

# A Note on Speech Act Recursion

Tue Trinh

Leibniz-Zentrum Allgemeine Sprachwissenschaft

tuetrinh@alum.mit.edu

**Abstract:** I present novel observations about iterated questions, i.e. questions about questions, and propose an analysis. The conclusions I argue for are the following: (i) speech acts are represented in the grammar; (ii) speech act recursion is possible but is limited to at most two levels; (iii) declarative questions are questions about an assertion act. I also show that assuming speech acts in the grammar can help systematize some puzzling differences between matrix and embedded sentences with respect to their pronunciation.

**Keywords:** questions; speech acts; recursion; Performative Hypothesis

## 1. The Performative Hypothesis

A clear distinction is traditionally made between sentences and speech acts. Sentences are objects constructed by rules of syntax and interpreted by rules of semantics, whereby the interpretation is compositional: the meaning of a complex expression is a function of the meaning of its parts and how these are put together. Speech acts, on the other hand, are events that transpire when a sentence is put to use (Austin 1962; Searle 1969). They involve the sentence, but are not part of the sentence. Let us illustrate. Suppose person A and person B are having the following conversation.

- (1) A: Is it raining?  
B: It is not.

The logical forms of (1)-A and (1)-B are (2a) and (2b), respectively. I will henceforth follow standard practice and use the term “logical form” to refer to the output of syntactic derivation, which is also the input to compositional semantic interpretation.

- (2) a. [~~WHETHER~~ is [it <sub>is</sub> raining]]  
b. [not [it is ~~raining~~]]

Before we continue, a point about notation must be made. In (2) and in what follows, I will use ~~strike-through~~ to represent materials that are syntactically present, i.e. interpreted, but phonologically absent, i.e. not pronounced. The reason *why* these materials have no sound is not a concern of this paper. I will not discuss, for example, whether the silence of a constituent is lexically determined or has come about by way of PF-deletion in the syntactic derivation. Now, coming back to the discourse in (1), the speech acts performed by A’s utterance of (2a) and B’s utterance of (2b) are (3a) and (3b), respectively.

- (3) a. A asks whether it is raining  
b. B asserts it is not raining

This picture is overwhelmingly intuitive. Distinguishing between sentences and speech acts in this way seems as natural as distinguishing between cars and driving. Nevertheless, the picture is challenged by the so-called “Performative Hypothesis”, henceforth PH, which states that speech acts, as we have talked about them so far, are syntactically represented (cf. Stenius 1967; Ross 1970; Lakoff 1970; Gazdar 1979). According to PH, the logical form of the sentences uttered by A and B in (1) are not (2a) and (2b), but (4a) and (4b).<sup>1</sup>

- (4) a. [A ASK [WHETHER is [it  $t_{is}$  raining]]]  
 b. [B ASSERT [it is raining]]

Let us assume that the abstract verbs ASK and ASSERT in (4) have roughly the same meanings as those of overt *ask* and *assert* in (2). As we can see, (4a) and (4b) look like (3a) and (3b), respectively. Under PH, the speech act performed in uttering a sentence is represented in its logical form. What (4a) and (4b) contains is a “performative prefix” indicating the speaker and the speech act. This is “A-ASK” in (4a) and “B-ASSERT” in (4b). Note that the verbs ASK and ASSERT do not show tense and agreement. I assume that performative prefixes extend the CP layer but do not introduce any new TP layer, and as T is the locus of tense and agreement, the performative verbs in these prefixes are uninflected (Trinh and Bassi 2023).

If we just reflect on the message conveyed by A and B in (1) as they produce their utterances, we would not be able to adjudicate between (2) and (4). In other words, we would not know whether PH is correct. The message conveyed by A’s utterance is that A asks whether it is raining, and the message conveyed by B’s utterance is that B asserts it is raining. Whether these messages are derived as literal meanings of the sentences or whether they are derived from pragmatic reasoning on the literal meanings is an empirical question. Someone who argues against having performative prefixes in the syntax on the ground that we do not hear them will, of course, be confronted with the fact that syntax is mostly silent: in addition to brackets and category symbols, which make up a large part of the syntactic tree, we also have traces, null pronouns, indices. These elements are all indispensable for an account of not only the interpretation but also the pronunciation of sentences. In fact, a case can be made that performative prefixes, even though they have no phonemic content themselves, nevertheless have an effect on pronunciation, in the sense that they help us make generalizations about the syntax-phonology mapping. Let us illustrate this point.

Suppose we say that the following facts hold of the mapping from syntax to phonology in English (cf. Katz and Postal 1964; Truckenbrodt 2006; Krifka 2021).

- (5) a. ASK selects  $C_{[+aff]}$  while other predicates select  $C_{[-aff]}$   
 b. If X selects CP, X is silent iff the edge of CP is silent

Here is what the terms mean.  $C_{[+aff]}$  requires head movement from its complement, while  $C_{[-aff]}$  does not. Assuming that syntactic operations take place only when they have to (Chomsky 1995), T moves to C if, and only if, C is [+aff]. The “edge” of an XP consists of its head and its specifier. I will represent silent C as  $\emptyset$ . Furthermore, I will assume that every selected C in English is silent except overt *that*, which is both [–aff] and non-interrogative in the sense that it cannot be selected by ASK, *ask*, or any other question embedding predicate.

<sup>1</sup> I will not recite the arguments for and against PH that have been made in the literature, as that would take us beyond the scope of this note. The reader is referred to Levinson (1983, 243–250) for an overview on this debate.

Now, given (5), we predict the following pronunciation pattern for matrix and embedded questions.

- (6) a. ... **ASK** [<sub>CP</sub> **WHETHER** is+ $\emptyset$ <sub>[+aff]</sub> [<sub>TP</sub> it *t*<sub>is</sub> raining]]  
 b. \*... **ASK** [<sub>CP</sub> whether is+ $\emptyset$ <sub>[+aff]</sub> [<sub>TP</sub> it *t*<sub>is</sub> raining]]  
 c. \*... ask [<sub>CP</sub> **WHETHER**  $\emptyset$ <sub>[-aff]</sub> [<sub>TP</sub> it is raining]]  
 d. ... ask [<sub>CP</sub> whether  $\emptyset$ <sub>[-aff]</sub> [<sub>TP</sub> it is raining]]

When the embedding verb is the silent performative **ASK**, i.e. when the question is matrix, the edge of the embedded CP must be silent. This means the specifier must be **WHETHER**. Furthermore, C must be [+aff], triggering head movement from TP. Thus, there is subject auxiliary inversion and no overt *whether* in matrix questions. Now, when the embedding verb is some predicate other than the silent performative **ASK**, the edge of the embedded CP cannot be silent. Take *ask*, for example. As this predicate is overt, the edge of its CP complement must be overt, which means the embedded specifier must be *whether*. Furthermore, C must be [-aff], so T stays in situ. Thus, embedded questions show overt *whether* and no subject auxiliary inversion.

- (7) a. Is it raining? => pronunciation of (6a)  
 b. \*Whether is it raining? => pronunciation of (6b)  
 c. \*John asked it is raining. => pronunciation of (6c)  
 d. John asked whether it is raining. => pronunciation of (6d)

What about matrix and embedded statements? Given (5), we predict the following pattern for **ASSERT** and *assert*.

- (8) a. ... **ASSERT** [<sub>CP</sub>  $\emptyset$ <sub>[-aff]</sub> [<sub>TP</sub> it is raining]]  
 b. \*... **ASSERT** [<sub>CP</sub> *that*<sub>[-aff]</sub> [<sub>TP</sub> it is raining]]  
 c. \*... assert [<sub>CP</sub>  $\emptyset$ <sub>[-aff]</sub> [<sub>TP</sub> it is raining]]  
 d. ... assert [<sub>CP</sub> *that*<sub>[-aff]</sub> [<sub>TP</sub> it is raining]]  
 e. ... assert [<sub>CP</sub> it  $\emptyset$ <sub>[-aff]</sub> [<sub>TP</sub> *t*<sub>it</sub> is raining]]

When the embedding verb is the silent performative **ASSERT**, i.e. when the statement is matrix, the edge of the embedded CP must be silent also. Since there is no underlying specifier, the head of CP must be silent  $\emptyset$ . Furthermore, it must be [-aff]. This means there is neither overt *that* nor subject auxiliary inversion in matrix statements. This is the scenario in (8a) and (8b). The scenario in (8c–e) is one where the statement is embedded under an overt predicate, e.g. *assert*. In such cases, either C or [Spec,C] must be overt. If C is overt, it is *that*. The overt specifier option is realized by the subject raising from [Spec,T] to [Spec,C] (Pesetsky and Torrego 2001). I assume that whatever derives the Doubly Filled Comp Filter will prevent both C and [Spec,C] to be overt in the case of non-interrogative C. We thus account for the fact that matrix declaratives cannot, while embedded declaratives can but do not have to, have *that*.<sup>2</sup>

- (9) a. It is raining. => pronunciation of (8a)  
 b. \*That it is raining. => pronunciation of (8b)  
 c. John asserts it is raining. => pronunciation of (8e)  
 d. John asserts that it is raining. => pronunciation of (8d)

2 For cases where *that* is obligatory, which I do not discuss here, see Haegeman and Ürögdi (2010). I thank a reviewer for drawing my attention to this point.

We see that with the generalizations in (5), we are able to capture a wide range of seemingly chaotic and unrelated facts. The necessary assumption, of course, is that PH is true. If PH is not true, there would be no ASK or ASSERT, which means the pronunciation of the matrix sentences in (7) and (9) would not be accounted for by (5). Now, if speech acts are syntactically represented, the question arises whether speech act recursion is possible, i.e. whether such structures as (10) can be generated.

(10) [A ASK [WHETHER [B ASSERT [it is raining]]]]

My answer is yes. Grammar *does* allow stacking of performative prefixes. The next section presents an argument for this claim.

## 2. Repetitive and Excursive Questions

Consider the following exchange between A and B. I will use subscripts to indicate the order of utterances made by discourse participants: B<sub>2</sub> is the second utterance made by B, for example.

(11) Utterances

A<sub>1</sub>: Are you married?

B<sub>1</sub>: Am I married?

A<sub>2</sub>: Yes. (That's what I am asking.)

B<sub>2</sub>: I'm single.

Questions such as (11)-B<sub>1</sub>, which seems to repeat another preceding question, are quite common in everyday speech. Let us call them "repetitive questions". Now, what does (11)-B<sub>1</sub> mean? Obviously, it does not mean 'whether B is married'. That reading would make what precedes and what follows (11)-B<sub>1</sub> nonsensical, as the reader can easily verify. Let us ask what is going on in all of (11). Intuitively, the following speech act events transpire with each utterance.

(12) Speech acts

A<sub>1</sub>: A asks whether B is married

B<sub>1</sub>: B asks whether A asks whether B is married

A<sub>2</sub>: A asserts A asks whether B is married

B<sub>2</sub>: B asserts B is single

Suppose PH is false, and speech acts are not represented in the grammar, the logical forms associated with the utterances in (11) would be as presented in (13), assuming, non-controversially, that the response particle *yes* stands for the proposition expressed by the positive answer to the preceding polar question. I will subscript pronouns with the name of the people they refer to.

(13) Non-PH logical forms

A<sub>1</sub>: [<sub>CP</sub> WHETHER are [<sub>TP</sub> you<sub>B</sub> t<sub>are</sub> married]]

B<sub>1</sub>: [<sub>CP</sub> WHETHER am [<sub>TP</sub> I<sub>B</sub> t<sub>am</sub> married]]

A<sub>2</sub>: [<sub>TP</sub> B is married]

B<sub>2</sub>: [<sub>TP</sub> I<sub>B</sub> am single]

The question then arises as to how (13) and (12) relate. For A<sub>1</sub> and B<sub>2</sub>, the story is standard: uttering a questions means asking it and uttering a proposition means asserting it. But what about B<sub>1</sub> and A<sub>2</sub>? How do we get (13)-B<sub>1</sub>, which expresses the question whether B is married, to convey the message in

(12)-B<sub>1</sub>. More dramatically, how do we get (13)-A<sub>2</sub>, which expresses the proposition that B is married, to convey the message in (12)-A<sub>2</sub>. While I do not rule out the possibility of a “pragmatic theory” which can accomplish these feats, I confess to not being clever enough to form a cogent idea as to what that theory might look like.

Now, suppose that PH is correct, and speech acts are represented in the grammar. Furthermore, suppose that speech act recursion is possible, i.e. that performative prefixes can be stacked. Then nothing prevents us from assigning the utterances in (11) the logical forms in (14).

(14) PH logical forms

- A<sub>1</sub>: [A ASK [WHETHER are [you<sub>B</sub> *t<sub>arc</sub>* married]]]  
 B<sub>1</sub>: [B ASK [WHETHER [A ASK [WHETHER am [I<sub>B</sub> *t<sub>am</sub>* married]]]]]  
 A<sub>2</sub>: [A ASSERT [A ASK [WHETHER [B is married]]]]  
 B<sub>2</sub>: [B ASSERT [I<sub>B</sub> am single]]

Relating (14) to (12) will be trivial. As we can see, the logical forms mirror exactly the speech acts which transpire when the utterances are produced. The pragmatic theory needed would be extremely simple: people convey what is expressed by the logical form of the utterances they produce. Repetitive questions, therefore, constitute evidence in favor of PH, and more specifically, in favor of speech act recursion in the grammar.<sup>3</sup>

Another kind of questions turn out to do the same. These are called “excursive questions” in Trinh and Bassi (2023). To illustrate, consider the exchange in (15).

(15) Utterances

- A<sub>1</sub>: Did John smoke?  
 B<sub>1</sub>: When?  
 A<sub>2</sub>: Last night.  
 B<sub>2</sub>: No. He didn’t smoke last night.

Note the utterance in (15)-B<sub>1</sub>. The speaker seems to be taking an “excursus” away from the main line of conversation, asking a question about a preceding question. Again, let us ask what does the question mean. Obviously, it does not mean ‘when did John smoke’. If it did, the whole conversation would make no sense, as the reader can verify by replacing (15)-B<sub>1</sub> with the question *when did John smoke?*, keeping other sentences intact. What (15)-B<sub>1</sub> and (15)-B<sub>2</sub> mean, intuitively, is (16a) and (16b), respectively.

- (16) a. Which time *x* is such that you are asking whether John smoke at the time *x*  
 b. I am asking whether John smoked last night

3 It was pointed out to me during my talk at Olinco, and by two reviewers of this paper, that what I call “repetitive questions” here are expressed in Czech in form of an embedded polar question. In other words, the Czech counterpart of (11-B<sub>1</sub>) would be “whether I am married?”. Here is an example, provided by one of the reviewers.

- (i) A<sub>1</sub>: Odjel Petr do Berlína?  
 Gloss: left Peter to Berlin  
 Speech act: A asks B whether Peter left for Berlin  
 B<sub>1</sub>: Jestli Petr odjel do Berlína?  
 Gloss: whether Petr left to Berlin  
 Speech act: B asks A whether A asks B whether Peter left for Berlin

While I find this fact extremely interesting, I will leave the task of analyzing it to future work.

If we assume PH, it would be quite straightforward to derive the logical forms which can be assigned to the utterances in (15) to yield the intuitively correct meanings. These are presented in (17).

(17) PH logical forms for (15)<sup>4</sup>

- A<sub>1</sub>: [A ASK [WHETHER did [John  $t_{\text{did}}$  smoke]]]  
 B<sub>1</sub>: [B ASK [when [A ASK [WHETHER did [John  $t_{\text{did}}$  smoke  $t_{\text{when}}$ ]]]]]<sup>5</sup>  
 A<sub>2</sub>: [A ASSERT [A ASK [WHETHER did [John  $t_{\text{did}}$  smoke last night]]]]  
 B<sub>2</sub>: [B ASSERT [he<sub>John</sub> did not smoke last night]]

I do not see how a non-PH analysis could account for the interpretation of (15)-B<sub>1</sub> and (15)-A<sub>2</sub>. Note that these data are not exotic. Conversations such as (15) seem quite familiar, and our intuition about what the utterances convey is robust. Excursive questions, therefore, can be considered evidence in favor of PH and, more specifically, in favor of speech act recursion in the grammar.

### 3. A Constraint on Speech Act Recursion

We have established that speech act recursion is possible. Let us now ask whether it is constrained? The answer I want to defend is yes. Consider the exchange in (18), where the intended readings of the utterances are provided under them.

- (18) A<sub>1</sub>: Are you married?  
       “Are you<sub>B</sub> married?”  
 B<sub>1</sub>: Am I married?  
       “Are you<sub>A</sub> asking whether I<sub>B</sub> am married?”  
 A<sub>2</sub>: #Are you married?  
       “Are you<sub>B</sub> asking whether I<sub>A</sub> am asking whether you<sub>B</sub> are married?”  
 B<sub>2</sub>: Yes. Am I married?  
       “I<sub>B</sub> am asking whether you<sub>A</sub> are asking whether I<sub>B</sub> am married.”  
 A<sub>3</sub>: Yes. That’s what I’m asking.  
       “I<sub>A</sub> am asking whether you<sub>B</sub> are married.”  
 B<sub>3</sub>: No. I am single.  
       “I<sub>B</sub> am single.”

We can observe that (18)-A<sub>2</sub>, under the indicated interpretation, is deviant. It cannot express the intended reading. If it could, we could imagine the conversation being continued as presented in the gray part of (18). Such a conversation, however, is clearly pathological. Note that it is hard to see what would be the problem with these meanings. If instead of the sentences their paraphrases are used, the conversation might sound clumsy, but it would still be intelligible. This suggests that the logical form which needs to be assigned to (18)-A<sub>2</sub> in order to yield the missing intended reading is excluded by the grammar. What would be this logical form? Presumably, it would be (19), assuming PH is correct. I will henceforth shorten ~~WHETHER~~ to ~~WH~~ when there is lack of space.

- (19) \*[A ASK [WH [B ASK [WH [A ASK [WH are [you  $t_{\text{are}}$  married]]]]]]]

4 See Trinh and Bassi (2023) for arguments that (17)-B<sub>1</sub> does not violate any locality condition.

5 I assume that *when* means ‘which time x is such that’ and its trace,  $t_{\text{when}}$ , means ‘at the time x’ after application of Fox’s (2003) Trace Conversion rule.

Why is (19) not available? Well, what distinguishes (19) from the PH logical forms we have considered so far is the number of stacked performative prefixes that it has. Specifically, (19) contains three levels of performative prefixes, while the other logical forms contain at most two. Let us say that there is a constraint on the number of stacked performative prefixes.

(20) Speech Act Recursion Constraint (SARC)

Recursion of speech acts is limited to at most two levels

SARC allows (21a) and (21b), but excludes (21c). I will henceforth shorten “performative prefix” to “p-prefix”. S stands for a sentence without p-prefixes.

- (21) a. p-prefix S  
 b. p-prefix ... p-prefix S  
 c. \*p-prefix ... p-prefix ... p-prefix S

The logical form in (19) exemplifies (21c), which is excluded by SARC. For this reason, the reading that would result from it is unavailable for the relevant sentence. The logical forms assigned to (11) and (15), in contrast, exemplify either (21a) or (21b), which are not excluded.

Does SARC hold for excursive questions also? It seems the answer is yes. Consider the conversation in (22).

- (22) A<sub>1</sub>: Did John smoke?  
           “Did John smoke?”  
 B<sub>1</sub>: When?  
       “Which time x is such that you<sub>A</sub> are asking whether John smoked at the time x?”  
 A<sub>2</sub>: # Where?  
       “Which place y is such that you<sub>B</sub> are asking which time x is such that I<sub>A</sub> am asking whether John smoked at the time x at the place y?”  
 B<sub>2</sub>: At Mary’s place.  
       “Which time x is such that you<sub>A</sub> are asking whether John smoked at the time x at Mary’s place.”  
 A<sub>3</sub>: Last night.  
       “Did John smoke last night at Mary’s place?”  
 B<sub>3</sub>: No. He didn’t smoke last night at Mary’s place.  
       “John did not smoke last night at Mary’s place.”

A situation similar to (18) obtains. We observe that (22)-A<sub>2</sub> is deviant under the intended reading. If that reading were possible, we could imagine the conversation being continued as in the gray part of (22). But such a conversation is clearly pathological. Again, it is hard to see what the problem would be with the meanings, as the paraphrases are all intelligible. This suggests that the logical form that would yield the unavailable intended reading for (22)-A is excluded by the grammar. That logical form is (23).

- (23) \* [A ASK [where [B ASK [when [A ASK [WHETHER did [John  $t_{\text{did}}$  smoke  $t_{\text{when}}$   $t_{\text{where}}$ ]]]]]]]]<sup>6</sup>

6 I assume that *where* means ‘which place x is such that’ and its trace,  $t_{\text{where}}$ , means ‘at the place x’ after application of Fox’s (2003) Trace Conversion rule. See note 5.

As we can see, (23) violates SARC: it has three layers of p-prefixes. The fact that the reading it would yield is unavailable, therefore, constitutes evidence in favor of SARC.

#### 4. Declarative Questions

Repetitive and excursive questions have something in common: they are questions about a question. We can call them “iterated”. SARC explains why iterated questions cannot be iterated. Because iterated questions already contain two levels of p-prefixes, iterating them would add another level, which is not possible, given SARC. But what explains SARC? I cannot answer this question yet, and will make no attempt to do that in this note. However, I will argue that SARC is in fact not as ad hoc as it seems to the reader up to this point.

The argument pertains to what is sometimes called “declarative questions”. These are polar questions which exhibit declarative word order, i.e. which shows no subject auxiliary inversion, as exemplified by (24)-B<sub>1</sub>.

(24) A<sub>1</sub>: John is looking for a vegetarian restaurant.

B<sub>1</sub>: John is vegetarian?

A<sub>2</sub>: No he’s not. But his wife is.

Here is a curious fact about declarative questions: they cannot be iterated! Compare the two exchanges in (25) and (26).

(25) A<sub>1</sub>: John is looking for a vegetarian restaurant.

B<sub>1</sub>: Is John vegetarian?

A<sub>2</sub>: Is he vegetarian?

B<sub>2</sub>: Yes. That’s what I asked.

A<sub>3</sub>: No he’s not. But his wife is.

(26) A<sub>1</sub>: John is looking for a vegetarian restaurant.

B<sub>1</sub>: John is vegetarian?

A<sub>2</sub>: # He is vegetarian?

B<sub>2</sub>: Yes. That’s what I asked.

A<sub>3</sub>: No he’s not. But his wife is.

As we can see, it is quite natural to iterate (25)-B<sub>1</sub>, which is a “regular” question, i.e. one which exhibits subject auxiliary inversion. However, when the same question is formulated in form of a declarative question, iteration is extremely odd, as evidenced by (26)-A<sub>2</sub>. Note that it is hard to see what “pragmatic” differences there are between the two contexts (25) and (26) which can be responsible for this clear contrast in acceptability. So what can be the reason?

I hypothesize that SARC is the reason. This hypothesis, however, requires an assumption which is based on an intuition underlying several analyses of declarative questions. The intuition is that these questions ask not whether the prejacent is true, but whether the addressee is committed to the truth of the prejacent (Gunlogson 2002, 2003; Trinh and Crnic 2011; Krifka 2017).

(27) A<sub>1</sub>: John is looking for a vegetarian restaurant.

B<sub>1</sub>: John is vegetarian?

≈ “Are you saying John is vegetarian”?



Given PH, it is quite straightforward to capture this intuition: we can assign (27)-B<sub>1</sub> the logical form in (28).

(28) [B ASK [WHETHER [A ASSERT [John is vegetarian]]]]

This analysis accounts for two facts about declarative questions which so far have remained totally unrelated. First, it accounts for the fact that these questions cannot be iterated. They already contain two levels of speech act recursion. Iterating them would add another level, violating SARC. Thus, the logical form of the deviant (26)-A<sub>2</sub> would be (29), which contains three levels of speech act recursion.

(29) \*[A ASK [WH [B ASK [WH [A ASSERT [John is vegetarian]]]]]]

The other fact about declarative questions that we account for is that they show declarative word order. Recall that only ASK selects C<sub>[+aff]</sub>. Other predicates, including ASSERT, select C<sub>[-aff]</sub>. The full structure of (28) is given in (30).

(30) [B ASK [<sub>CP</sub> WH ASSERT<sup>+</sup>∅<sub>[+aff]</sub> [A t<sub>ASSERT</sub> [<sub>CP</sub> ∅<sub>[-aff]</sub> [<sub>TP</sub> John is veg.]]]]]]

As we can see, the C head under ASSERT is ∅<sub>[-aff]</sub>, which does not trigger head movement from its complement. The C head under ASK is ∅<sub>[+aff]</sub>, which does trigger head movement from its complement. Consequently, ASSERT raises, adjoining to ∅<sub>[+aff]</sub>. However, this operation has no phonological consequence, as ASSERT is silent. The end result is a sentence whose word order is identical to that of a declarative.

My account, as it were, predicts that declarative questions cannot be questioned. However, it does not say we cannot react to a declarative question as if it had been a normal polar question. It is not uncommon to “reanalyze” some preceding utterances in order to continue the discourse the way we want to. Consider (31).

(31) A: Have you stopped smoking?  
B: I have never smoked.

Semantically, B’s utterance does not answer A’s question but another one, namely *have you ever smoked?*. Now consider the exchange in (32).

(32) A<sub>1</sub>: John is looking for a vegetarian restaurant.  
B<sub>1</sub>: John is vegetarian?  
A<sub>2</sub>: Is John vegetarian?  
B<sub>2</sub>: Yes. That’s what I asked.  
A<sub>3</sub>: No he’s not. But his wife is.

My intuition, and also that of English speakers I have consulted, is that (32)-A<sub>2</sub> is much better than (26)-A<sub>2</sub>. What happens in (32), I propose, is that A reacts to B’s declarative question as if it is the question *is John vegetarian?*. Note that (32) feels almost as smooth as (26). This, I believe, is due to the closeness in pragmatic meaning between a declarative question and its non-declarative counterpart.<sup>7</sup>

<sup>7</sup> A reviewer pointed out to me that in Czech, a declarative question can be “questioned” by an embedded *whether*-question. Given that repetitive questions are formulated as embedded *whether*-questions in Czech (see note 3), this fact would fall under the phenomenon I am describing here: the speaker reacts to a declarative question as if it had been a non-declarative polar question.

## 5. Conclusion and Future Research

I have argued in favor of the Performative Hypothesis which states that speech acts are represented in the grammar. The argument is based on observations about iterated questions, more specifically repetitive, excursive, and declarative questions. A constraint on speech act recursion, SARC, is defended which states that speech act recursion is limited to at most two levels.

Issues remain for future research. One pertains to the following data point.

- (33) A<sub>1</sub>: Did John smoke?  
 B<sub>1</sub>: When?  
 A<sub>2</sub>: When?  
 “Are you<sub>B</sub> asking which time x is such that I<sub>A</sub> am asking whether John smoked at the time x?”  
 B<sub>2</sub>: Yes. When?  
 A<sub>3</sub>: Yesterday.  
 B<sub>3</sub>: No. He did not smoke yesterday.

The question in (33)-A<sub>2</sub>, spoken with the so-called “incredulity” contour, seems acceptable under the indicated reading. But note that this reading, assuming PH, would require the logical form in (34), which contains three levels of speech act recursion.

- (34) [A ASK [WH [B ASK [when [A ASK [WH did [John *t*<sub>did</sub> smoke *t*<sub>when</sub>]]]]]]]]]

The question here is, then, what distinguishes (33)-A<sub>2</sub> from (18)-A<sub>2</sub> on the one hand and from (22)-A<sub>2</sub> on the other. The pattern we find is (35).

- |         |  |                     |
|---------|--|---------------------|
| (35) a. | * <del>WHETHER</del> ... <del>WHETHER</del> ... <del>WHETHER</del> S | (18)-A <sub>2</sub> |
| b.      | *where ... <del>when</del> ... <del>WHETHER</del> S                  | (22)-A <sub>2</sub> |
| c.      | <del>WHETHER</del> ... when ... <del>WHETHER</del> S                 | (31)-A <sub>2</sub> |

This means SARC is not the end of the story. It has to be refined or replaced.

Another issue, of course, is how to derive SARC. Syntax does not count. A constraint on the number of embedding levels, therefore, seems very counterintuitive. One possible explanation for the limit imposed by SARC is that what we have been calling “levels of speech act recursion” actually involve ontologically different objects. Specifically, the first level, i.e. that which is right above TP, seems to be “grammatical”, in the sense that it is really present in the syntactic tree. This is the level that has syntactic and morphological reflexes which are often detectable in the auditory signal. The level above that is, perhaps, one of genuine speech act. It describes how the sentence is used, but is really not part of the syntactic representation. There is then no third level, because we can use a sentence but we cannot use the use of a sentence. It remains, of course, to work out and develop this vague idea.

## Funding Acknowledgement

This work is supported by the ERC Advanced Grant “Speech Acts in Grammar and Discourse” (SPAGAD), ERC-2007-ADG 787929.

## Works Cited

- Austin, John. 1962. *How to Do Things with Words*. Oxford: Clarendon Press.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge: MIT Press.
- Fox, Danny. 2003. "On Logical Form." In *Minimalist Syntax*, edited by Randall Hendrick, 82–123. Malden: Blackwell.
- Gazdar, Gerald. 1979. *Pragmatics: Implicature, Presupposition and Logical Form*. New York: Academic Press.
- Gunlogson, Christine. 2002. "Declarative Questions." *Proceedings of SALT 12*: 144–163.
- Gunlogson, Christine. 2003. *True to Form: Rising and Falling Declaratives as Questions in English*. New York: Routledge.
- Haegeman, Liliane, and Barbara Ürögdi. 2010. "Referential CPs and DPs: An Operator Movement Account." *Theoretical Linguistics* 36: 111–152.
- Katz, Jerold, and Paul Postal. 1964. *An Integrated Theory of Linguistic Descriptions*. Cambridge: MIT Press.
- Krifka, Manfred. 2017. "Negated Polarity Questions as Denegations of Assertions." In *Contrastiveness in Information Structure, Alternatives and Scalar Implicatures*, edited by Chungmin Lee, Ferenc Kiefer, and Manfred Krifka, 359–398. Cham: Springer.
- Krifka, Manfred. 2021. "Layers of Assertive Clauses: Propositions, Judgements, Commitments, Acts." In *Propositionale Argumente im Sprachvergleich: Theorie und Empirie*, edited by Jutta Hartman and Angelika Wöllstein, 1–46. Tübingen: Gunter Narr Verlag.
- Levinson, Stephen C. 1983. *Pragmatics*. Cambridge: Cambridge University Press.
- Lakoff, George. 1970. "Linguistics and Natural Logic." *Synthese* 22: 151–271.
- Pesetsky, David, and Esther Torrego. 2001. "T-to-C Movement: Causes and Consequences." In *Ken Hale: A Life in Language*, edited by Michael Kenstowicz, 355–426. Cambridge: MIT Press.
- Ross, John. 1970. "On Declarative Sentences." In *Readings in English Transformational Grammar*, edited by Roderick Jacobs and Peter Rosenbaum, 222–272. Waltham: Ginn and Company.
- Searle, John. 1969. *Speech Acts: An Essay in the Philosophy of Language*. Cambridge: Cambridge University Press.
- Stenius, Erik. 1967. "Mood and Language Games." *Synthese* 17: 254–274.
- Trinh, Tue, and Itai Bassi. 2023. "Excursive Questions." *Open Linguistics* 9: 20220232.
- Trinh, Tue, and Luka Crnic. 2011. "The Rise and Fall of Declaratives." *Proceedings of Sinn und Bedeutung* 15: 645–660.
- Truckenbrodt, Hubert. 2006. "On the Semantic Motivation of Syntactic Verb Movement." *Theoretical Linguistics* 32: 257–306.