

We want to know, must you answer this question?

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1 Introduction

Questions can be embedded (1).

(1) *Fully subordinated question*

John_i wants to know [if my_j grade is higher than his_i].

So can subject-auxiliary inversion (McCloskey 2006, Bhatt & Dayal 2020) (2).

(2) *Quasi-subordinated question*

John_i wants to know [is my_j grade higher than his_i].

The embedded question with subject-aux inversion in (2) is said to be *quasi-subordinated* (Dayal & Grimshaw 2009, Dayal to appear).

Below is a context in which (1–2) can be said:

(3) *Context*

John and Bill both took a seminar taught by Mary. The grades had not been posted yet, and John wanted to know whether he or Bill got a higher grade. Being a very shy student, he did not want to ask Mary himself. He asked Bill to ask Mary.

Whereas the fully subordinated question in (1) is not necessarily potentially active (p-active) for the speaker (4), the quasi-subordinated question in (2) is, as in (5).

(4) John_i wants to know [if my_j grade is higher than his_i],
but I don't care to find out.

(5) John_i wants to know [is my_j grade higher than his_i],
#but I don't care to find out.

We also observe that the addressee is not obligated to answer the fully subordinated question (6), but is obligated to answer the quasi-subordinated question (7).

(6) John_i wants to know [if my_j grade is higher than his_i].

a. OK, I'll let him know.

b. Yes, yours is way higher.

(7) John_i wants to know [is my_j grade higher than his_i].

a. #OK, I'll let him know.

b. Yes, yours is way higher.

These two phenomena are also found crosslinguistically in other languages, including Hindi, Mandarin, and Akan. They are the main course of this talk.

Roadmap

- ii. Background
- iii. Data
- iv. Conclusion

2 Background

2.1 English

More examples of fully subordinated and quasi-subordinated questions are provided in (8–9).

(8) *Fully subordinated questions*

- a. [Every male physicist]_i wonders [if he_i will be awarded a Nobel Prize].
- b. Everybody_i wants to know [if I_j succeeded in buying chocolate for Winifred].

(9) *Quasi-subordinated questions*

- a. [Every male physicist]_i wonders [will he_i be awarded a Nobel Prize].
(McCloskey 2006: 89)
- b. Everybody_i wants to know [did I_j succeed in buying chocolate for Winifred].
(McCloskey 2006: 115)

The quasi-subordinated questions are not quotations, because if they were, *he* would not be bound by the matrix subject (10a), and *I* would be coindexed with the matrix subject (10b).

(10) *Quoted questions*

- a. [Every male physicist]_i wonders, “[Will he_{j/*i} be awarded a Nobel Prize]?”
(McCloskey 2006: 89, adapted)
- b. Everybody_i wants to know, “[Did I_{i/*j} succeed in buying chocolate for Winifred]?”
(McCloskey 2006: 115, adapted)

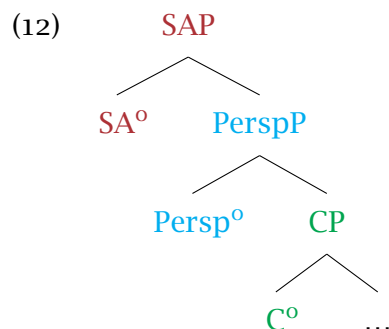
Whereas fully subordinated questions and quasi-subordinated questions can both be embedded by rogative predicates like *ask*, *want to know*, and *wonder*, only the fully subordinated questions can be embedded by responsive predicates like *know* (11) and *remember* (Bhatt & Dayal 2020, Dayal to appear).¹

¹ In negative and interrogative sentences, however, quasi subordination under responsives may be acceptable (McCloskey 2006, Dayal to appear). These cases are beyond the scope of this talk:

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- (11) a. [Every male physicist]_i knows [if he_i will be awarded a Nobel Prize].
 b. *[Every male physicist]_i knows [will he_i be awarded a Nobel Prize].

To account for (8–11), Dayal (to appear) proposes a three-way split interrogative left periphery (12) and argues for (13).



- (13) Quasi subordination requires Persp(ective)P.
 a. Rogative predicates can take PerspP complements.
 b. (In affirmative declaratives:) responsive predicates cannot take PerspP complements; they take CP complements.

To illustrate, see (14–15).

- (14) a. [Every male physicist]_i wonders [will he_i be awarded a Nobel Prize].
 (McCloskey 2006: 115)
 b. rogative predicate → PerspP complement → quasi subordination → subject-aux inversion acceptable
- (15) a. *[Every male physicist]_i knows [will he_i be awarded a Nobel Prize].
 b. responsive predicate → CP complement → no quasi subordination → subject-aux inversion unacceptable

In the rest of this section, we show that quasi subordination may also be found in Mandarin and Akan.

2.2 Mandarin

In Mandarin, there are at least two ways of forming questions: using the A-not-A template (e.g., Huang 1991, Hagstrom 2006) (16a) or the yes-no question marker *ma* (e.g., Cheng 1991, Li 2006) (16b).

- (i) a. Sue doesn't remember [was Henry a communist].
 b. Does Sue remember [was Henry a communist]?

(Dayal to appear: 34)

- (16) a. *A-not-A*
 Mingtian hui bu hui xiayu?
 tomorrow will not will rain
 ‘Will it rain tomorrow?’
- b. *Ma*
 Mingtian hui xiayu ma?
 tomorrow will rain PQP
 ‘Will it rain tomorrow?’
- (17) *A-not-A*
- a. *Rogative: OK*
 Xiaoming xiang zhidao [mingtian hui bu hui xiayu].
 Xiaoming want know tomorrow will not will rain
 ‘Xiaoming wants to know if it will rain tomorrow.’
- b. *Responsive: OK*
 Xiaoming zhidao [mingtian hui bu hui xiayu].
 Xiaoming know tomorrow will not will rain
 ‘Xiaoming knows if it will rain tomorrow.’
- (18) *Ma*
- a. *Rogative: OK*
 Xiaoming xiang zhidao [hui xiayu ma mingtian].
 Xiaoming want know will rain PQP tomorrow
 ‘Xiaoming wants to know will it rain tomorrow.’
- b. *Responsive: **
 *Xiaoming zhidao [hui xiayu ma mingtian].
 Xiaoming know will rain PQP tomorrow
 Intended: ‘Xiaoming knows if it will rain tomorrow.’

Based on data along the lines of (18), *ma* is proposed to occupy the **PerspP** layer (cf. Bhatt & Dayal 2020, Dayal to appear).

As with English quasi-subordinated subject-aux inversion, we observe indexical shift and binding effects with quasi-subordinated *ma* questions (Liu 2022) (19).

- (19) John_i xiang zhidao [wo_j de fen bi ta_i gao ma].
 John want know 1SG POSS grade than 3SG high PQP
 ‘John_i wants to know is my_j grade higher than his_i.’

2.3 Akan

Akan *anaa* has four usages (Ahenkorah 2022) (20). In this talk, we focus on two of them: **yes-no question particle** and **discourse particle**.

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- (20) a. disjunctive marker
b. yes-no question particle
c. discourse particle
d. tag question particle

The yes-no question particle *anaa* can be used to mark yes-no questions (Genzel 2013, Kügler 2016, 2017, Genzel & Kügler 2020, Ahenkorah 2022) (21).

- (21) Ato wɔ hita bebre *anaa*?
Ato possess heater many Q
'Does Ato possess many heaters?'

Questions marked by *anaa* can be embedded (22a). The complementizer *se* is neutral (22b): it is *anaa* that marks the interrogative complement.

- (22) a. *Interrogative complement*
Kofi nim [se Ama a-da *anaa*].
Kofi know COMP Ama PFV-sleep Q
'Kofi knows if Ama is asleep.'
b. *Declarative complement*
Kofi nim [se Ama a-da].
Kofi know COMP Ama PFV-sleep
'Kofi knows that Ama is asleep.'

The discourse particle *anaa* expresses possibility (cf. English *maybe*), indicating the speaker's uncertainty (23).

- (23) a. Kofi wɔ hen?
Kofi BE.LOC where
'Where is Kofi?'
b. Anaa Kofi wɔ fie.
DP Kofi BE.LOC house
'Kofi may be at home.'

In a question, *anaa* introduces tentative commitment (24).

- (24) *Context*

In a windowless basement ...

- a. Anaa nsuo ε-tɔ *anaa*?
DP water 3SG-fall Q
'It is raining?'
b. Nsuo ε-tɔ *anaa*?
water 3SG-fall Q
'Is it raining?'

if the speaker has some evidence

if the speaker has no evidence

Anaa allows for some form of embedding.

- (25) *Anaa* Ama dwene [sɛ Kofi a-didi].
 DP Ama think COMP Kofi PFV-eat
 ‘Ama presumably thinks that Kofi has eaten.’

In (25), the particle is interpreted with the matrix subject. That is, it is Ama who presumably thinks that Kofi has eaten and not the speaker. Based on this observation, *anaa* is proposed as occupying *Persp* (Ahenkorah 2022).

When the discourse particle *anaa* and the yes-no question particle *anaa* co-occur, the question can only be perfectly acceptably embedded under rogatives and not responsiveness.

- (26) *Rogative: OK*
Anaa Ama dwene [sɛ Kofi a-didi *anaa*].
 DP Ama think COMP Kofi PFV-eat Q
 ‘Ama presumably wonders has Kofi eaten.’

- (27) *Responsive: ??*
 ??*Anaa* Ama nim [sɛ Kofi a-didi *anaa*].
 DP Ama know COMP Kofi PFV-eat Q
 Intended: ‘Ama presumably knows whether Kofi has eaten.’

Again, when both *anaa* and *anaa* are embedded, we observe the indexical shift and binding effects.

- (28) *Anaa* Ama_i dwene [sɛ me_j a-di ne_i aduane no *anaa*].
 DP Ama think COMP 1SG PFV-eat 3SG.POSS food DET Q
 ‘Ama presumably wonders have I eaten her food.’

2.4 Section summary

	English	Mandarin	Akan
<i>CP</i>	<i>if/whether</i> (CP only)	A-not-A	yes-no question particle <i>anaa</i>
<i>PerspP</i>	subject-aux inversion	<i>ma</i>	<i>anaa</i> and discourse particle <i>anaa</i>

Table 1 Crosslinguistic full subordination and quasi subordination of questions

3 Data

In Dayal’s (to appear) proposal, ...

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- (29) a. **C** does clause-typing.
 $\llbracket C^o \rrbracket = [\lambda q. \lambda p. p = q]$
- b. **Persp** introduces an individual for whom the embedded **CP** is a p-active question.
 $\llbracket \text{Persp}^o \rrbracket = [\lambda Q. \lambda x : Q \text{ is p-active for } x. Q]$
- c. **SA** provides an instruction from the speaker to the addressee to answer the question.
 $\llbracket \text{ASK} \rrbracket = [\lambda Q. \lambda x. \lambda y. y \text{ puts } x \text{ under obligation to ASSERT ANS}(Q)]$

The semantics of **Persp** predicts that in a matrix question, Q is p-active for the speaker, and in a quasi-subordinated question, Q is p-active for the matrix subject. In this view, the ungrammaticality of (15), copied below in (30), results from the semantic incompatibility of the complement.

- (30) * $[\text{Every male physicist}]_i$ knows *[will he_i be awarded a Nobel Prize].*

We observe that a quasi-subordinated Q may be p-active for the speaker as well. Moreover, the addressee is put under obligation by the speaker to answer this Q .

3.1 Mandarin

- (31) *Fully subordinated question: Not p-active for the speaker*

- a. John_i xiang zhidao [wo_j de fen shi bu shi bi ta_i gao], ...
 John want know 1SG POSS grade COP not COP than 3SG high
 'John_i wants to know if my_j grade is higher than his_i, ...'
- b. *Dan wo bu xiang zhidao.*
 'But I don't want to know.'

- (32) *Quasi-subordinated question: P-active for the speaker*

- a. John_i xiang zhidao [wo_j de fen bi ta_i gao ma], ...
 John want know 1SG POSS grade than 3SG high PQP
 'John_i wants to know is my_j grade higher than his_i, ...'
- b. #*Dan wo bu xiang zhidao.*
 'But I don't want to know.'

- (33) *Fully subordinated question: No obligation on the addressee*

- a. John_i xiang zhidao [wo_j de fen shi bu shi bi ta_i gao].
 John want know 1SG POSS grade COP not COP than 3SG high
 'John_i wants to know if my_j grade is higher than his_i.'
- b. *Zhidao le. Wo yihui gaosu ta.*
 'I see. I'll tell him later.'

(34) *Quasi-subordinated question: Obligation on the addressee*

- a. John_i xiang zhidao [wo_j de fen bi ta_i gao ma].
 John want know 1SG POSS grade than 3SG high PQP
 'John_i wants to know is my_j grade higher than his_i.'
- b. #Zhidao le. Wo yihuir gaosu ta.
 'I see. I'll tell him later.'

3.2 Akan

(35) *Fully subordinated question*

- a. Kofi_i pɛ sɛ ɔ-hu [sɛ me_j aduane no yɛ dɛ kyen ne_i di no
 Kofi want COMP 3SG-see COMP 1SG food DET BE sweet pass his own DET
 anaa].
 Q
 'Kofi_i wants to know if my_j food taste better than his_i.'
- b. Saa mom, eniɛ me ne Kofi bɛ kasa.
 'Is that so, then I will talk with Kofi.'

(36) *Quasi-subordinated question*

- a. Kofi_i pɛ sɛ ɔ-hu [sɛ anaa me_j aduane no yɛ dɛ kyen ne_i di
 Kofi want COMP 3SG-see COMP DP 1SG food DET BE sweet pass his own
 no anaa].
 DET Q
 'Kofi_i presumably wants to know does my_j food taste better than his_i.'
- b. #Saa mom, eniɛ me ne Kofi bɛ kasa.
 'Is that so, then I will talk with Kofi.'

(37) *Answer paradigms*

- a. In (35), no answer is required; the speaker is only making a public commitment to his proposition.
- b. In (36), the addressee needs to answer the embedded question to the speaker (e.g., *yes, your food is way better*).

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4 Conclusion

Takeaways and implications

- Quasi-subordinated questions may be p-active for the speaker and may put the addressee under the obligation to answer the question to the speaker.
- The particles *ma* and *anaa* have been independently studied as yes-no question particles but their (quasi) subordination properties have not been considered. The presence of the quasi subordination reading for questions marked by *ma* and the two forms of *anaa* indicates that the particles are not just polar questions but more complex particles in terms of usage.
- Quasi subordination has been identified in languages such as English (McCloskey 2006) and Hindi (Bhatt & Dayal 2020, Dayal to appear). The presence of such constructions in Mandarin and Akan provides crosslinguistic evidence for the possible universality for quasi subordination.
- The relationship between predicates and the subordinated questions (fully and quasi) indicates how semantics influences selection or complementation.

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