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The commitment of rhetorical questions

Virginia Hill, University of New Brunswick, Saint John, CA, mota@unb.ca

Shigeru Miyagawa, Massachusetts Institute of Technology, USA; University of São Paulo, Brazil; Seikei University, Tokyo, Japan, miyagawa@mit.edu

Rhetorical questions have received a detailed treatment in semantic studies that defined them in terms of common ground updating, assertion and lack of information seeking. How these semantic traits interact with the syntactic derivation of a rhetorical question has been less debated in the literature (with some notable exceptions). This paper adopts the findings of the semantic studies and considers them from a syntactic perspective: to what degree does syntax contribute to the interpretation of an interrogative clause as a rhetorical question? The paper focuses on data where the switch from a heuristic to a rhetorical reading of interrogatives is forced by the insertion of certain lexical items, and analyzes these items within a framework that maps conversational pragmatics to syntax. In particular, the proposal is that the interaction of the question clause typing feature with an evidential feature in the Commitment Phrase (i.e., the projection that relates speaker/addressee to the proposition) has the effect of an assertion that overrides the addressee-orientedness of the interrogative clause.

1 Introduction

The studies of rhetorical questions concur in identifying three semantic components for these structures: question, assertion and shared commitment (common ground) between speaker and addressee(s) (Biezma & Rawlins 2017; Rohde 2006 a.o.). The various semantic tests proposed to distinguish a heuristic question from a rhetorical one (Caponigro & Sprouse 2007; Sadock 1971, 1974 a.o.) led to significant progress in the analysis of these constructions.

Considering this background, the issue addressed in this paper is whether syntax has any contribution to the rhetorical interpretation of a question, beyond providing the interrogative template for the clause. For example, some studies point out that the presence of the negation with a rhetorical question may or may not force a biased positive answer (Rhode 2006 a.o.). Could syntax predict when the answer is or is not biased?

This paper argues that, indeed, syntax contributes to the rhetorical reading, and that the extent of its contribution is easier to determine within a framework that maps conversational pragmatics to an extended projection above the CP. In particular, the paper adopts the syntactization of the discourse approach (Speas & Tenny 2003), which assigns syntactic positions to the speaker and the addressee (SpkP and AddrP, respectively in Miyagawa 2022). Thus, a space is secured for the realization of a common ground (also Wiltschko 2021). In addition, the projection of a Commitment Phrase (CommitP) that links the proposition to the illocutionary force (Frey & Meinunger 2019; Krifka 2015, 2019, 2023; Miyagawa 2022; Miyagawa & Hill 2023) introduces the features responsible for the assertion reading. These features interact with the clause typing for questions, assigned to CP, in a way that derives and restricts the interpretation to that of a rhetorical question.

More precisely, the proposal is that a rhetorical question is derived in the same way as a declarative or an information seeking interrogative, that is, through the interaction of the commitment feature with the question operator that types C as interrogative (the [+qu] feature). For rhetorical questions, an evidential feature is bundled with the commitment feature, as it can also happen with declaratives, yielding the assertion reading. The assertion entails the speaker's commitment to truth, for which s/he has direct or indirect evidence. Assertion clashes with the [+qu] clause typing, since interrogatives are addressee (versus speaker) oriented. Hence, the speaker's assertion turns the addressee-orientation into a speaker-addressee orientation, sharing the responsibility for the truth of the assertion. In addition, if the speaker also intends to refine the evidence for the assertion, (i.e., evidence that no member of the set of possible answers for the meaning of the question holds), a negative operator is mapped to CommitP. Empirical support for the syntactic features involved with CommitP in rhetorical questions comes from genetically unrelated languages.

The paper is organized as follows: Section 2 discusses the theoretical background and identifies two types of rhetorical questions that a syntactic account must cover. Section 3 summarizes the evidence for CommitP in declarative clauses. Section 4 shows how the same underlying structure can generate interrogative clauses, as well as the rhetorical questions discussed in Section 5. Section 6 concludes the paper.

2 Theoretical background

Han (2002) focuses on the polarity reading of rhetorical questions: a rhetorical positive question has the illocutionary force of a negative assertion, and a rhetorical negative question has the illocutionary force of a positive assertion. The proposal is that a negative operator takes scope over the question and causes the negative reading (as well as the licensing of NPIs) despite the absence of clause negation, as in (1a). Conversely, when the clause negation is present, the effect of double negation arises resulting in affirmation, as in (1b).

(1)   a.   What has John ever done for Sam?   → nothing
         b.   What hasn't John done for Sam?   → everything

For Han (2002), the negative operator is a semantic, not a syntactic, device that intervenes post syntactically: the assertive polarity is the result of a post-LF derivation driven via interaction of the interrogative clause syntax with a sub-part of the interpretational component(i.e., pragmatics).

Studies subsequent to Han (2002) point out that the inversed polarity reading in (1) is not systematic with rhetorical questions: (2a) has no clause negation, but the biased answer is positive, not negative (Capronigro & Sprouse 2007). Furthermore, not all rhetorical questions yield polarity readings, as shown in (2a, b c).

- No negation but possible positive answer

(2)   a.   Has the educational system been so watered down that anybody who's above average is now gifted? (from Rhode 2006)

- Multiple answers or no answer

(2)   b.   What's going to happen to these kids when they grow up? (from Rhode 2006)

- Non-null answer

(2)   c.   Who always shows up late to class? (from Rhode 2006)

- Idiomatic expressions

(2)   d.   Am I a nerd or am I a nerd?
         e.   Are you an idiot? (from Biezma & Rawlins (2017: 303)

Rhode (2006) uses such examples to point out that: For (2a), the answer may be 'yes' or may vary. Crucially, a 'yes' answer is possible without having a negation in the sentence, which

contradicts Han's generalization based on (1a). For (2b), an answer is not necessary at all, if the speaker and the addressee are in a state of ignorance, but multiple answers are also possible. With (2c), some names may be the answer, but ignorance is not an option, as for (2b). Idiomatic expressions presume a positive answer without the presence of negation as well. Such data allow for two observations: (i) positive answers may arise for rhetorical questions without the presence of a negation (or negative operator); and (ii) the answers can be not only positive but varied, indicating lack of polarity.

However, the component that all these questions (polarized or not) display is the "feel of an assertion" and the common ground shared by the speaker and the addressee (Biezma & Rawlins 2017). Accounts for the variety of readings with rhetorical questions include the definition of rhetorical questions as redundant/uninformative questions (Rhode 2006); or the updating of the common ground through unanimous acceptance of QUD (Biezma & Rawlins 2017).[1]

In sum, the semantic approaches identify two types of biased answers with rhetorical questions: type (i) entails a 'yes' or 'no' (polarity reading) due to the presence of a negative operator; while in type (ii) the answer is free or null. A syntactic account must be able to generate both types, and predict when one or the other may arise. More precisely, considering that syntactic theory assumes that the meaning of sentences is (partly) read off their syntactic configuration, the foregoing analysis must determine: (a) the configuration contrast between heuristic and rhetorical questions, especially regarding the encoding of the common ground only for the latter; and (b) the configuration contrast responsible for type (i) versus type (ii) of answers with rhetorical questions, that is, the presence or the absence of a negative operator.

In this respect, to date, the syntactic accounts for rhetorical questions are scarce, and far from accounting for the cross- and intra-linguistic variation or the contrast between the rhetorical questions with answers of type (i) or of type (ii). Progress in this respect comes from Nakashima (2018), Tang (2022) and Choi (2022), who argue for an important point: some languages display particles or adverbs that force a rhetorical reading of an interrogative clause, and the distribution of these lexical items is restricted by word order, and it is subjected to island constraints. Hence, these items should be treated as syntactic categories that introduce in the derivation the assertion and the negative operator discussed in semantic studies.

While following these leads, this paper proposes to frame the analysis of rhetorical questions within the representation of the speech act field (SAP). Since syntax can map the speaker's mind (Krifka 2019 et seq.), as well as the conversational interaction between speaker and addressee (Speas & Tenny 2003; Haegeman & Hill 2013; Wiltschko 2021), and rhetorical questions involve all the above, how can SAP be exploited for a better understanding of these constructions?

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[1] In semantics, pragmatics, and philosophy of language, a question under discussion (QUD) is a question which the interlocutors in a discourse are attempting to answer.

3 Commitment Phrase in declarative clauses

This section provides a brief overview of the proposal for CommitP. The main point is that the commitment feature [commit] belongs to the inventory of functional features, and that its presence becomes visible in conjunction with an evidential feature in marked constructions.

Krifka (2019) acknowledges the evidence for the syntactic encoding of conversational pragmatics and proposes a hierarchical structure that contains a CommitP, which grasps the idea that, in an illocutionary act, the speaker takes on certain commitments (i.e., that his/her statement is true, as an expression of public commitment). Miyagawa (2022) adopts this proposal and integrates it in the SAP hierarchy, as the intermediary link between speaker/addressee and the proposition (CP).[2] Furthermore, considering Krifka's justification for CommitP, the commitment feature entailed by this projection should be systematically present in the inventory of features involved in the derivation of clauses. Following this reasoning, we turn to Japanese and note that the extended projection of a declarative clause may have two versions, as in (3a) and (3b).

(3) a. Hanako-ga   ik-u.
         Hanako-NOM   go-PRS
         'Hanako will go.'

     b. Hanako-ga   ik-u   **yo.**
         Hanako-NOM   go-PRS YO
         'Hanako will go (I guarantee).'

In (3a), the speaker utters a statement that is implicitly presented as true. The same utterance in (3b) displays an enhancement of the statement by the addition of the particle *yo*. Miyagawa and Hill (2023) argue that this particle spells out an evidential feature bundled with the commitment feature, and signalling that the speaker has evidence available to him/her to support the statement.[3]

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[2] Miyagawa (2022) slightly modifies Krifka's hierarchy: (i) CommitP and JudgementP are collapsed; and (ii) the syntactic encoding of the proposition p is CP instead of TP for Krifka. These are technical, not substantive differences, as for Miyagawa, CP allows for a finer-grained hierarchy that accommodates more elements cross-linguistically. This technical divergence is not relevant to this paper insofar as both approaches converge in relating p to the field that encodes the features of conversational pragmatics.
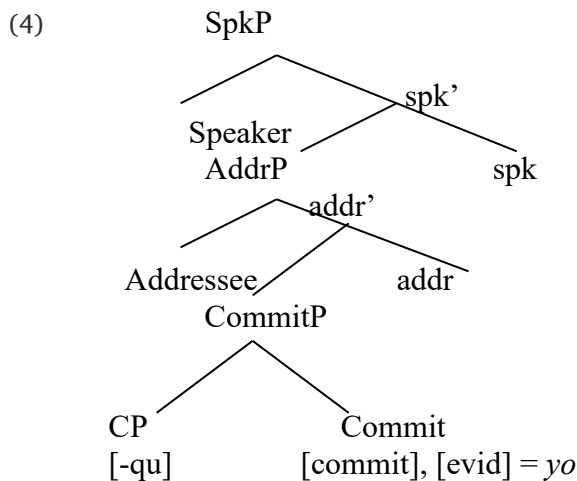
[3] See Miyagawa and Hill (2023) for word order tests in Japanese and Romanian that indicate the location of *yo/zău* in Commit and their interaction with evidential adverbs. Northrup (2014) also characterizes *yo* as a form of evidential, although from a very different perspective. Paraphrasing his idea, *yo* is used when the speaker has stronger evidence for *p* than the addressee (Northrup 2014: 76–77). In a different vein, Davis (2009), following McCready (2008), characterizes *yo* as occurring with an utterance with information new to the addressee, and this information is relevant to the addressee's goals. Davis (2009: 346) further states that *yo* is used to guide the addressee's action.

Syntactically, the evidential feature maps any type of evidence available to the speaker, irrespective of its source. **Table 1** summarizes the classification of evidence in Willett (1988).

Direct evidence		Indirect evidence			
Attested:		Reported:		Inference:	
	Visual		Secondhand		Results
	Auditory		Thirdhand		Reasoning
	Other sensory		Folklore		

Table 1: Types of evidence (Willett 1988).

Accordingly, *yo* in (3b) is ambiguous, out of the context, as to the type of evidence available to the speaker. It could be based on objective facts or it may come from subjective beliefs supporting a certain reasoning. The bundling of commitment and evidential features is shown in (4).

(4)

```
          SpkP
         /   \
        /    spk'
   Speaker  /   \
    AddrP       spk
    /  \
   /  addr'
Addressee / \
 CommitP   addr
  /  \
 CP    Commit
[-qu]  [commit], [evid] = yo
```

The contrast between (3a) and (3b) is not limited to Japanese. A similar alternation is observed in Romanian (5): the particle *zău* expresses commitment to the truth of *p* on the basis of some evidence the speaker possesses.

(5) (Zău că) [pe Maria] [la munte] o   vom   trimite, nu la mare.
     ZAU that DOM Maria to mountain her will.1PL send   not to sea
     'I swear that we will send Maria to the mountains, not to the sea shore.'

In (5), the particle is optional, depending on the strength of the commitment, but when it occurs, it merges higher than the clause typing complementizer *că* 'that' in C (Rizzi's 2004 Force, hence higher than topic and focus in (5)). On a par with Japanese *yo*, Romanian *zău* expresses the

speaker's confidence in the evidence for his/her knowledge, and provides visibility for CommitP. Thus, the representation in (4) also applies to Romanian constructions with *zău* after allowing for the switch in head directionality.

The relevance of particles as in (3b) and (5) is not only to confirm the projection of CommitP, but also to point out the syntactic contrast between neutral and enhanced statements. In particular, the absence of *yo/ zău* yields a statement reading of the declarative (commitment to the truth of *p*), whereas the presence of these particles turns the statement into an assertion (strong commitment to the truth of *p* based on evidence). Generally, *assertion* denotes a confident and forceful statement of facts or beliefs; in this paper, however, *assertion* will be used as a technical term referring to the bundling of commitment and evidential features as a marking device.

In sum, root declarative clauses contain statements or assertions for which the speaker takes the entire responsibility. Formally, the analysis proposes the featural composition of the relevant left periphery of the clause as in (6).

(6)   a.   [commit], [-qu] = statement
       b.   [commit], [evid], [-qu] = assertion

In (6), [-qu] is the clause typing feature of C in declaratives (i.e., non-questions, no clause typing operator). Any root declarative clause that reads as a statement has a [commit] feature. When the speaker signals that s/he has evidence to support the statement, the enhanced statement amounts to an assertion. In the next section, we verify how the same featural configuration works with heuristic questions in root contexts.
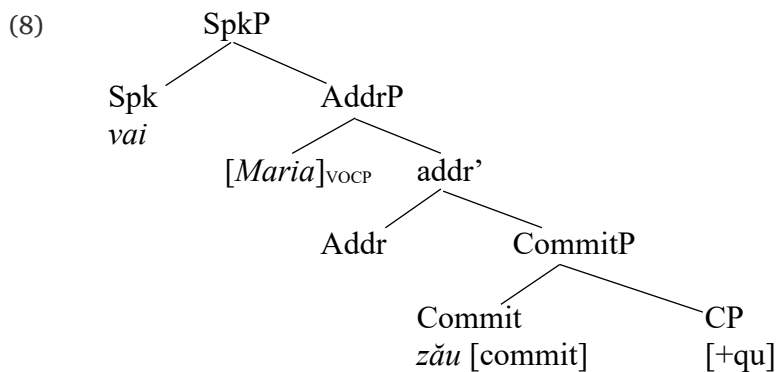
4 CommitP in interrogatives

A natural prediction of this proposal is that CommitP should be projected in any type of clause: as long as there is a proposition, someone should commit to its truth. For interrogatives, Miyagawa (2022) argues that CommitP switches the burden of commitment from speaker to addressee: the speaker expects the addressee to be committed to the truth of the answer s/he provides. This is in line with the conclusions of semantic studies that predict an interrogative flip in the anchoring of evidence for the truth of p, from speaker to the addressee, according to whether the utterance is a statement or a question (Faller 2002, Korotkova 2016 a.o.). Syntactically, this is implemented within the same structure as in (4), the difference arising only in the type of clause typing feature for C, which is [-qu] in declaratives, but [+qu] in interrogatives.

The preservation of the hierarchy in (4) with interrogative clauses can be confirmed in languages that can spell out SpkP and AddrP. Consider (7) from Romanian: the particle *vai* expresses the speaker's empathy or emotional state irrespective of the presence of an addressee.

When an addressee is involved, an identifying vocative phrase can cooccur with *vai*. Furthermore, the commitment particle *zău* seen with declaratives may also join the sequence.

(7)　a.　Vai Maria zău ce　　s-a　　întâmplat?
　　　　VAI Maria ZAU what SE_{ARB}-has happened
　　　　'Maria, really, what happened?'

　　b.　*Maria　vai　zău…
　　　　Maria　VAI　ZAU

In (7a), *vai Maria* forms one prosodic unit, with one pitch, on *vai*. The unit cannot be maintained in (7b) where the word order is reversed; for this sequence to be acceptable, breaks in intonation are necessary, which signals recursion or displacement (each element carries high pitch). Importantly, in this context, the commitment particle *zău* does not profess the speaker's assertion (it does not involve an evidential feature) but requires the addressee to be truthful in the answer. The structure of the interrogative is shown in (8).

(8)

```
              SpkP
             /    \
           Spk    AddrP
           vai    /    \
         [Maria]_VOCP  addr'
                       /    \
                     Addr   CommitP
                            /     \
                        Commit    CP
                        zău [commit]  [+qu]
```

In (8), CommitP is spelled out by *zău* above the clause typing operator in Spec, CP, and the interrogative is information seeking. Hence, although *zău* is present in the interrogative as it is in the declarative in (5), the effect is different: In (5) it marks the assertion and speaker-orientedness, because it spells out the combination of the commitment and the evidential feature in the presence of C[-qu]. On the other hand, in (8) there is no evidential feature, so *zău* spells out only the commitment feature, which in interaction with the [+qu] feature has a hearer-oriented reading (i.e., the burden of the commitment to the truth of p moves on the addressee).

In sum, the formal proposal is shown (9), and the gist is that heuristic questions have a different value for C[qu] and lack [evid]. For example, evidential adverbs fail to take scope over the clause in an interrogative such as *#Obviously when did he leave?*.[4]

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[4] Bhadra (2020) argues that the interrogative flip does not apply systematically, since there are languages in which interrogative clauses display particles that anchor the epistemic authority to the speaker; e.g., Bangla in (i): the speaker uses *naki* to indicate hearsay evidence in both declarative (ia) and interrogative clauses (ib), so *naki* cannot be transferred to the addressee in the latter.

(9)   Speaker commitment = [commit] + ([evid]) + C[-qu]   Declaratives
       → [commit] + C[-qu] = statement
       → [commit] + [evid] + C[-qu] = assertion
   Addressee commitment = [commit] + C[+qu]   Interrogatives
       → expectation of true statement

The speaker's commitment to the truth of p configured as in (6) for declaratives is repeated in (9) for comparison. In heuristic interrogatives, the switch in the value of the clause typing feature from C[-qu] to C[+qu] is sufficient to transfer the responsibility for the truth of p from speaker to the addressee, from whom a true statement is expected. When uttering a genuine heuristic question the speaker does not know what the truth of p is, so there could not be an [evid] feature included in the same bundle with [commit].

5 Commitment Phrase in rhetorical questions

This section extends the featural templates in (6) and (9) to rhetorical questions. The first part looks at the rhetorical questions that allow for a variety of biased answers, indicated as type (ii) in section 2 above. The second part looks at how these answers may become constrained to a polarity reading (type (i)) in the presence of a negative operator. The gist is that a heuristic question becomes rhetorical by integrating the speaker's assertion, which, in a template with C[+qu], has the effect of responsibility sharing with the addressee.

5.1 Type (ii)

Rhetorical questions with type (ii) answers look identical to heuristic questions and may be interpreted in either way, depending on the context, as in (10a, b). There is no lexical element to constrain the reading one way or another out of context.

(i) a. Ram-ke **naki** bonobaash-e pathano ho-cche   declarative
         Ram-DAT naki exile-LOC   send   happen-PROG
         '(I heard) Ram is being exiled.'

     b. Ram-ke **naki** bonobaash-e pathano ho-cche?   interrogative
         Ram-DAT naki exile-LOC   send   happen-PROG
         '(I heard) Ram is being exiled, (is that true)?'
         #'(Given what you heard), is Ram being exiled?' (from Bhadra 2020: 369)

Note, however, that: (a) these questions ask for validations, so they are not completely unbiased; and (b) they do not express first hand evidence, and cannot be equated with clausal adverbs such as *obviously, certainly, surely* etc. In the system we propose in (9), construction as in (ib) have [evid] mapped to SpkP and checked separately (by *naki*) from the bundle [commit]/[+qu] (presumably checked by the higher verb). Hence, no *assertion* arises. Crucially, Bhadra (2020) concludes that there is a causal relationship between the lack of interrogative flip and the presence of bias, as in rhetorical questions, irrespective of whether a language displays or does not always display the flip in heuristic questions. This is compatible with the conclusion of the formal analysis in our paper.

(10)   a.   Who feeds you every day?
             RQ: We both know it is your mother.
             HQ: My mother and my sister take turns.

       b.   Who knows what happened?
             RQ: No need of an answer; nobody; someone may
             HQ: Beside me, there was the police and the ambulance

There are no specific elements in these questions that would force a rhetorical reading (with or without polarity). Hence, one may assume with Capronigro & Sprouse (2007) that syntax is not involved in the option between a rhetorical or heuristic reading, this being only a matter of pragmatics, which, beside the discourse context may also involve variations in the intonational contour (e.g., as discussed in Déhé et al. 2022).

Nevertheless, two factors signal that syntax is involved: (a) The rhetorical questions have "the feel of an assertion" (Biezma & Rawlins 2017: 302), which cannot be detected in heuristic questions, and which is systematically present, irrespective of the type of answer. (b) There are lexical items in Japanese (and other languages; e.g., German in Déhé et al. 2022) that force the rhetorical reading, while leaving open the option for answers.

The analysis we propose capitalizes on the presence of assertion in rhetorical but not in heuristic questions, as noticed in Biezma & Rawlins (2017). According to the featural make up in (9), an assertion reading is supported by a configuration that combines the features [commit] and [evid], and this combination obtains in declaratives but not in heuristic questions. For the latter, the speaker expects the addressee to produce a true statement or an assertion. Hence, the responsibility for the truth of p is transferred completely to the addressee. Thus, when it comes to the commitment to the truth of p, grammar provides complementary configurations: one in which the speaker takes the whole responsibility (declaratives), and one in which the addressee is expected to take the whole responsibility (interrogatives). The switch from one configuration to another can be minimal, just by switching the value of the clause typing from C[-qu] to C[+qu].

When it comes to rhetorical questions, the setting is C[+qu], since the template is that of an interrogative clause, so the commitment is expected to come from the addressee. However, the speaker intends to have a biased answer, not an unpredictable information answer. The way the answer becomes constrained by the speaker involves the addition of [evid] to [commit] feature, which was shown in (9) to occur in declaratives. The result is summed up in (11), by comparing all types of clauses discussed.

(11)   a.   HQ = [commit] + C[+qu] ← hearer's responsibility
       b.   RQ = [commit] + [evid] + C[+qu] : **shared responsibility**
                [commit] + [evid] = assertion ← speaker's responsibility (Declaratives)
                C[+qu] ← hearer's responsibility (Interrogatives)

The feature combination in (11) derives a construction that is half declarative and half interrogative. This is achieved by including [evid] in the bundle with C[+qu] in (11b), that is, inserting the speaker's assertion in the question. The reading coming out of the configuration in (11b) shares the responsibility for the assertion between the discourse participants.

To recapitulate, when the speaker produces an assertion in a declarative clause, s/he is an individual warrantor for its evidence. However, when the speaker produces an assertion in an interrogative template, both the speaker and the audience are warrantors for its evidence. The latter is more efficient as a discourse tool.

This analysis receives empirical support from the Japanese frozen expression *to iu-no* (originally C-say-Nominalizer) reanalyzed as one item (in one head) through grammaticalization. Oguro (2018), following Adachi (2004) and Fujii (2015), points out that *wh*-questions ending with *to iu-no* must have a rhetorical reading. Crucially, these rhetorical questions have a similar syntactic behavior with heuristic questions in some respects, while differing from rhetorical questions that require a polarity reading. More precisely, both *to iu-no* rhetorical questions and heuristic questions allow for further questions as a follow up, as in (12), while being unable to license NPIs, as in (13).

- Further questions (from Oguro 2018)

(12) a. Dare-ga   soko-ni ik-u   to iu-no? John? Mary?
            Who-NOM there-to go-PRS TO IU-NO John   Mary
            'After all, who will go there? John? Mary?' (not them)

      b. Dare-ga   soko-ni iki-mas-u   ka? John? Mary?
            Who-NOM there-to go-POL-PRS Q   John Mary
   'Who will go there? John? Mary?'

- Exclusion of NPIs

(13) a. *Daremo   kur-u.
            anyone   come-PRS
            Intended: 'Nobody comes.'

      b. *Daremo ki-mas-u   ka?
            Anyone come-POL-PRS Q
            Intended: 'Is anyone coming?'

      c. *Daremo kur-u   to iu-no?
            Anyone come-PRS TO IU-NO
            'After all, is anyone coming?' (unlikely)

On the other hand, rhetorical questions with polarity reading introduced by *yo* display the opposite properties, by disallowing follow up questions, as in (14a), while being able to license NPIs, as in (14b).

(14)   a. #Dare-ga   soko-ni ik-u   ka yo! John? Mary?
          Who-NOM   there-to go-PRS Q YO John   Mary
          Intended: 'Who will go there? John? Mary?' (no one will go there)

   b.   Daremo kur-u   ka yo?
        Anyone come-PRES Q   YO
        'Will anyone come?' ('No one,)'

In the framework of this paper, heuristic questions and questions with *to iu-no* have similar properties, except for one: only *to iu-no* introduces an evidential feature that amounts to an assertion reading and forces a rhetorical interpretation. However, the inability of this expression to license NPIs indicates that it is not related to the negative operator identified in Han (2002). Hence, questions with *to iu-no* are rhetorical but without a polarity reading, which corresponds to the type (ii) identified in section 2 above. The underlying representation is shown in (15).

(15)
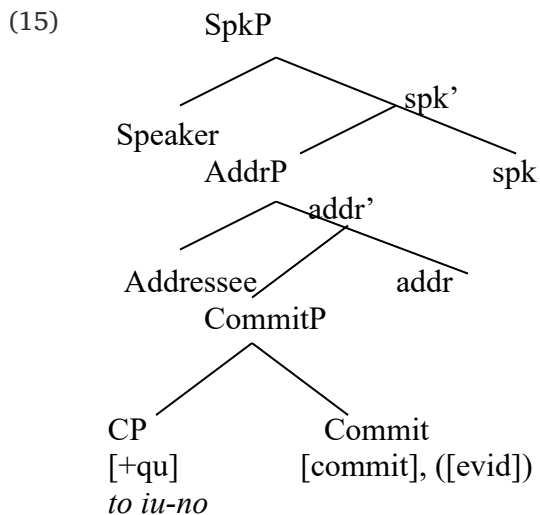
In (15), *to iu-no* spells out not only the clause typing C[+qu], but also CommiP [commit],[evid].

In sum, rhetorical questions with biased answers of type (ii) differ from heuristic questions through one feature: [evid] is present only in the Commit/C of rhetorical questions and yields the assertion reading. The assertion necessarily entails a common ground for speaker and addressee, because of the C[+qu] which forces the hearer-orientation, hence the hearer's involvement with the truth of p.

5.2 Type (i)

Cross-linguistic empirical evidence for CommitP in rhetorical questions with type (i) answers comes from minimal pairs where the switch from heuristic to rhetorical polarity reading coincides with the addition of one morpheme, as already seen for Japanese with *yo*. Cross-linguistically, similar elements are used with similar effects. German provides the particle *schon*

'already' discussed in Bayer & Obenauer (2011), Biezma & Rawlins (2017), Déhé et al. (2022), among others. As indicated in (16), when *schon* is present in a question, the rhetorical reading is obligatory and polar, irrespective of the intonation.

(16) a. Du   hättest Hans helfen müssen.
          You had   Hans   help   must
          'You should have helped Hans.'

   b. Was   hätte ich tun können?
       What had   I   do can
       'What could I have done?'   (Interpretation as RQ depends on prosody)

   c. Was   hätte ich **schon** tun können?
       What had   I   SCHON do   can
       'What could I have done?'   (RQ only no matter the prosody)
       (from Biezma & Rawling 2017: 311)

Déhé et al. (2022) measured the impact of prosody on the rhetorical reading of questions as in (16) and found that, although rhetorical questions involve changes in the intonational contour, there is no complementary distribution between intonation and the presence of morpho-syntactic elements, such as *schon*, specific to rhetorical questions. The presence of an element like *schon* forces the rhetorical reading irrespective of the intonational contour.

When it comes to elements that force a rhetorical reading, Latin provides ample examples with the elements *nonne* and *num* illustrated in (17) and (18), respectively.[5] *Nonne* is a negative compound of *non* 'not' and the clitic interrogative complementizer *-ne*, and forces a rhetorical reading that presupposes a 'yes' answer, as in (17). This is a typical outcome according to Han, where double negation yields affirmation. On the other hand, *num* forces a rhetorical reading with a biased 'no' answer, as in (18), although there is no negation in the clause, on a par with the English examples in (1). Latin grammars classify these questions as 'biased' since they express assertions instead of inquiries (Bujor & Chiriac 1971).

(17) Pallada   **nonne** vides   iaculatricemque   Dianam
       Pallas. ACC NONNE see.2SG huntress.ACC.and Diana.ACC
       abscessisse mihi?   (Ovidius *Met* V)
       forsake.INF me.DAT
       'Don't you see that Pallas and huntress Diana forsake me?'

(18) **Num** igitur   pecamus? -Minime.   (Bujor & Chiriac 1971: 153)
       NUM   therefore sin.1PL   not.at.all
       'Therefore, are we committing a sin?' – 'Not at all.'

An important observation about these Latin elements is that they may also occur as complementizers in embedded interrogatives, in which case they stand for 'whether', as in (19), and have no biased reading.

(19) a. A   Socrate   quaesitum est **nonne** Archelaum, qui   tum   fortunatissimus
           from Socrates.ABL asked   is   whether Archelaus who then Richest
           haberetur,   beatum putaret.
           was.considered happy   deems.SBJV
           'Socrates was asked whether he deems that Archelaus, who was considered the richest man at that time, wasn't happy.' (Bujor & Chiriac 1971: 254)

      b. Quaeritur **num**   idem sit   pertinacia et   perseverentia.
           wonders whether same be.SBJV stubborness and perseverance
           'He wonders whether stubbornness and perseverance is the same thing.'
                                                                   (Bujor & Chiriac 1971: 254)

In (19a), *nonne* entails a negative clause, since the *non* part of it is a negation, whereas *num* in (19b) has a positive interpretation, since there is no negation in the sentence. In other words, they reversed the properties seen when they headed root interrogatives. Following Han's analysis, this is an indication that the negative operator cannot take scope over the embedded clause post LF, which is unexpected. At the same time, the contrast in the reading of these particles between (17)/(18) and (19) indicates that they do not have the rhetorical meaning in their lexical properties, but they acquire it from the position they occupy in the sentence (embedded or not embedded). Hence, the incidence and effect of the negative operator must be syntactically constrained.

A similar conclusion was reached in Tang's (2022) on the basis of his observations on the syntax of Cantonese rhetorical question with the expression *sai2mat1* 'needn't', shown in (20).

(20) Keoi5 **sai2mat1** maat3 dei6 aa1?
      s/he   needn't   clean   floor SFP
      'What is the point of his/her cleaning the floor?'

Tang (2022) argues that the grammaticalized modal *sai2mat1* 'needn't' forces a rhetorical reading, and cannot serve as a question word. Thus, it cannot be used in isolation for the purpose of questioning, as shown in (21).

(21) a. Keoi5 zing3waa6 maat3 dei6.
           s/he   just   clean floor
           'S/he just cleaned the floor.'

      b. Dim2gaai2? // #***Sai2mat1?***
           Why
           'Why?'

Tests of word order, complementary distribution with epistemics and the conditions for licensing NPIs led Tang to conclude that every time *sai2mat1* 'needn't' is involved in the derivation, an assertion feature is mapped above the CP/ForceP, so that a construction as in (20) is paraphrased: "I assert that it is not the case that there is any point of her cleaning the floor" (Tang 2022: 326).

In sum, rhetorical questions in unrelated languages provide similar clues for a syntactic mapping of the negative operator. The syntactic treatment of this operator must be compatible with the syntactization of the assertion, since assertion is the defining property of rhetorical questions (vs heuristic questions) irrespective of whether they entail polar or non-polar answers.

5.2.1 Type (i) in the literature

The intriguing syntactic peculiarity of rhetorical questions is the deviant licensing of NPIs in some of them, namely those discussed in Han (2002: 205). Han points out that, in questions, the trace of the wh-phrase must c-command the NPI, as in (22a), or the heuristic reading fails, as in (22c). However, grammaticality is not affected if the reading is rhetorical, as in (23), although the NPI is higher than the wh-trace.

(22)   a.   Who$_j$ t$_j$ has ever been to Seoul?
       b.   Who$_j$ t$_j$ touched anything?
       c.   *Whom$_i$ did anything touch t$_i$?

(23)   a.   What$_j$ has Sam ever contributed t$_j$ to the project?
       b.   What$_j$ did anybody say t$_j$ at the seminar?

Han infers that there is an extra operator in rhetorical questions that is endowed with negative polarity and scopes over the entire clause post-syntactically. That is the only way to account for the double negation effects and for the switch in polarity answers (see also van Rooy 2003). However, as we noticed for Latin in the previous section, this operator has no effect on embedded interrogatives, although they fall under its scope. So something else must be at work that interferes with the wide scope of the operator.

Noticing similar problems, Nakashima (2018) (followed by Tang 2022), proposes that the negative operator is mapped to syntax, in a feature bundle with the interrogative operator and an assertion feature that encodes the speaker's mind set, as in (24b), which represents (24a) with a rhetorical question interpretation and a polarity reading.

(24)   a.   Who understands English?
       b.   [$_{FP}$ F$_{[Assert]}$ [$_{CP}$ Op$_i$ [$_{C'}$ C$_{[Int]}$ [who$_i$ understands English]]]]

In (24b), F and C bear the assertive feature [Assert] and the interrogative feature [Int], respectively, and the null negative operator (Op) licenses the *wh*-word that serves as a negative

polarity item. The rhetorical question is construed as "I assert that it is not the case that anybody understands English".

The challenge for (24b) is that it cannot cover the rhetorical questions of type (ii): if [Assert] has to select the CP with the negative operator, then all the rhetorical questions must have NPI licensed as in (23), which section 5.1 showed not to be the case. Also, the configuration in (24b) is unique to rhetorical questions, with no correspondent in other structures (hence, ad-hoc). While taking hints from (24b), we will incorporate them in the SAP configuration discussed so far. The gist is that the negative operator is a feature associated with SAP that gets checked by the interrogative element. If the interrogative element is embedded, it cannot raise to check this operator, so the derivation either crashes or lacks the operator.

5.2.2 Japanese

The analysis of rhetorical questions with polarity readings is developed in this section on the basis of Japanese data. Two items are relevant to the discussion: the sentence final particle *yo* and the modal *mono* (Oguro 2014). *Yo* was shown to spell out the bundle of commitment and evidential features in declaratives, and also to turn an interrogative into a rhetorical question. So we know that it spells out CommitP and the speaker's assertion in declaratives. The point to be developed in this section is that the rhetorical question with *yo* also forces a polarity reading , in addition to assertion, and so does *mono*. As the polarity reading is associated with a negative operator in semantics, the question is whether *yo* and *mono* may provide indications for the syntactic mapping of such operator, in conjunction with the commitment-evidential bundle, which are obligatory in rhetorical questions.

The example (3), repeated here as (25), showed *yo* acting as an evidential in declarative clauses, so that the statement in (25a) becomes an assertion in (25b).

(25)   a.   Hanako-ga   ik-u.
                Hanako-NOM go-PRS
                'Hanako will go.'

          b.   Hanako-ga   ik-u   **yo.**
                Hanako-NOM go-PRS YO
                'Hanako will go (I guarantee).'

Shirakawa (1993) and Saito (2015) draw attention to the use of *yo* with interrogative clauses as well, as in (26), which are taken from Saito's work. Although interrogative in form, these examples with *yo* necessarily have a rhetorical question interpretation (Shirakawa 1993, Saito and Haraguchi 2012). Thus, by uttering them, the speaker does not assume that the addressee will respond, but instead, the speaker strongly commits to the assertion embodied in the rhetorical question and implies that the addressee has the same commitment; that is, the speaker assumes that the addressee agrees with the implied answer.

(26)   a.   Dare-ga   soko-ni ik-u   ka yo?
            Who-NOM   there-to go-PRS Q   YO
            'Who would go there? = No one!'

       b.   Taroo-ni   nani-ga   deki-ru   ka yo?
            Taro-DAT   what-NOM   can.do-PRS Q   YO
            'What can Taro do? = Nothing!'

The difference between (25b) and (26) is that, in the declarative, the speaker takes full responsibility for the assertion, whereas in (26), the responsibility is shared with the audience.

Given that *yo* is an evidential marker that occurs in CommitP, it follows that rhetorical questions require the same bundling of commitment and evidential features seen with declaratives in (4). The assertion of the rhetorical question arises at least in part from the speaker indicating that s/he has evidence for committing to the proposition upheld by the rhetorical question, as argued for (15). Thus, so far, rhetorical questions with *yo* follow the same derivational pattern as the questions with *to iu-no* discussed in the previous section as type (ii).

The difference between type (ii) rhetorical questions and the ones with *yo* is that the latter requires a polar answer. This is a replica of the English example in (1). One of the polar answers is negative. What is the source of this negative reading? In this respect, Japanese data is helpful because the negation must be syntactically represented in environments with NPIs.

More precisely, heuristic interrogatives in Japanese cannot license NPIs, even if the trace of the wh-phrase c-commands the NPI, as shown in (27). This contrasts with the English pattern discussed for (22).

(27)   *Daremo$_i$ t$_i$ kuru no?
        anyone   come Q
        'Is anyone coming?'

Examples as in (27) become grammatical only if the clausal negation is present. Thus, when NPIs are possible in rhetorical questions with *yo* (as pointed out in Oguro 2014), it means that a negation is present albeit not overtly. We can in fact confirm this by changing Saito's examples into ones with an NPI, as in (28).
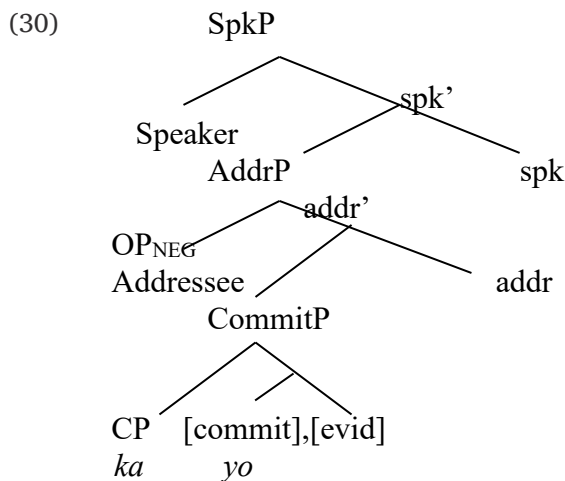
(28)   a.   Daremo soko-ni ik-u   ka yo?
            anyone there-to go-PRS Q   YO
            'Will anyone go there? = No one will go there!'

       b.   Taroo-ni   nanimo   deki-ru   ka yo?
            Taro-DAT anything can.do-PRS Q   YO
            'Can Taro do anything? = No!'

One may assume that *yo* functions as a negation, in addition to being an evidential. That would do away with the syntactic analysis by assigning the effects only to the lexical properties of *yo*. However, (29) shows that NPI licensing and the negative polarity answer also obtain in the absence of *yo*, as long as the question has a rhetorical reading (a fact pointed out in Oguro 2014).

(29) Daremo kuru ka?
       anyone   come Q
       'Will anyone come?' = 'No!'

So the similarity between (28) and (29) contrasting with the ungrammaticality of (27) confirms that the negative element responsible for the NPI licensing and the negative reading is not included in the lexical properties of a particle, but it belongs to the clause structure. Given that (29), as a rhetorical question, contains the speaker's commitment, we assume that CommitP occurs, and the biased nature of the rhetorical question here arises simply from the presence of a negative feature exhaustively negating the existence of each member of the set of possible answers.

Crucially, the fact that rhetorical questions can license an NPI in Japanese clearly indicates that the negative operator must occur in syntax, and not be introduced post-syntactically (as proposed in Han 2022). Oguro (2014) suggests that it comes from one kind of the Qu-particle *ka* dedicated to rhetorical questions. Given that the negative operator must scope over the CP with the interrogative content (i.e., the +qu operator in Spec, CP), and also the fact that rhetorical questions of type (ii) require CommitP, we suggest that the negative element is an operator assigned to the selector of CommitP, as in (30).

(30)

$$
\begin{array}{l}
\text{SpkP} \\
\quad \text{Speaker} \quad \text{spk'} \\
\qquad \text{AddrP} \qquad \text{spk} \\
\qquad \text{OP}_{NEG} \quad \text{addr'} \\
\qquad \text{Addressee} \qquad \text{addr} \\
\qquad \text{CommitP} \\
\qquad \text{CP} \quad \text{[commit],[evid]} \\
\qquad \textit{ka} \qquad \textit{yo}
\end{array}
$$

In (30), the negative operator is assigned to Spec,AddrP because the interrogative template entails addressee orientedness, and the negative answer is expected to come from the addressee.

Further evidence for (30) comes from the use of the modal *mono*, which occurs in declarative clauses as a regular modal of obligation, as shown in (31).

(31) Zeikin-wa harau **mono** da.
 tax-TOP   pay   MONO COP
 'Taxes must be paid.'

However, in interrogative clauses, *mono* forces a rhetorical question reading, either by itself, as in (32a), or in combination with *yo*, as in (32b).

(32) a. Dare-ga   kuru mono ka?
  who-NOM come MONO Q
  'Who will come? = Nobody!'

  b. Dare-ga   kuru mono ka yo?
  who-NOM come MONO Q YO
  'Who will come? = Nobody!'

The cooccurrence of *mono* and *yo* in (32b) indicates that the underlying structure is the same as in (30), with *yo* in Commit, and *mono* lower within CP.

There is one difference between rhetorical questions with *yo* versus *mono* that may elucidate the effect of the question clause typing on *mono*; namely, its restriction to negative answers. Rhetorical questions with or without *yo* may have both affirmative and negative readings, as in (33a, b). On the other hand, *mono* allows only the negative reading, as in (34a) versus (34b).

(33) a. Kore-wa dare-ga   taberu ka yo?
  this-TOP who-NOM eat   Q YO
  'Who would eat this? = No one would eat this.'

  b. Kore-wa dare-ga   tabe-nai ka yo?
  this-TOP who-NOM eat-NEG Q YO
  'Who wouldn't eat this? = Everyone would eat this.'

(34) a. Kore-wa dare-ga   taberu mono ka?
  this-TOP who-NOM eat   MONO Q
  'Who would eat this? = No one would eat this.'

  b. *Kore-wa dare-ga   tabe-nai mono ka?
  this-TOP who-NOM eat-NEG MONO Q
  'Who wouldn't eat this? = Everyone would eat this.'

Semantically, (33b) and (34b) are identical, so why is (34b) ungrammatical? It appears that *mono* is coindexed with the negative operator, which occurs with rhetorical questions. It has been argued for negation in general (Zeijlstra 2004) and for Japanese negation in particular

(Miyagawa, Nishioka, Zeijlstra 2016) that, in normal usage, negation is coindexed with a negative operator. This means that when negation occurs with *mono,* the two would compete for coindexation with the negative operator, leading to the ungrammaticality. Either *mono* or negation can occur, and be properly coindexed with the negative operator, but not both. This shows that there is a negative operator in the syntactic derivation of rhetorical questions that has the semantic effect assigned in Han (2002): the operator has the function to exhaustively negate the existence of each member of the set of possible answers (Hamblin 1973) of the interrogative. The speaker, through the negative operator and AddrP, asserts the nonexistence of the members of the set, which converts the interrogative into a rhetorical question.

5.2.3 English

This section argues that the syntactic analysis developed on the basis of Japanese data holds cross-linguistically for the derivation of rhetorical questions, irrespective of whether the language has or does not have dedicated particles of the *yo* type. That is, any rhetorical question arises from a configuration that combines [commit], [evid] and [+qu], to which a negative operator may be added. English is singled out because most studies on rhetorical questions rely on data from this language.

Semantic studies make use of the expression *after all* for their tests, qualifying this expression as an evidential specialized for rhetorical readings. For example, Sadock (1974) shows that, when *after all* heads a question, the reading is rhetorical and, as such, can be followed by 'yet' comments, as in (35a), unlike the information seeking questions as in (35b).

(35)   a.   After all, do phonemes have anything to do with language?
             Yet people continue to believe in them.

        b.   Do phonemes differ from allophones?
            #Yet I don't understand the answer.

Han (2002) extends this test to wh-interrogatives and obtains the same results.

In light of the SAP analysis proposed in this paper, one can assume that *after all* is a PP with intrinsic assertion/evidential features that make it a good candidate for CommitP and the negative operator. However, the distribution and reading of *after all* is not restricted to rhetorical questions. In (36a), *after all* is clause initial in an interrogative clause, but the reading is heuristic, not rhetorical; that is, *after all* is not interpreted as assertive but as circumstantial. As a circumstantial, it can also be embedded, as in (36b), which is further evidence that it is not in CommitP, which only occurs in root clauses (Miyagawa 2022).

(36)   a.   After all, what was their decision?
        b.   He said that after all, they couldn't make a decision.

In the cartographic approach (Rizzi 2004), (36) shows that the PP *after all* is fronted to a position within CP, hence, lower than CommitP: *that* is in Force and *after all* is in a ModP for adverbial elements fronted to the CP field. Thus, *after all* may occur in interrogatives, even clause initially (36a), without forcing a rhetorical reading, as further shown in (37).

(37)   a.   Who, after all, decided to accept the offer?
       b.   Do they all want to come, after all?

Furthermore, even when it heads rhetorical questions, *after all* may allow for either negative or positive answers, as in (38) – it is not tied to the negative operator.

(38)   a.   After all, who could believe that? – Nobody.
       b.   After all, is the Pope catholic? – Of course.

According to the foregoing analysis, in (38) *after all* is in CommitP, but CommitP may or may not contain the negative operator.

The point is that *after all* does not come with lexical properties that constrain the interpretation of the clause. It is rather the case that there is a correlation between the syntactic position of this PP and its interpretation: within CP or lower, *after all* has an adverbial reading (circumstantial, temporal), whereas above CP (in CommitP), it has an assertion reading compatible with either negative or positive polarity. In other words, the syntactic features are consequential for the interpretation of the lexical item that spells them out, and are in fact responsible for the flexibility of the interpretation.

This characterization of *after all*, where its meaning is read off the syntactic configuration, is reminiscent of the Latin particles discussed in section 5.1: when Latin *nonne* and *num* merge in the CommitP area, they force a rhetorical reading of the question; however, when they merge away from the CommitP area (i.e., through embedding), they head a heuristic question.

6 Conclusions

This paper proposed an analysis of rhetorical questions from a syntactic perspective that exploited the mapping of conversational pragmatic features to syntax. The analysis was guided by the findings of the semantic studies, especially the characterization of rhetorical questions as being interrogative clauses that express assertions (instead of seeking information) for which the speaker assumes the addressee's agreement. Also, the classification of rhetorical questions according to the type of answer they expect (free or polarity reading) was of central concern for the syntactic inquiry.

Previous studies by Nakashima (2018) and others opened the path for acknowledging the syntactic status of the assertive property and of the negative operator that distinguish a rhetorical question from a heuristic interrogative clause. Our conclusion is that by incorporating

the Spk-Addr Phrase and the CommitP into syntax, at least some of what have been assumed to be semantic in nature can, indeed, find home in the extended syntactic tree. Evidence such as the ability to license NPI in Japanese without an overt negation is clear evidence that negation, as part of rhetorical question, must find representation in syntax.

Basically, our analysis shows that (i) the underlying configuration for heuristic and rhetorical questions is the same except for one ingredient (i.e., the absence or presence of an evidential feature in CommitP); (ii) the reading of a rhetorical question as polar or non-polar also arises from similar underlying configurations (i.e., with an evidential feature in CommitP) except for one ingredient (i.e., a negative operator associated with AddrP only for polarity readings); and (iii) although certain lexical elements force a rhetorical reading of a question, this effect does not follow from the lexical properties of such elements but from the position in which they are merged in syntax (i.e., in CommitP).

Abbreviations

ARB = arbitrary; COP = copula; DAT = dative; DOM = differential object marking; NOM = Nominative; PL = plural; POL = politeness marker; PRS = present; Q = question marker; SFP = sentence final particle; TOP = topic; VOC = Vocative

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Competing Interests

The authors have no competing interests to declare.

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