propositions, restricted by the range of the variable.

If the variable is polarity, restricted to two values, the set is two propositions, *p* and *not p.*

- Questions always contain a free variable: <u>the question variable</u>.

- The set of alternative propositions: <u>the question set.</u>

- The answer assigns a value to the variable, and thereby picks one of the alternative propositions as the one presented as true.

This is <u>part</u> of an account of how the Hamblin-semantics of questions maps onto the syntax of questions.

(There are question-types where the yes-no question lists the two alternatives more explicitly.)

In direct questions there is a syntactic feature encoding question force.

[$_{CP}$ Q-force [$_{IP}$ you [±Pol] drink tea]]

There is reason to think that [±Pol] moves to the C-domain.

[$_{CP}$ Q-force [$_{CP}$ [±Pol] C [$_{IP}$ you [±Pol] drink tea]]]

This is indicated by the position of question particles, such as
whether in English: *...whether* [$_{IP}$ *you drink tea*]

Why move?
In order to assign sentential scope to the disjunction.

'T-to-C' is an overt indicator of the scope of the disjunction.

Wh-questions

The wh-phrase is a variable restricted by the inherent features of the wh-word, the syntactic context, and the discourse context.

Q: *What does Mary want to drink?*

Assume the meaning of *what* is: tea or coffee or water

Mary wants to drink WHAT = 'Mary wants to drink tea or coffee or water'

Wh-movement assigns sentential scope to the disjunction.

WHAT [Mary wants to drink <WHAT>] = 'Mary wants to drink tea, or she wants to drink coffee, or she wants to drink water.'

[$_{CP}$ Q-force [$_{CP}$ WHAT [$_{IP}$ Mary [$_{VP}$ wants to drink <WHAT>]]]]

'Tell me the value of the variable WHAT such that the proposition *Mary wants to drink WHAT* is true.'

Wh-questions

Q: *What does Mary want to drink?*
A: *Tea.*

The <u>answer to a question </u>copies the IP of the question, and merges an XP in specCP which enters an Agree-relation with the variable in IP.

Q: [$_{CP}$ Q-force [$_{CP}$ WHAT [$_{IP}$ Mary [$_{VP}$ wants to drink <WHAT>]]]]

A: [$_{CP}$ Tea [Foc [$_{IP}$ Mary wants to drink <WHAT>]]]

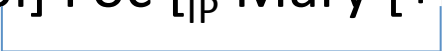   [$_{CP}$ Tea [Foc [$_{IP}$ Mary wants to drink <tea>]]]   ⟶   *Tea.*

Same for yes-no questions

Does Mary drink tea?

Q: [$_{CP}$ Q-force [$_{CP}$ [±Pol] [$_{IP}$ Mary [±Pol] [$_{VP}$ drink tea]]]]

A: [$_{CP}$ [+Pol] Foc [$_{IP}$ Mary [+Pol] [$_{VP}$ drink tea]]]]

Spelled out: Yes [Mary drinks tea]

Answers to wh-questions and to yes-no questions are both <u>fragment answers</u>.

Evidence that fragment answers have sentential structure and are derived by movement (Merchant 2004, Merchant, Frazier, Clifton and Wescott 2013): <u>Connectivity effects</u>.

Q: *Kenet   sinä tapasit?*   [Finnish]
        who-ACC you met
        'Who did you meet?'

A: *Maria-n.*
        Maria-ACC

In the present theory they are not necessarily derived by movement, but by external merge and Binding/Agree.

Negative questions

Two meanings of negative questions:

Vill du   inte ha kaffe?   [Swedish]
will you not have coffee

1. I have seen some evidence that you don't want coffee, but I want to have it confirmed.

2. I have reason to believe that you do want coffee, but I still want to double check.

English makes a syntactic distinction:

1.   *Do you not drink coffee?*

2.   *Don't you drink coffee?*

Ladd (1981), Holmberg (2013a)

Do you not want coffee, either? (The negation is IP-internal, licenses
the NPI.)

Don't you want coffee, too? (The negation is IP-external, allows
a positive polarity item in IP.)

%Don't you want coffee, either?

The structure of negative questions with negative bias

- A negative yes-no question is still a question, so it has a polarity variable.
- Pol is not <u>realised</u> by the negation, but <u>valued</u> by the negation (in declaratives).

 Declarative: *Mary does not drink tea*.

$[_{IP}$ Mary $[\pm Pol]$ [not $[_{VP}$ drink tea]]] $\longrightarrow$ $[_{IP}$ Mary $[-Pol]$ [not $[_{VP}$ drink tea]]]

The structure of negative questions with negative bias

• A negative yes-no question is still a question, so it has a polarity variable.
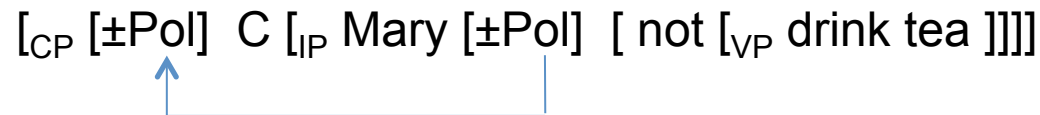• Pol is not realised by the negation, but <u>valued</u> by the negation (in declaratives).

Declarative: *Mary does not drink tea*.

$[_{IP}$ Mary $[\pm Pol]$ [not $[_{VP}$ drink tea]]] $\longrightarrow$ $[_{IP}$ Mary $[-Pol]$ [not $[_{VP}$ drink tea]]]

Question: *Does Mary not drink tea?*

$[_{CP} [\pm Pol]$ C $[_{IP}$ Mary $[\pm Pol]$ [not $[_{VP}$ drink tea]]]]

Two ways to confirm that the negative alternative is true (in English):
        Yes (Mary does not drink tea).
        No   (Mary does not drink tea)

Holmberg (2013a,b)

The meaning of negative questions with negative bias

Still a choice between two alternative propositions, a negative and a positive one.
Can still be answered 'yes' or 'no'.
But leaning towards 'no'.

Neutral question:
Does Mary drink coffee?
     Mary drinks coffee or
      not [Mary drinks coffee]

The positive alternative and its negation.

Negative question (with negative bias):
Does Mary not drink coffee?
     not Mary drinks coffee or
     not [not Mary drinks coffee] = Mary drinks coffee

The negative alternative and its negation.

Q-Force [$_{CP}$ [±Pol] C [$_{IP}$ Mary <±Pol> [not [$_{VP}$ drinks coffee]]]]

Negative questions with positive bias

Differences in how negative questions are answered, depending on bias.

Is this the road to Lund?   (neutral)
Yes
No

Isn't this the road to Lund?   (positive bias)
Yes (this is the road to Lund)
No   (this is not the road to Lund)

Is this not the road to Lund?   (negative bias)
Yes   (this is not the road to Lund).
??Yes   (this is the road the Lund).
 Yes it is.

Er dette veien   til Lund?   [Norwegian]
is this   the.road to Lund
Ja.
Nei.

Er dette ikke veien til Lund?   (Negative bias)
is this   not the.road to Lund
*Ja.
  Jo (= this is the road to Lund – a polarity-reversing affirmative particle)
   Nei. (= this is not the road to Lund)

Er dette ikke veien til Lund?   (Positive bias)
is this   not the.road to Lund
Ja. (= this is the road to Lund)
Nei. (= this is not the road to Lund)

(Jo = this is the road to Lund)

Q: Is this the road to Lund?
A: *So it is.

Q: Isn't this the road to Lund? ('I believe it is, but I drink to double check.')
A: So it is.

An idea: Positively biased negative questions are negative questions which have the positive alternative as the unmarked one.

But if so, how are they different from neutral questions?

Compare tag questions:

Q1:   This is the road to Lund, isn't it?
Q2:   Isn't this the road to Lund?

A1:   Yes.
A2:   No.
A3:   So it is.

Ladd 1982

The negation in the positively biased negative question is 'outside S'

*Isn't this the road to Lund, **too***.   (compatible with a positive polarity item)

Kramer & Rawlins (2011): That's why it can't be answered *yes* to confirm the negative alternative.
Isn't this the road to Lund, too?
Yes. (≠ *This isn't the road to Lund.*)

It cannot be answered *yes* to confirm the negation because there is no negation within the IP which could be confirmed by the affirmative particle.

Possible formalisation: The negation has scope overt the polarity variable:
  $[_{CP}$ Neg $[$ $[\pm Pol]$ C $[_{PolP}$ ...$[\pm Pol]$... VP $]]]$

What does that imply for the interpretation?

Starting from tag-questions:

• The English tag question shows the semantic components of a yes-no question explicitly.

•   A yes-no question puts two alternative propositions on the table, one the negation of the other, with an instruction to the addressee to indicate which one is true.

•   The content clause of the tag question presents one alternative in the form of a positively specified sentence (in the case of the positive-negative variety of tag-questions).

•   The tag supplies the negative counterpart as well as a mark of Q-force (Pol-to-C movement). The primary alternative is clearly the positive one.
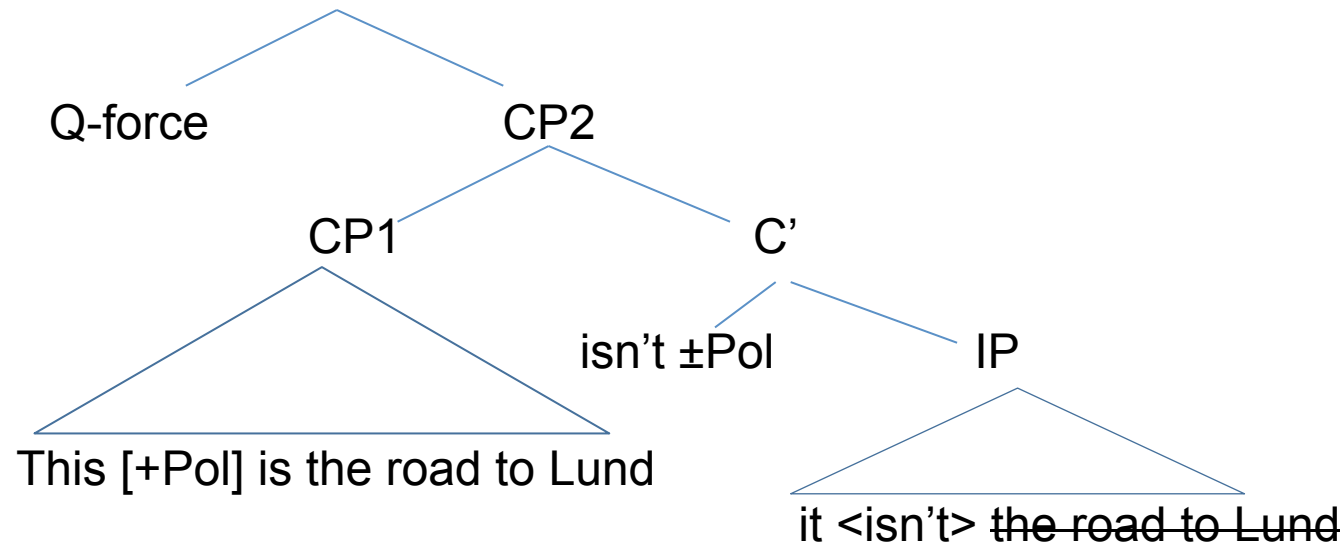
The alternative propositions of a tag question:
1.   this is the road to Lund, or
2.   this is the road to Lund, or not [this is the road to Lund]

"This is the road to Lund or there is a question whether it is or not."

So it is = The answer selects the IP of CP1 as its base.

Yes/No = The answer selects the IP of CP2 as its base.

Reese (2006), Asher and Reese (2007):

Tag questions are complex speech acts: Assertion plus question.

- The *after-all* test for assertionhood (Sadock 1974):
  After all, John is an idiot.
 *After all, is John an idiot?

 Tag-questions pass the *after-all* test:
 After all, John is an idiot, isn't he?

- The *tell-me* test for questionhood (Sadock 1974):
 *Tell me, John is coming.
  Tell me, is John coming?

 Tag-questions pass the test:
  Tell me, John is coming, isn't he?

 Conclusion: Tag-questions are both assertions and questions.

Reese (2006), Asher and Reese (2007):

- Positively biased negative questions are also complex speech acts: assertion plus question.
- Negatively biased negative questions are pure questions.

Isn't John coming, too? (unambiguously positively biased)

After all, isn't John coming, too? (passes the assertion test)

Tell me, isn't John coming, too? (passes the question test)

Isn't John coming, either? (unambiguously negatively biased)

*After all, isn't John coming, either? (fails the assertion test)

Tell me, isn't John coming, either? (passes the question test)

Proposals:

A. Positively biased negative questions have the same denotation as tag questions.

Q: *Isn't this the road to Lund?* ('I think it is, but I still want to double-check.')

1.   This is the road to Lund OR there is a question with the denotation 2:
2.   a. this is the road to Lund OR
           b. not [this is the road to Lund].

B: The negation in the positive-bias negative question is <u>not a negation</u>, in the sense of an interpretable negative feature, <u>but a [±Pol]-marker</u>,

hence more of a question particle, like the tag in the tag question.

Isn't this the road to Lund? (positive bias)
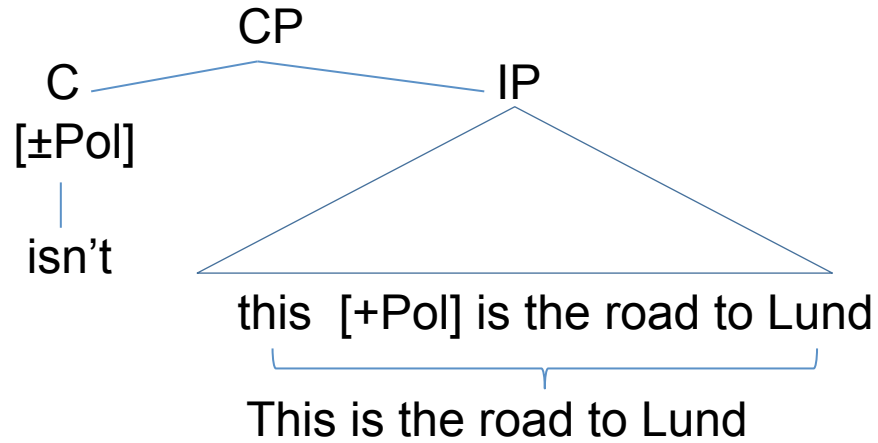
CP

C — IP
[±Pol]
|
isn't

this [+Pol] is the road to Lund

This is the road to Lund

Isn't this the road to Lund? (positive bias)

CP

C   IP

[±Pol]

isn't

this [+Pol] is the road to Lund

This is the road to Lund
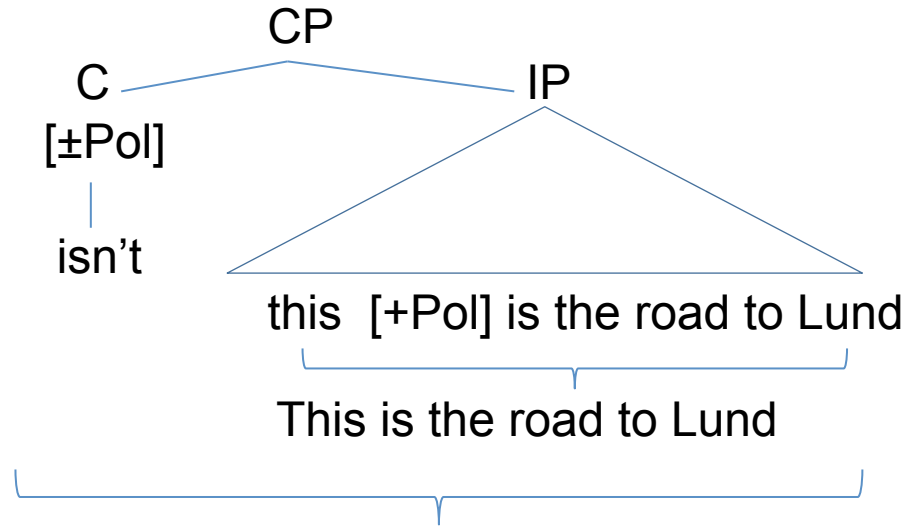
OR True that this is the road to Lund, or
      Not true that this is the road to Lund.

Är det här   inte vägen till Lund? (positive bias)
is this here not the.road to Lund

also: *Är inte det här vägen till Lund?*
      is not this here the.road to Lund

CP

C   IP   expletive negation

[±Pol]

är

det här [+Pol] inte vägen till Lund

This is the road to Lund
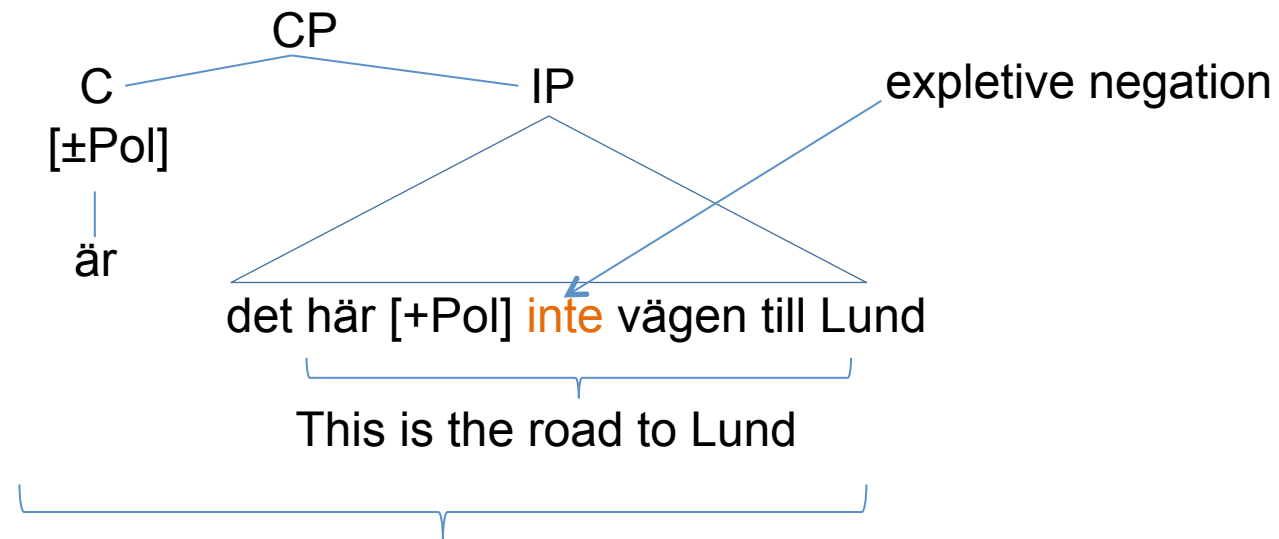
OR True that this is the road to Lund, or
      not true that this is the road to Lund.

Other languages: Cantonese Chinese

Negatively biased:

Q: *John ng sik   fatman ga meh?*
        John not know French   Q
        'Does John not speak French?'

A: *ng sik   ah.*
        not know PRT
        'No.'

Positively biased:

Q: *John ng **hai** sik   fatman ga meh?*
        John not be know French   Q
        'Doesn't John speak French?'

A: *sik   ah*
        know PRT
        'Yes.'

Other languages: Cantonese Chinese

CP
- CP
  - ng [±Pol]
  - hai be
  - IP
    - John sik fatman

ga meh [Q-force]

John sik fatman → John speaks French
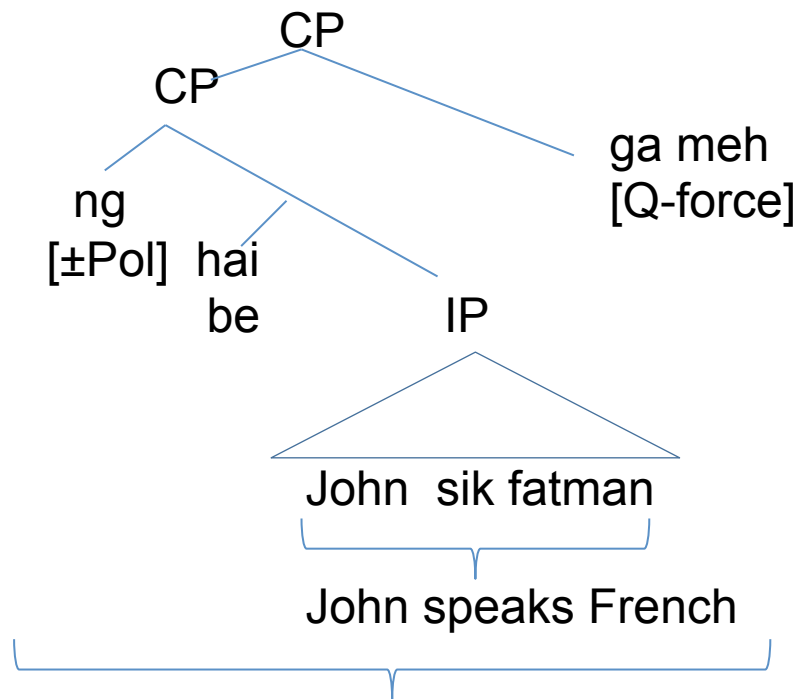
OR It is the case that John speaks French, or
it is not the case that John speaks French

Thai: Neutral questions
Yaisomanang (2012)

Thai:

Q: *phîi-chaay   pay   paa-rîit   r~~ǔu~~*
        older-brother go   Paris   Q/or
        'Did your brother go to Paris?'

A1:   *pay*
          go
          'Yes.'

A2:   *mây   pay*
          NEG go
          'No.'

Thai: negative questions with negative bias

Thai:

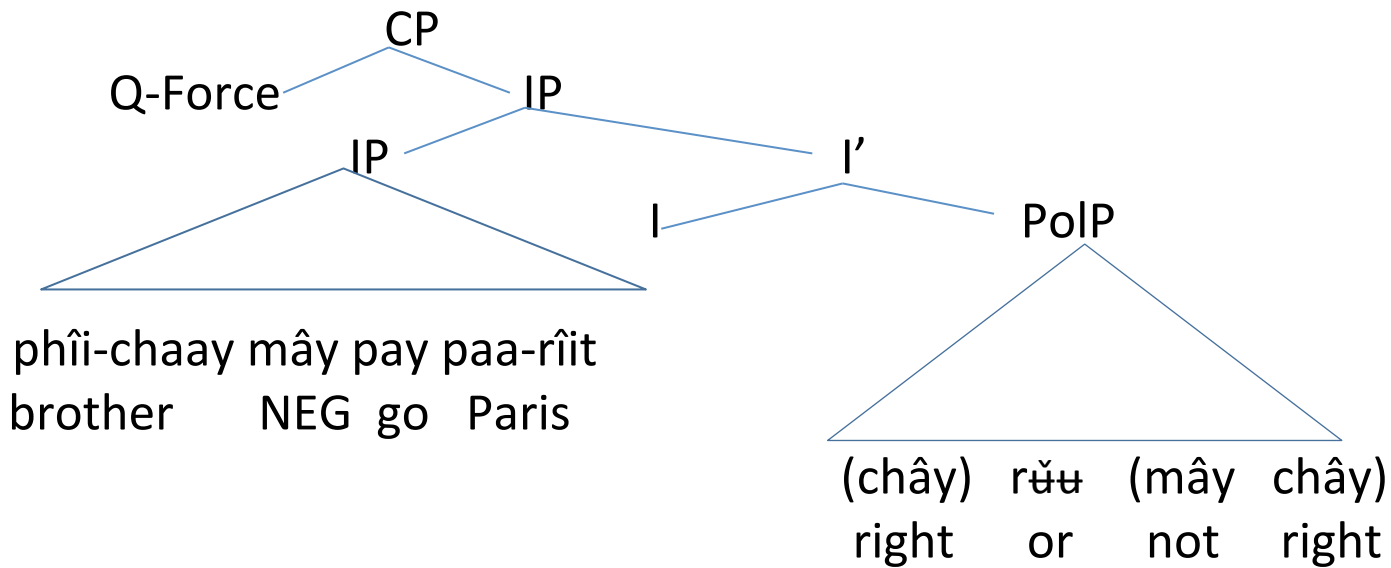Q: *phîi-chaay*   *mây*   *pay*   *paa-rîit*   *rǔu*
     older-brother   NEG   go   Paris   Q/or
     'Did your brother not go to Paris?'

A1: *mây   pay*
     NEG go   ('He didn't go.')

A2:   *chây*   [The 'truth-based answering system']
      right/ yes   ('He didn't go.')

phîi-chaay mây pay paa-rîit (chây (rɯ̌ɯ) mây)   (Yaisomanang 2012)
brother   NEG go   Paris   right or   not
'Did your brother not go to Paris?'

```
                              CP
                  Q-Force            IP
                            IP              I'
                                      I          PolP
              phîi-chaay mây pay paa-rîit
              brother      NEG  go   Paris
                                        (chây)  rɯ̌ɯ  (mây  chây)
                                        right     or    not   right
```

chây
right/yes ('He didn't go to Paris.')

```
              chây
             /    \
          chây     Foc
         [+Pol]    /    \
                  /      IP
                 /      /  \
                /     IP    \
               /    /    \    I    [+Pol]
              /    /      \
             /  phîi-chaay mây pay paa-rîit
             \  brother    not  go  Paris
              _____↑
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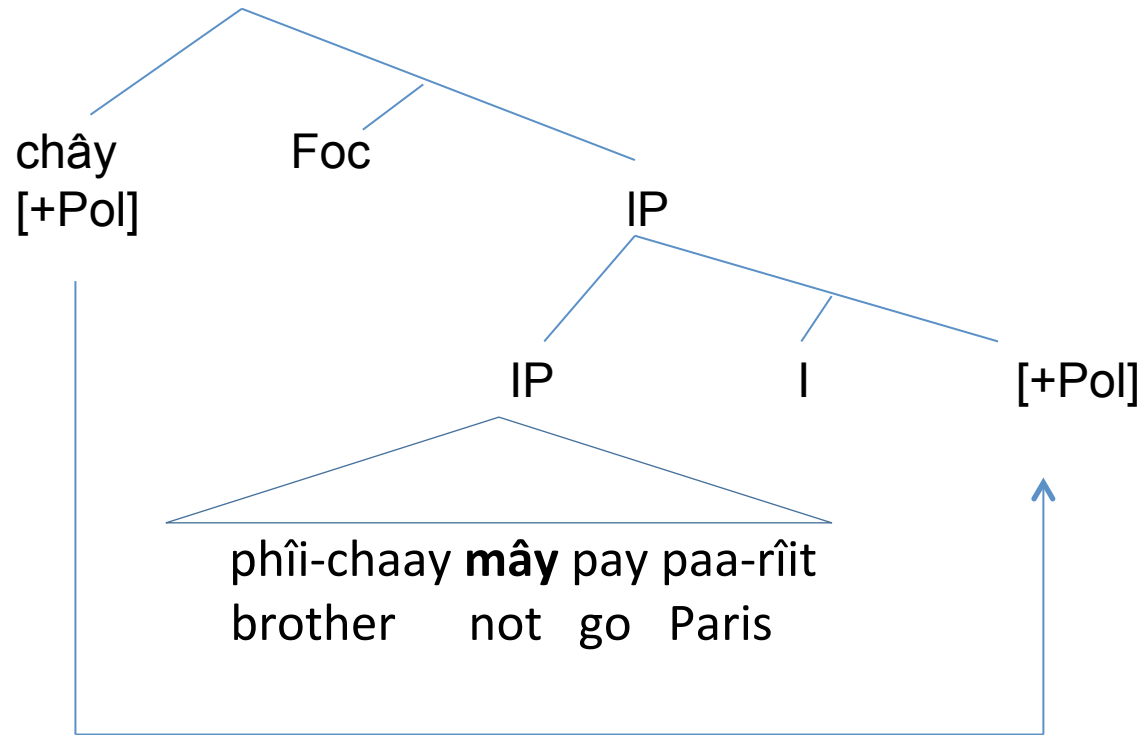
Alternatives:
a. Your brother did not go to Paris, or
b. not [your brother did not go to Paris] → He went to Paris

It looks like question bias has no effect on answers in Thai.

Q: *thǝǝ   mây   cha-làat   rɯ̌ɯ*
    she   NEG   clever   Q
    Isn't she clever?   (said by a grandmother about her granddaughter)

A: *plàaw   (thǝǝ cha-làat)*
     NEG   she clever
     Lit: No (she is clever). i.e. 'Yes, she's clever.'

A: *chây (thǝǝ   mây   cha-làat)*
    yes,   she   NEG   clever
    'No, she is not clever.'

                              Somphob Yaisomanang, p.c.

    The question expects an answer confirming the positive alternative.

    Yet the question is answered like a question expecting a negative
    answer: The positive alternative is confirmed by 'no' and the negative
    alternative by 'yes'.

Another type of negative question

Compare
Q: *Isn't she lovely?* (said by a grandmother about her granddaughter)
A: *Yes.*

Q: *Is she not lovely?* (also said by a grandmother about her granddaughter)
    Roughly: 'There may be some doubt or allegation out there that she is
    not lovely. Do you agree with this allegation?'

A1: Yes she is.

A2: No, she is.

Summary

Two types of negative questions:
1. The negation is internal to the IP ('low negation').
    The alternatives denoted by the question are *not p* and *not (not p)*.

2. The negation is external to IP, and introduces the negative alternative
       (like a question particle).
     The alternatives are: *p* or (*p* or *not p*).
     They have this in common with tag questions

Typically Type 1 expects a negative answer (the negative alternative being unmarked),
and Type 2 expects a positive answer.
But a Type 1 question can expect a positive answer in the right context.

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