Article

Partition by Exhaustification and Polar Questions in Vietnamese

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Abstract

This note presents a series of contrasts pertaining to Vietnamese polar questions: (i) The subject can be definite but not quantificational; (ii) the subject can be plain but not *only*-focused; (iii) the modal adverb *chắc chắn* ('certainly') can follow but not precede verum focus. I argue that a monoclausal analysis, advocated in several previous works, will have difficulties accounting for these contrasts and propose a bi-clausal analysis that explains them in a natural way. The explanation relies on the assumption of a general condition on questions, Partition by Exhaustification (PbE), in conjunction with some other independently motivated semantic and pragmatic constraints.

Keywords: polar questions; Vietnamese; syntax; semantics; pragmatics

1. Introduction

1.1. The Syntactic Profile of Vietnamese Polar Questions

A polar question in Vietnamese appears as an affirmative sentence followed by the negation. An affirmative sentence is a declarative with (matrix) verum focus. In English, verum focus is expressed by inserting the light verb *do* in the auxiliary position: *John came* becomes *John did come*, for example. Vietnamese has a similar strategy, using the light verb *có*, whose lexical meaning is 'have' (Phan, 2024; Trinh, 2005). As *có* is also used as a positive response particle, i.e., as 'yes,' I will gloss it as YES.[1]

(1) a. Nam đến
         Nam came
         'Nam came'
     b. Nam có đến
         Nam YES came
         'Nam did come'

Negation in Vietnamese is expressed by the word *không*, which I will gloss as NO, since it is also used as the negative response particle, i.e., as 'no.' It also occurs in the auxiliary position; hence, in complementary distribution with YES.[2]

(2) Nam không đến
     Nam NO   came
     'Nam didn't come'

Here is how the polar question meaning 'did Nam come?' is expressed in Vietnamese.

(3) Nam có đến không
     Nam YES came NO
     'Did Nam come?'

I will call the affirmative preceding *no* in a polar question the 'prejacent' of the question.

1.2. Some Puzzles About Vietnamese Polar Questions

The puzzles about Vietnamese polar questions that this note aims to resolve are of the following form: Some affirmative sentences that are independently acceptable become deviant as prejacents of polar questions. Let me now discuss the specific cases one by one.[3]

1.2.1. Definite vs. Quantificational Subjects

A natural expectation is that if an affirmative sentence ϕ is independently acceptable, the polar question ϕ *không*, expressing the meaning 'whether ϕ,' should be acceptable as well. This expectation is met in (4), where the subject of the affirmative is a definite noun phrase: Both the affirmative (4a) and the polar question (4b) are acceptable.

(4)   a.   bọn con trai có đến
           the boys   YES came
           'the boys did come'
    b.   bọn con trai có đến không
           the boys   YES came NO
           'did the boys come?'

However, such a pattern is disrupted when the subject is quantificational: Even though both (5a) and (6a) are acceptable affirmative sentences, the corresponding polar questions in (5b) and (6b), whose intended meanings are 'whether every boy came' and 'whether some boys came,' respectively, are both unacceptable.

(5)   a.   đứa con trai nào cũng có đến
           every boy   YES came
           'every boy did come'
    b. #đứa con trai nào cũng có đến không
           every boy   YES came NO
           'did every boy come?'

(6)   a.   một đứa con trai có đến
           some boy   YES came
           'some boys did come'
    b. #một đứa con trai có đến không
           some boy   YES came NO
           'did some boys come?'

1.2.2. Plain vs. Only-Focused Subjects

When the subject is a 'plain' noun phrase, e.g., *Nam*, things work as expected: The affirmative is acceptable in isolation and as the prejacent of a polar question. This is exemplified by (1b) and (3), reproduced below in (7a) and (7b), respectively.

(7)   a.   Nam có đến
           Nam YES came
           'Nam did come'
    b.   Nam có đến không
           Nam YES came NO
           'did Nam come?'

However, when the subject is focused by *chỉ* 'only,' the affirmative sentence is acceptable and means 'only Nam did come,' while the polar question, whose intended meaning is 'whether only Nam came,' is not.

(8) a. chỉ Nam có đến
          only Nam YES came
          'only Nam did come'

     b. #chỉ Nam có đến không
          only Nam YES came NO
          'did only Nam come?'

1.2.3. Adverb Following vs. Preceding YES

The sentential adverb *chắc chắn* 'certainly' in affirmative sentences can follow the verum focus *có*, as in (9a), or precede it, as in (9b), with no semantic consequence.[4]

(9) a. Nam có chắc chắn đến
          Nam YES certainly came
          'Nam did certainly come'

     b. Nam chắc chắn có đến
          Nam certainly YES came
          'Nam certainly did come'

The natural expectation, then, is that the two polar questions in (10) are both acceptable. The fact, however, is that only (10a) is acceptable.

(10) a. Nam có chắc chắn đến không
           Nam YES certainly came NO
           'is it certain that Nam came?'

      b. #Nam chắc chắn có đến không
           Nam certainly YES came NO
           'is it certain that Nam came?'

1.3. The Explanation in Outline

My explanation of the puzzles above will relate the contrast in acceptability of sentences in Vietnamese to a contrast in availability of readings in English.

1.3.1. Some Facts About English Polar Questions

Let me be more specific. Consider the English polar questions in (11) and (12). Intuitively, (11) has to be read in such a way that its answer set is (11a), not (11b), and (12) has to be read in such a way that its answer set is (12a), not (12b).[5]

(11) did every boy come?

      a. {every boy came, not every boy came}   → available reading
      b. #{every boy came, every boy didn't come}   → unavailable reading

(12) did some boy come?

      a. {some boys came, no boys came}   → available reading
      b. #{some boys came, some boys didn't come}   → unavailable reading

In other words, a 'no' answer to (11) has to mean 'not every boy came' ($\neg\forall x Px$) and cannot mean 'every boy didn't come' ($\forall x \neg Px$). Similarly, a 'no' answer to (12) has to mean 'no boys came' ($\neg\exists x Px$) and cannot mean 'some boys didn't come' ($\exists x \neg Px$). Next, consider (13).

(13)   did only John come?

    a.   {only John came, not only John came}   → available reading

    b. #{only John came, only John didn't come}   → unavailable reading

The question in (13) has to be read in such a way that its 'no' answer means 'not only John came' ($\neg only(p)$), not 'only John didn't come' ($only(\neg p)$). Finally, consider (14).

(14)   did John certainly win?

    a.   {John certainly won, John did not certainly win}   → available reading

    b. #{John certainly won, John certainly did not win}   → unavailable reading

The question in (14) must be read in such a way that its 'no' answer means it is not certain that John won ($\neg\Box p$), not 'it is certain that John did not win,' i.e., 'it is certain that John lost' ($\Box\neg p$). Since this claim might not be as obvious as those regarding the missing readings of (11), (12), and (13), let me corroborate it with an example. Compare the two responses by A to B's negative answer in (15).

(15)   A: Did John certainly win?

          B: No.

          A: (i)   Why do you think he might have lost?

               (ii) #Why do you think he must have lost?

The contrast between (i) and (ii) shows that B's answer is read as 'John might have lost,' i.e., 'John did not certainly win' ($\neg\Box p$), not as 'John must have lost,' i.e., 'John certainly did not win' ($\Box\neg p$).

1.3.2. Claims of the Account

My account of the Vietnamese facts in Section 1.2 consists of the two claims in (16).

(16)   a.   The readings in (11b), (12b), (13b), and (14b) are unavailable because they are necessarily infelicitous.

         b.   The sentences in (5b), (6b), (8b), and (10b) are unacceptable because they are necessarily associated with the readings in (11b), (12b), (13b), and (14b), respectively.

I will derive (16a) in Section 2 and derive (16b) in Section 3.

2. Partition by Exhaustification

2.1. Presenting PbE

Fox (2019, 2020) proposed the following felicity condition on questions:

(17)   Partition by Exhaustification (PbE)

    A question Q is felicitous in a context C only if the members of Q, once exhaustified with respect to Q, partition C

As is usually the case with theoretical statements, there is a simple and a sophisticated interpretation. For this discussion, it suffices to apply the simple intepretation of PbE, which I will now present. The reader is advised to consult the above-cited works for the unabridged version and empirical arguments in its favor.

The 'context' is the set of possible worlds in which all mutual assumptions of the discourse participants are true, i.e., worlds that are considered candidates for the actual world (Stalnaker, 1978, 1998). A question Q is a set of propositions, namely, those that count as its possible answers. A 'proposition p exhaustified with respect to a question Q,' written as $exh(Q)(p)$, is true if p is true and every other proposition in Q is false. Finally, a set $\mathcal{P}$ of propositions 'partitions' a set $\mathcal{W}$ of possible worlds only if $\bigvee \mathcal{P} = \mathcal{W}$, i.e., only if every world in $\mathcal{W}$ is such that at least one member of $\mathcal{P}$ is true in it. Let us consider an example. Suppose $Q = $ *which girl came?* $= \{$*Alice came* (a), *Billie came* (b), *Clara came* $(c)\}$. What PbE predicts is that Q is felicitous in C only if every world w of C is such that either only Alice came in w, or only Bille came in w, or only Clara came in w.

(18)   a. $Q = \{a, b, c\}$

   b. $C = \underbrace{(a \land \neg b \land \neg c)}_{exh(Q)(a)} \lor \underbrace{(b \land \neg a \land \neg c)}_{exh(Q)(b)} \lor \underbrace{(c \land \neg a \land \neg b)}_{exh(Q)(c)}$

In other words, PbE predicts, correctly, that *which girl came?* requires a context in which exactly one girl came (Dayal, 1996).

2.2. Deriving the Facts in Section 1.3.1 from PbE

How does PbE help with the facts in Section 1.3.1? Let us look at the 'good' questions first: (11a), (12a), (13a), and (14a). All of these questions are sets containing a proposition and its logical negation. Now, if $Q = \{p, \neg p\}$, then $exh(Q)(p) = p \land \neg\neg p = p \land p = p$, and $exh(Q)(\neg p) = \neg p \land \neg p = \neg p$. This means, given PbE, that these questions require a context $C = exh(Q)(p) \lor exh(Q)(\neg p) = p \lor \neg p$. Since $p \lor \neg p$ is the set of all possible worlds, these questions presuppose nothing: They can be asked 'out of the blue,' i.e., without any preconceived ideas about how the actual world is.

So PbE predicts, correctly, that (11a), (12a), (13a), and (14a) are good questions. Does it predict the bad questions—(11b), (12b), (13b), and (14b)—to be bad? The answer is yes. Let us consider these one by one, starting with (11b).

(19)   a.   #$Q = \{$every boy came $(\forall x P x)$, every boy didn't come $(\forall x \neg P x)\}$

   b. $C = \underbrace{exh(Q)(\forall x P x)}_{\underbrace{\forall x P x \; \land \; \neg\forall x \neg P x}_{\forall x P x}} \lor \underbrace{exh(Q)(\forall x \neg P x)}_{\underbrace{\forall x \neg P x \; \land \; \neg\forall x P x}_{\forall x \neg P x}}$

We see that given PbE, the question in (11b), which is reproduced in (19a), requires a 'homogeneous' context in which either every boy came $(\forall x P x)$ or no boys came $(\forall x \neg P x)$. The same holds for the question in (12b), reproduced in (20a).

(20)   a.   #$Q = \{$some boys came $(\exists x P x)$, some boys didn't come $(\exists x \neg P x)\}$

   b. $C = \underbrace{exh(Q)(\exists x P x)}_{\underbrace{\exists x P x \; \land \; \neg\exists x \neg P x}_{\forall x P x}} \lor \underbrace{exh(Q)(\exists x \neg P x)}_{\underbrace{\exists x \neg P x \; \land \; \neg\exists x P x}_{\forall x \neg P x}}$

It is known that homogeneous contexts militate against quantifiers in favor of definites (Löbner, 1985; Heim, 1991; Magri, 2009, 2011). Thus, in the (realistic) context where it is presupposed that if the Argentinian team won the World Cup, then every Argentinian (on the team) won, and if they did not win, then no Argentinian (on the team) won. In this context, (21a) is acceptable, while (21b) and (21c) are infelicitous.

(21)   Context: either every Argentinian won or none of them won

    a.   Did the Argentinians win?

    b. #Did every Argentinian win?

    c. #Did some Argentinians win?

Thus, the questions in (11b)/(19a) and (12b)/(20a) violate either PbE or the constraint against using quantifiers in homogeneous contexts. In other words, they are necessarily infelicitous. Next, consider (13b), reproduced in (22a).

(22)   a. #$Q = \{$only John came $(j \wedge no\ others)$, only John didn't come $(all\ others \wedge \neg j)\}$

    b. $C = \underbrace{\underbrace{exh(Q)(j \wedge no\ others)}_{(j \wedge no\ others) \wedge \neg(all\ others \wedge \neg j)}}_{j\ \wedge\ no\ others} \vee \underbrace{\underbrace{exh(Q)(all\ others \wedge \neg j)}_{(all\ others \wedge \neg j) \wedge \neg(j\ \wedge no\ others)}}_{all\ others\ \wedge\ \neg j}$

Given PbE, the question in (13b)/(22a) requires a context where either John came and no one else did, or John did not come but everyone else did.[6] This is a context where *John came* is equivalent to *only John came*, i.e., where *only* is semantically vacuous. It is a fact that vacuous use of *only* is infelicitous (Alxatib, 2013, 2020): It is odd to ask the question in (23b), given the (realistic) context that the American presidential election has a unique winner.

(23)   Context: there is a unique winner

    a.   Did Trump win?

    b. #Did only Trump win?

Thus, the question in (13b)/(22a) is necessarily infelicitous: It violates either PbE or the constraint against vacuous use of *only*.

    Finally, we come to the case of (14b), reproduced in (24a).

(24)   a. #$Q = \{$John certainly won $(\Box p)$, John certainly did not win $(\Box \neg p)\}$

    b. $C = \underbrace{exh(Q)(\Box p)}_{\underbrace{\Box p \wedge \neg \Box \neg p}_{\Box p}} \vee \underbrace{exh(Q)(\Box \neg p)}_{\underbrace{\Box \neg p \wedge \neg \Box p}_{\Box \neg p}}$

Given PbE, the question in (14b)/(24a) requires an 'opinionated' context where it is either certain that John won $(\Box p)$ or certain that John did not win $(\Box \neg p)$. It has been noted that the use of modal adverbs such as *certainly* is infelicitous in such contexts (von Fintel & Gillies, 2010). Suppose, for example, that I am on the phone with my friend and I know he is looking out the window. My friend, then, is opinionated about the weather: Either he is certain that it is raining or he is certain that it is not raining. In this context, it would be acceptable for me to ask him the question in (25a), but asking (25b) is odd.

(25)   Context: My friend is opinionated about the weather.

    a.   Is it raining where you are?

    b. #Is it certainly raining where you are?

Thus, the question in (14b)/(24a) is necessarily infelicitous: It violates either PbE or the constraint against using *certainly* in opinionated contexts.

2.3. The Scope of 'Whether'

Invoking PbE and the other (semantic and/or pragmatic) constraints to rule out the unavailable readings in (11b), (12b), (13b), and (14b) presupposes that they are not ruled out by syntax. I assume, following many works, that English polar questions contain the operator *whether*, which is base-generated as sister to propositional constituents and moves to [Spec,C], leaving a trace, as illustrated in (26) (Bennett, 1977; Guerzoni, 2004; Higginbotham, 1993; Krifka, 2001; Larson, 1985). The trace of *whether* is of type $\langle st, st \rangle$, and the interpretation rule for *whether*$_n$ ϕ is provided in (26a), where $\phi^{n \to f}$ is the result of replacing expressions bearing index n in ϕ with f, YES is the 'affirmation' function $[\lambda p.\ p]$, which maps a proposition to itself, and NO is the 'denial' function $[\lambda p.\ \neg p]$, which maps a proposition to its negation. The meaning of (26) is provided in (26b).

(26) $[_\psi$ whether$_n$ $[_\phi$ t_1 John talked to Mary$]]$
    a.   whether$_n$ ϕ = $\{\phi^{n \to f} \mid f$ is YES or NO$\}$
    b. ψ = $\{[t_1$ John talked to Mary$]^{1 \to f} \mid f$ is YES or NO$\}$
          = $\{$YES John talked to Mary, NO John talked to Mary$\}$
          = $\{$John talked to Mary, $\neg$John talked to Mary$\}$

When the prejacent contains more than one propositional constituent, the question is ambiguous, as the trace of *whether* can be construed at different positions inside the prejacent. A case discussed in Guerzoni (2004) focuses on prejacents containing *even*, exemplified by (27).

(27)   Did John even solve problem 2?
    a.   [whether$_1$ $[t_1$ [even [John solved problem 2$]]]]$
          = $\{$John even solved problem 2, it's not the case that John even solved prob 2$\}$
    b.   [whether$_1$ [even $[t_1$ [John solved problem 2$]]]]$
          = $\{$John even solved problem 2, John didn't even solve problem 2$\}$

Guerzoni noted two things about (27): (i) It is ambiguous between a reading in which solving problem 2 is hard and a reading in which solving problem 2 is easy; (ii) the 'easy' reading comes with a 'negative bias,' i.e., the implication that John did not solve the problem. Assume the LFs in (27a) and (27b) provide a natural explanation, as the reader is invited to consult Guerzoni (2004) and see for herself.[7]

For a question such as (11), reproduced in (28), two logical forms can be syntactically generated that correspond to two different base positions of *whether*.[8] The first LF, (28a), represents the felicitous reading and the second LF the infelicitous one, as indicated by '#'. The question, (28), is perceived as acceptable because it has one LF that induces an acceptable reading.

(28)   did every boy come?
    a.   [whether$_1$ $[t_1$ [every boy$_2$ $[t_2$ came$]]]]$ = $\{\forall x Px, \neg \forall x Px\}$
    b.   #[whether$_1$ [every boy$_2$ $[t_1$ $[t_2$ came$]]]]$ = $\{\forall x Px, \forall x \neg Px\}$

The same holds for (12), (13), and (14), reproduced in (29), (30), and (31), respectively.

(29)   did some boys come?

    a.   [whether$_1$ [t_1 [some boys$_2$ [t_2 came]]]] $= \{\exists x Px, \neg \exists x Px\}$

    b. #[whether$_1$ [some boys$_2$ [t_1 [t_2 came]]]] $= \{\exists x Px, \exists x \neg Px\}$

(30)   did only John come?

    a.   [whether$_1$ [t_1 [only [John$_2$ [t_2 came]]]]] $= \{only(p), \neg only(p)\}$

    b. #[whether$_1$ [John$_2$ [only [t_1 [t_2 came]]]]] $= \{only(p), only(\neg p)\}$

(31)   did John certainly win?

    a.   [whether$_1$ [t_1 [certainly John$_2$ [t_2 won]]]] $= \{\Box p, \neg \Box p\}$

    b. #[whether$_1$ [John$_2$ [certainly [t_1 [t_2 won]]]]] $= \{\Box p, \Box \neg p\}$

2.4. Interim Summary

Recall that my account of the Vietnamese facts in Section 1.2 consists of the two claims in (16), reproduced in (32).

(32)   a.   The readings in (11b), (12b), (13b), and (14b) are unavailable because they are necessarily infelicitous.

    b.   The sentences in (5b), (6b), (8b), and (10b) are unacceptable because they are necessarily associated with the readings in (11b), (12b), (13b), and (14b), respectively.

I have just explained (32a): The readings are necessarily infelicitous because they are questions that either violate PbE or some other constraints, specifically those against the use of quantifiers in homogeneous contexts, against the vacuous use of *only*, and against the use of *certainly* in opinionated contexts. In the next section, I will propose a theory of Vietnamese polar questions that derive (32b). The theory will say, essentially, that the unacceptable questions in Vietnamese, unlike their English counterparts, have only the LF that induces the infelicitous reading.

3. An Analysis of Polar Questions in Vietnamese

3.1. Previous Works

Recall the surface profile of Vietnamese polar questions: an affirmative sentence followed by the negation.

(33)   Nam có   đến   không

    Nam YES came NO

    'did Nam come?'

Analyses that have been proposed include Duffield (2007); Phan (2024); Trinh (2005). These accounts differ in details about the affirmative morpheme YES but have in common the idea that underlying this profile is a monoclausal structure where the clause–final negation NO functions as a 'question particle' akin to *whether* in English. I will gloss NO in this use as NO$_q$, where the subscript *q* is a mnemonic for 'question.'

(34)   a.

    b. NO$_q$ ϕ = $\{\phi, \neg \phi\}$

    c. ψ = {Nam came, ¬Nam came}

The advantage of this analysis is that it makes Vietnamese polar questions syntactically similar to their English counterparts. There are, however, two problems with this approach. One is that it has to postulate two different NOs for Vietnamese: NO_q for questions, as exemplified in (34) above, and NO_p for propositional negations, as exemplified in (35) below.

(35)   a.

$$\psi$$
$$Nam_1 \quad NO_p \quad \phi$$
$$t_1 \text{ came}$$

   b. $NO_p\ \phi = \neg\phi$
   c. $\psi = \neg Nam$ came
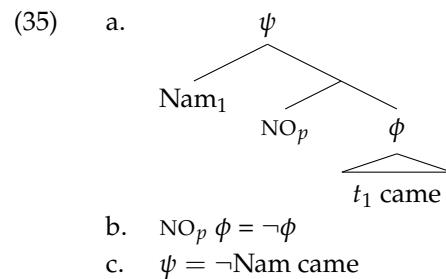
The morphological identity between the two NOs would be essentially accidental. The second problem, which I think is more serious, is that this analysis would make it very difficult to state the selectional requirements of NO_q such that its complement, i.e., the prejacent of the question, can have a definite but not a quantificational subject, a plain but not an *only*-focused subject, and the modal adverb *certainly* following but not preceding the verum focus YES.

(36)

$$\psi$$
$$\phi \quad NO_q$$

the boys/#every boy/#some boys YES came
Nam/#only Nam YES came
Nam (#certainly) YES (certainly) came
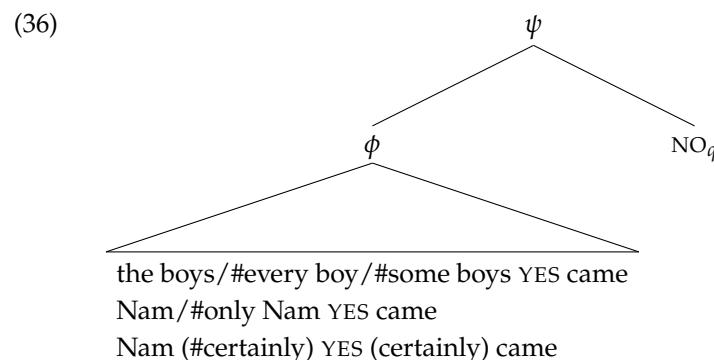
In other words, the monoclausal analysis offers no clear solution to the puzzles presented in Section 1.2. While I am not ruling out the possibility of revising this analysis so that it does account for these puzzles, I will explore a different approach, according to which Vietnamese polar questions have a bi-clausal structure.

3.2. Proposal: A Bi-Clausal Analysis

I propose that a polar question in Vietnamese is derived in the following steps.[9]

(37)   Derivation of Vietnamese polar questions:

   (i)   Construct an affirmative sentence ϕ;
   (ii)   Merge ϕ with Q;
   (iii)   Merge $[\phi\ Q]$ with ψ, where ψ is derived from ϕ by replacing YES with NO;
   (iv)   Phonologically delete everything in ψ except NO.

The question in (33), then, has the structure in (38a), where strikethrough represents phonological deletion. The meanings of Q and (38a) are provided in (38b) and (38c), respectively.

(38) a.
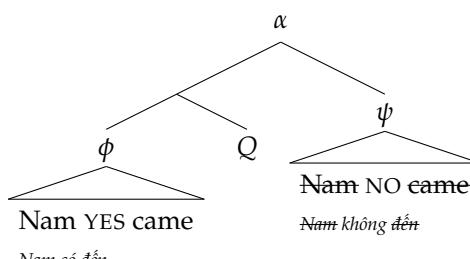
b. $Q = \lambda p. \; \lambda q. \; \{p, q\}$

c. $\alpha = \{\text{Nam came}, \neg\text{Nam came}\}$

This analysis assigns Vietnamese polar questions a bi-clausal structure that is very different from that of their English counterparts. In English, there is a question operator, *whether*, which, in similar fashion to other question words in this language, moves from its base position, leaving a trace. Since the trace is silent, the English question is ambiguous if the trace can be construed at different scope sites, as illustrated by (27). In Vietnamese, there is no operator that moves and leaves a silent trace. The position of YES in the affirmative sentence indicates, unambiguously, the position of NO in the negated sentence. This means that the pronunciation of a Vietnamese polar question leaves no doubt as to what the positive and negative answers to that question are. This fact plays a crucial role in my resolution of the puzzles in Section 1.2, to which I now turn.

3.3. Resolving the Puzzles in Section 1.2

3.3.1. Explaining the Facts in Section 1.2.1: Definite vs. Quantificational Subjects

Polar questions with definite subjects are exemplified by (4b), reproduced in (39a). The structure of this question is (39b). Its meaning is (39c).

(39) a. bọn con trai có đến không
          the boys   YES came NO

b.
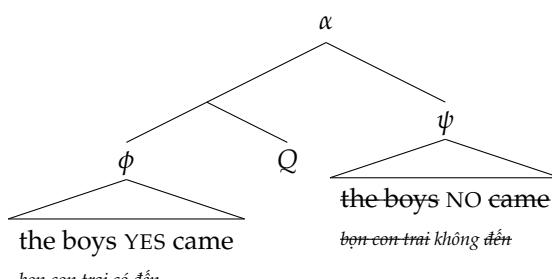
c. $\alpha = \{\phi, \psi\} = \{\text{the boys came, the boys didn't come}\}$

It is a fact of Vietnamese that ϕ = *bọn con trai có đến* means 'the boys came' and ψ = *bọn con trai không đến* means 'the boys did not come.' Thus, (39a) has the exact same meaning as the English question *did the boys come?* and is predicted to be acceptable, as observed.

Let us now deal with the observation that Vietnamese polar questions do not tolerate quantificational subjects. Consider first the case of universal quantifiers, exemplified by (5b), reproduced in (40a). The structure of this question is (40b).

(40) a. #đứa con trai nào cũng có đến không
           every boy   YES came NO

b.

α

    ϕ Q ψ

    ~~every boy~~ NO ~~came~~
    ~~đứa con trai nào cũng~~ không ~~đến~~

every boy YES came
đứa con trai nào cũng có đến
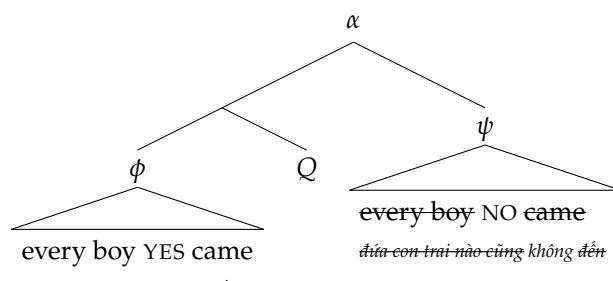
c. $\alpha = \{\phi, \psi\} = \{\text{every boy came } (\forall x P x), \text{every boy didn't come } (\forall x \neg P x)\}$

It is a fact of Vietnamese that $\phi = $ *đứa con trai nào cũng có đến* means 'every boy came' ($\forall x P x$) and $\psi = $ *đứa con trai nào cũng không đến* means 'every boy did not come' ($\forall x \neg P x$). However, as shown in Section 2.2, $\{\forall x P x, \forall x \neg P x\}$ is necessarily an infelicitous question. Since (40a) unambiguously denotes this question, (40a) is predicted to be unacceptable, as observed.

Consider next the case of existential subjects, exemplified in (6b), reproduced in (41a). The structure of this question is (41b).

(41)   a.   #một đứa con trai có đến không
           some boy   YES came NO

      b.

α

   ϕ Q ψ

     ~~some boy~~ NO ~~came~~
     ~~một đứa con trai~~ không ~~đến~~

some boy YES came
một đứa con trai có đến
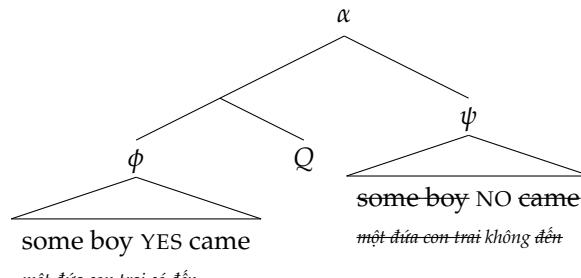
     c. $\alpha = \{\phi, \psi\} = \{\text{some boys came } (\exists x P x), \text{some boys didn't come } (\exists x \neg P x)\}$

It is a fact of Vietnamese that $\phi = $ *một đứa con trai có đến* means 'some boys came' ($\exists x P x$) and $\psi = $ *một đứa con trai không đến* means 'some boys didn't come' ($\exists x \neg P x$). However, as shown in Section 2.2, $\{\exists x P x, \exists x \neg P x\}$ is necessarily an infelicitous question. Since (41a) unambiguously denotes this question, (41a) is predicted to be unacceptable, as observed.

I have thus accounted for the contrast, discussed in Section 1.2.1, between polar questions with definite subjects and polar questions with quantificational subjects.

3.3.2. Explaining the Facts in Section 1.2.2: Plain vs. *Only*-Focused Subjects

Polar questions with plain subjects are exemplified by (33), reproduced in (42a). The structure of this question is (38a), reproduced in (42b), and its meaning is (38c), reproduced in (42c).

(42)   a.   Nam có đến không
           Nam YES came NO

      b.

α

   ϕ Q ψ

     ~~Nam~~ NO ~~came~~
     ~~Nam~~ không ~~đến~~

Nam YES came
Nam có đến
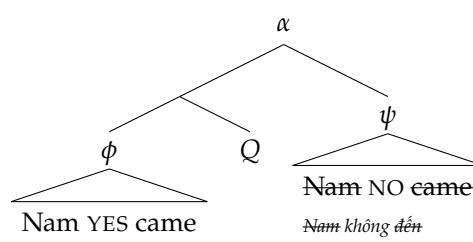
     c. $\alpha = \{\phi, \psi\} = \{\text{Nam came}, \neg\text{Nam came}\}$

It is a fact of Vietnamese that ϕ = *Nam có đến* means 'Nam came' and ψ = *Nam không đến* means 'Nam did not come.' Thus, (42a) has the exact same meaning as the English question *did Nam come?* and is predicted to be acceptable, as observed.

Polar questions with *only*-focused subjects are exemplified by (8b), reproduced in (43a). The structure of this question is (43b). Its meaning is (43c).

(43)   a.   #chỉ Nam có   đến   không
            only Nam YES came NO

       b.
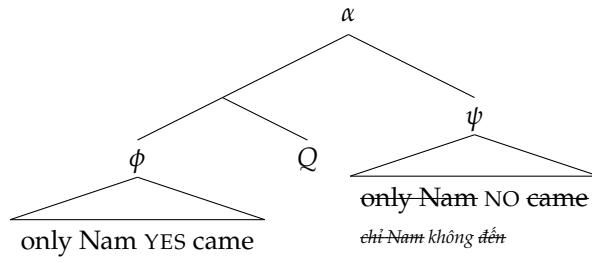
       c. $\alpha = \{\phi, \psi\} = \{$only Nam came, only Nam didn't come$\}$

It is a fact of Vietnamese that ϕ = *chỉ Nam có đến* means 'only Nam came' ($only(p)$), i.e., 'Nam came but no one else did' and ψ = *chỉ Nam không đến* means 'only Nam didn't come' ($only(\neg p)$), i.e., 'Nam didn't come but everyone else did.' As shown in Section 2.2, $\{only(p), only(\neg p)\}$ is necessarily an infelicitous question. Since (43a) unambiguously denotes this question, (43a) is predicted to be unacceptable, as observed.

I have thus accounted for the contrast, discussed in Section 1.2.2, between polar questions with plain subjects and polar questions with *only*-focused subjects.

3.3.3. Explaining the Facts in Section 1.2.3: Adverb Following vs. Preceding YES

Polar questions in which the modal adverb *chắc chắn* 'certainly' follows YES are exemplified by (10a), reproduced in (44a). The structure of this question is (44b) and its meaning is (44c).

(44)   a.   Nam có   chắc chắn đến   không
            Nam YES certainly   came NO

       b.
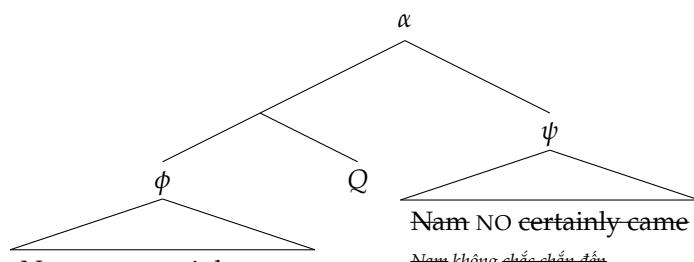
       c. $\alpha = \{\phi, \psi\} = \{\Box$Nam came, $\neg\Box$Nam came$\}$

It is a fact of Vietnamese that ϕ = *Nam có chắc chắn đến* means 'it is certain that Nam came' ($\Box p$) and ψ = *Nam không chắc chắn đến* means 'it is not certain that Nam came' ($\neg\Box p$). The two answers to this question, then, are a proposition and its negation. The question is predicted to be without any problem, and it is.

Now let us consider polar questions where the adverb precedes *yes*. These are exemplified by (10b), reproduced in (45a). The structure of this question is (45b) and its meaning is (45c).

(45)   a.   #Nam chắc chắn có   đến   không
            Nam certainly   YES came NO

   b.
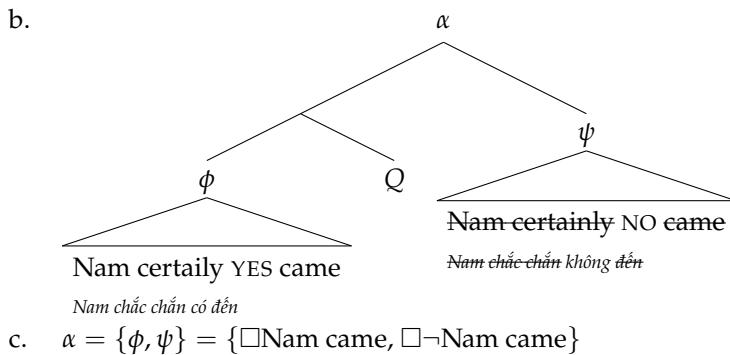
   c. $\alpha = \{\phi, \psi\} = \{\Box\text{Nam came}, \Box\neg\text{Nam came}\}$

It is a fact of Vietnamese that ϕ = *Nam chắc chắn có đến* means 'it is certain that Nam came' ($\Box p$) and ψ = *Nam chắc chắn không đến* means 'it is certain that Nam didn't come' ($\Box\neg p$). As shown in Section 2.2, $\{\Box p, \Box\neg p\}$ is necessarily an infelicitous question. Since (45a) unambiguously denotes this question, (45a) is predicted to be unacceptable, as observed.

I have thus accounted for the contrast, discussed in Section 1.2.3, between polar questions where the modal adverb *chắc chắn* follows YES and polar questions where this adverb precedes YES.

3.4. Wide-Scope Polarity and Discourse Particles

At this point, the reader may be asking how the *felicitous* readings of the English polar questions in (28)–(31), reproduced here with minimal modification in (46a)–(46d), are expressed in Vietnamese.

(46)   a.   did every boy come?
       b.   did some boys come?
       c.   did only Nam come?
       d.   did Nam certainly come?

There are several options. One is to place a declarative inside a larger YES … NO structure to effect a meaning akin to *is it true that ϕ?*. Take (46a), for example. One can say (47) to ask this question in Vietnamese.

(47)   có   đúng là   đứa con trai nào cũng đến   không
       YES true   that every boy   came NO
       'is it the case that every boy came?'

I assume that (47) has the structure in (48), where *pro* is a silent expletive subject.

(48)
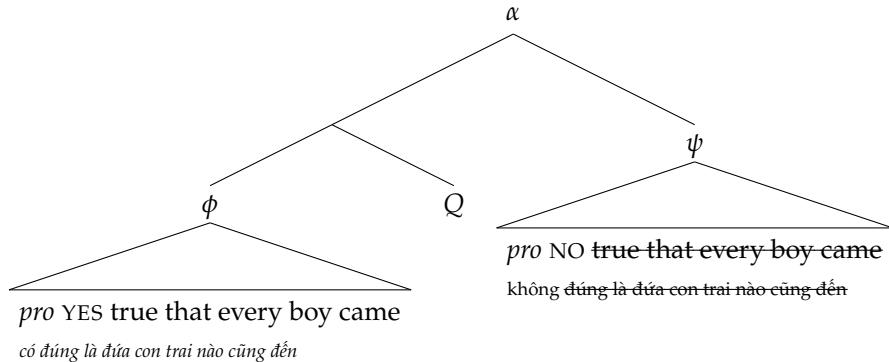
Another strategy is to resort to the discourse particle *à*, which is appended to a declarative ϕ to ask whether the addressee agrees that ϕ is true. The meaning that is effected is similar

to that of an English 'declarative' question, i.e., a yes/no question that has declarative word order and rising intonation (Gunlogson, 2003; Trinh & Crnic, 2011). In most situations, this meaning is, for all practical purposes, close enough to that of a canonical polar question.

(49)   đứa con trai nào cũng đến   à
         every boy   came A
         'every boy came?' (with rising intonation)

4. Loose Ends and Conclusions

Before concluding, I will discuss two loose ends to which attention was drawn in the recent round of reviews of this note.

4.1. Other Focus Particles

One issue concerns focus particles other than 'only,' specifically 'also' and 'even.' To my ear, there is definitely a contrast between (8b)/(43a), reproduced in (50a), which is severely degraded, and (50b) and (50c), which are slightly degraded.

(50)   a. #chỉ Nam có   đến không
                only Nam YES came NO
                '{only Nam came, only Nam didn't come}'
        b. ?cả   Nam có   đến không
                also Nam YES came NO
                '{also Nam came, also Nam didn't come}'
        c. ?kể cả Nam có   đến không
                even Nam YES came no
                '{even Nam came, even Nam didn't come}'

The theory proposed here predicts the contrast. The context for (50b) would consist of worlds where Nam came and someone else came ('yes') and ones where Nam did not come and someone else did not come ('no'). The context for (50c) would consist of worlds where Nam came even though him having come was unlikely ('yes') and ones where Nam did not come even though him not having come was unlikely ('no').[10] These contexts correspond to my intuition about what the answers mean and, as far as I can see, do not conflict with other grammatical aspects of the questions. However, I admit that (50b) and (50c) are not perfectly acceptable. At this time, I will have to leave this fact, and other facts, about 'also' and 'even,' as well as other focus particles, to future work.[11]

4.2. Other Quantifiers

Questions were also raised in the reviews about determiners such as 'more than half.' It turns out that (51) is unacceptable.

(51)   #hơn một nửa số sinh viên có   đến   không
            more than half student   YES came NO
            '{more than half of the students came, more than half of the students did not come}'

The context, given our account, would consist of worlds where more than half of the students came ('yes') and worlds where more than half of the students did not come, i.e., where less than half of the students came ('no'). Crucially, worlds where half of the students came are excluded. I tentatively propose that this is the reason for the oddness of (51). It seems that the expression *more than X* is generally odd if *X* is excluded as a possibility. Thus, if we know that Nam is a fastidious person who never loses any of his beautiful handcrafted wooden chopsticks, it would definitely be weirder to ask him (52b) than to ask him (52a).[12]

(52)   Context: The addressee has an even number of chopsticks.

a. Do you have more than 10 chopsticks?

b. #Do you have more than 11 chopsticks?

The reader is invited to verify for herself that this argument applies generally to *more than X* and *less than X*.[13] A comprehensive survey of all subject quantifiers in polar questions in Vietnamese will have to await further research.

4.3. Conclusions

I propose a bi-clausal analysis of polar questions in Vietnamese to explain a set of data pertaining to such questions. The explanation relies crucially on Partition by Exhaustification (PbE), a felicity condition on questions in general. To the extent that my account is correct, an interesting picture emerges of the difference between English and Vietnamese with respect to which polar questions are 'feasible' in which language. The descriptive statement 'question Q can be asked in English but not Vietnamese' turns out to mean 'the syntax of Q in English allows a felicitous meaning, but the syntax of Q in Vietnamese does not.' In other words, the two languages differ with respect to the syntactic strategies they employ to formulate a question, but not with respect to the semantic/pragmatic constraints on the use of linguistic expressions in general.

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Notes

[1] Auxiliary *có* and main verb *có* can co-occur: *Nam có có sách* (Nam YES have book) means 'Nam does have books.' Note that what I call 'polar question' in this note might be considered a subkind of polar question by other scholars who would also include so-called '*đã-chưa* questions' as polar. A *đã-chưa* question has the same profile as the polar questions I am describing here, with *đã* in place of *có* and *chưa* in place of *không*. I will not discuss *đã-chưa* questions in this paper.

[2] I am describing the standard dialect (Hanoi) of Vietnamese, where *Nam có không đến* and *Nam không có đến* are unacceptable. In some southern dialects, *Nam không có đến* is acceptable (Duffield, 2007). I have nothing to say about these in this note.

[3] The reader may wonder how the intended meaning of the unacceptable questions—(5b), (6b), (8b)—is expressed. I will answer this question in Section 3.4.

[4] Which means that each can be used in the same discourse contexts as the other.

[5] I take the meaning of a question to be the set containing its possible answers (Hamblin, 1958). I will discuss this view in more detail presently.

[6] The reader will have noticed that the presupposition of *only* is here locally accommodated as part of the assertion. Do we still predict the question to be infelicitous if the presupposition is not locally accommodated? The answer is yes. In that case, the positive answer presupposes no others came and the negative answer presupposes all others came, which means the question ends up with a contradictory, hence unsatisfiable, presupposition. Thus, the account I am presenting here can be considered as the argument that, given PbE, even if the presuppositions of the answers can be locally accommodated, which they can be, the question is still predicted to be infelicitous.

[7] A reviewer asks whether the questions in (27) satisfy PbE. The answer is yes: In each case, the positive and negative answers carve out two different regions in logical space, and the union of these regions is accommodated as the context. PbE, as it is formulated in this note, can always be 'satisfied' in isolation since context accommodation is available. The question is whether satisfaction of PbE, i.e., accommodation of a certain context, leads to violation of some other principles. As far as I can see, that is not the case for the questions in (27) (assuming that the presuppositions of the answers can be locally accommodated (see note 6)).

8   Note that the quantifier *every boy* itself moves, leaving a trace of type *e*.

9   Note that an 'affirmative sentence' is one containing *matrix* verum focus, i.e., one where YES occupies the highest auxiliary position. Thus, (53a) is not an affirmative sentence, and (53b) is predicted, correctly, to be unacceptable as a polar question.

(53)   a.   Nam nghĩ Mai có đến
                Nam think Mai YES came
                'Nam thinks Mai did come'
        b.   #Nam nghĩ Mai có đến Q ~~Mai~~ không ~~đến~~
                Nam think Mai YES come Q ~~Mai~~ NO ~~come~~
                '{Nam thinks Mai did come, Nam thinks Mai did not come}'

More generally, polar questions cannot scope out of embedded positions (modulo parentheticals, which I will not discuss here). The fact that the derivation of polar questions starts from an affirmative sentence, not from a sentence containing an affirmative sentence, or a negative sentence, does not follow from other claims in my account and will have to be taken as a primitive for now. I hope to investigate this point further in future work.

10   Again, I assume that it is possible to locally accommodate the presuppositions of 'also' and 'even' in polar questions (see note 6).

11   One observation should perhaps be mentioned here: (50c) does not seem to have the 'negative bias' reading available for English (27). My hunch is that this is because there is no Vietnamese counterpart of (27a). Note that Guerzoni's (2004) explanation of the 'negative bias' reading of (27) depends crucially on both (27a) and (27b) being possible parses of (27).

12   A question then arises with respect to the general acceptability of the English question *did more than half of the students come?*, which, hypothetically, partitions the context into worlds where more than half came and worlds where half or less than half came. Suppose the number of students is even, then there is no problem. However, what if the number is odd? Do we not then predict that the question should be unacceptable, since the possibility that half came is excluded? My very tentative answer is that at the level of grammatical analysis where judgments of acceptability are generated, the scale underlying measurement is dense, even for students, and hence, the possibility that half came is always existent (Fox & Hackl, 2006). Note that given density, (51) is predicted to be infelicitous independently of the parity of the number of students, as 'half' is always available as a possibility. Note, also, that this line of reasoning might present a conceptual problem: PbE relates questions to contexts, but density is context-independent. I thank a reviewer for drawing my attention to this important point and will leave an appropriate calibration of context and grammar regarding this issue to future work.

13   Additionally, to the extent that 'many' and 'few' can be analyzed as 'more than half' and 'less than half,' I predict that replacing *hơn một nửa số* 'more than half' in (51) with *nhiều* 'many' or *ít* 'few' will not improve the sentence. This prediction is borne out of facts.

References

Alxatib, S. (2013). *'Only' and association with negative antonyms* [Ph. D. thesis, Massachusetts Institute of Technology].

Alxatib, S. (2020). *Focus, evaluativity, and antonymy: A study in the semantics of 'only' and its interaction with gradable antonyms.* Springer.

Bennett, M. (1977). A response to Karttunen. *Linguistics and Philosophy*, *1*, 279–300. [CrossRef]

Dayal, V. (1996). *Locality in wh-quantification: Questions and relative clauses in Hindi.* Kluwer Academic Press.

Duffield, N. (2007). Aspects of Vietnamese clausal structure: Separating tense from assertion. *Linguistics*, *45*, 765–814. [CrossRef]

Fox, D. (2019). Partition by exhaustification: Comments on Dayal 1996. *Proceedings of Sinn und Bedeutung 22*, 403–434. [CrossRef]

Fox, D. (2020). Partition by exhaustification: Towards a solution to Gentile and Scharwarz's puzzle. Manuscript, MIT.

Fox, D., & Hackl, M. (2006). The universal density of measurement. *Linguistics and Philosophy*, *29*, 537–586. [CrossRef]

Guerzoni, E. (2004). *Even*-NPIs in yes/no questions. *Natural Language Semantics*, *12*(4), 319–343. [CrossRef]

Gunlogson, C. (2003). *True to form: Rising and falling declaratives as questions in English.* Routledge.

Hamblin, C. L. (1958). Questions. *The Australasian Journal of Philosophy*, *36*, 159–168. [CrossRef]

Heim, I. (1991). Artikel und Definitheit. In A. von Stechow, & D. Wunderlich (Eds.), *Semantik: Ein internationales handbuch der zeitgenössischen Forschung* (pp. 487–535). De Gruyter.

Higginbotham, J. (1993). Interrogatives. In K. Hale, & S. J. Keyser (Eds.), *The view from building 20* (pp. 195–228). MIT Press.

Krifka, M. (2001). For a structured account of questions and answers. In C. Fery, & W. Sternefeld (Eds.), *Audiatur vox sapientiae. A festschrift for arnim von stechow* (pp. 287–319). Akademie Verlag.

Larson, R. (1985). On the syntax of disjunction scope. *Natural Language and Linguistic Theory*, *3*, 217–264. [CrossRef]

Löbner, S. (1985). Definites. *Journal of Semantics*, *4*, 279–326. [CrossRef]

Magri, G. (2009). A theory of individual-level predicates based on blind mandatory scalar implicatures. *Natural Language Semantics*, *17*(3), 245–297. [CrossRef]

Magri, G. (2011, November). Another argument for embedded scalar implicatures based on oddness in downward entailing environments. *Semantics and Pragmatics*, *4*(6), 1–51. [CrossRef]

Phan, T. (2024). *The syntax of vietnamese tense, aspect, and negation*. Routledge.

Stalnaker, R. (1978). Assertion. *Syntax and Semantics*, *9*, 315–332.

Stalnaker, R. (1998). On the representation of context. *Journal of Logic, Language and Information*, *7*(1), 3–19. [CrossRef]

Trinh, T. (2005). Aspects of clause structure in Vietnamese [Master's thesis, Humboldt-Universität zu Berlin].

Trinh, T., & Crnic, L. (2011). The rise and fall of declaratives. *Proceedings of Sinn und Bedeutung 15*, 645–660.

von Fintel, K., & Gillies, A. S. (2010). Must ... stay ... strong! *Natural Language Semantics*, *18*, 351–383. [CrossRef]