

Information packaging in questions

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1 Introduction

Linguists who study information structure often use questions as a way of setting the context so that it elicits a particular focus-ground partitioning in the answer. But few researchers have looked into the way the questions themselves are structured.¹ In this article I will discuss some common ways that questions are realized in spoken interaction in English, French, German and Swedish. It turns out that the way questions are realized is rather systematically correlated with the speaker's view of what the hearer might know and what has happened so far in the conversation.

Let me first establish some terminology. By *information structure* I understand the structuring of utterances into a *focal* (new, informative, rhematic) part and a *ground* (known, contextually bound, thematic) part. This structuring reflects the speaker's view of the hearer's *information state* at the time of the utterance. By *information packaging* I understand the way this structuring is realised by syntactic, morphological, and/or prosodic means (cf Vallduví and Engdahl, 1996).

In section 2, I illustrate how question-answer pairs are commonly used to establish the focus of an utterance. In section 3, I introduce a model of a dialogue participant's information state inspired by Ginzburg (to appear). With this formal apparatus we turn in section 4 to a survey of the information packaging of information questions, i.e. requests for information. In section 5 I look closer at questions that arise when a dialogue participant has failed to understand a previous utterance. Finally, in section 6, I bring up some examples of declaratives used as questions.

2 Using question-answer pairs to establish information structure

It is common to use lead-in questions to establish the expected information structure of the answer. This way we can exploit the fact that speakers have strong and consistent intuitions about the form of congruent answers. For instance, given A's question in (1), in which the object of John's reading is queried, an appropriate answer is normally realised as in B1, with the main accent on the object, which in this context un-

*I thank Marie-Rose Blomgren for assistance with French data, Robin Cooper for helpful comments on an earlier draft of this paper and the audience at CSSP 6 for challenging questions. I am particularly grateful to Claire Beyssade for helpful suggestions.

¹See e.g. Lambrecht and Michaelis (1998).

questionably is focal. The rest of the utterance is unstressed. A short answer consisting just of the focal part, as in B2, is probably the most common way of answering such a question.

- (1) A: What did John read?
 B1: He read the NEWSPAPER.
 B2: the NEWSPAPER
 B3: *He READ the newspaper.

If the answer instead is realised with an accent on the verb, which in this context is ground, as in B3, the effect is one of a non-sequitur. The information packaging of B3 makes *read* be focal and that is not possible given A's question. Similarly in (2), where the lead-in question paves the way for a subject-focus answer, only B1 is a possible answer.

- (2) A: Who read the newspaper?
 B1: JOHN (did).
 B2: *John DID / READ it.

Accenting the verb is of course expected if the lead-in question makes this focal, as in (3).

- (3) A: What did John do to the newspaper?
 B1: He BURNT it.
 B2: *JOHN burnt it.

When an explicit question is raised, as in (1–3), a coherent answer must have a matching focus-ground articulation. The question thus provides a contextual cue to the information structure of the answer. But what about utterances that are not answers to explicit questions? I believe that the most promising approach is to assume that they, too, address an implicit question, an issue that has been raised in the conversation by a previous utterance. Before pursuing this further, we need to consider a way of talking about what the focus-ground articulation is supposed to match.

3 Information states and focus-ground in dialogue

In order to give a satisfactory account of the information structure of an utterance, we need to be able to specify the context in which the utterance is perceived as coherent. By context I mean in particular the mental states of the dialogue participants, i.e. their intentions and beliefs.² Of course, we can never have access to the actual, complete content of speakers' and hearers' mental states, but I think it *is* possible to state certain conditions on what these mental states must contain. For this purpose I will talk about *information states*. We can think of an information state as a snapshot of a person's mental state at a given time in a conversation. The idea is that when a speaker

²The term mental state is used e.g. by Herbert Clark (1992, 1996).

produces an utterance with a particular focus-ground articulation, this provides information about the speaker's information state, what s/he knows and what s/he wants to achieve at that point in the conversation. Once an utterance has been made, it affects the hearer's information state in ways that are at least partly predictable, given the knowledge of the language and the systematic way focus-ground is realised. I think that the most explicit account of the interaction between information states and utterances is the Dialogue Game Board developed by Jonathan Ginzburg (1996; to appear). A somewhat modified version is used in the GoDis system (Larsson, 2002). In (4), I give a schematic representation of what an information state may contain, following Engdahl (2001) and Larsson (2002).

(4) A dialogue participant's information state:

PRIVATE	<table style="border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">BELIEFS</td> <td style="padding: 2px 10px;"><i>set of propositions</i></td> </tr> <tr> <td style="padding: 2px 10px;">QUD</td> <td style="padding: 2px 10px;"><i>partially ordered set of questions</i></td> </tr> </table>	BELIEFS	<i>set of propositions</i>	QUD	<i>partially ordered set of questions</i>		
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SHARED	<table style="border-collapse: collapse;"> <tr> <td style="padding: 2px 10px;">BELIEFS</td> <td style="padding: 2px 10px;"><i>set of propositions</i></td> </tr> <tr> <td style="padding: 2px 10px;">QUD</td> <td style="padding: 2px 10px;"><i>partially ordered set of questions</i></td> </tr> <tr> <td style="padding: 2px 10px;">LATEST-MOVE</td> <td style="padding: 2px 10px;"><i>move</i></td> </tr> </table>	BELIEFS	<i>set of propositions</i>	QUD	<i>partially ordered set of questions</i>	LATEST-MOVE	<i>move</i>
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LATEST-MOVE	<i>move</i>						

The information state is divided into two parts. PRIVATE contains the dialogue participant's private beliefs, including what the dialogue participant thinks has been achieved so far in the conversation. SHARED corresponds to what is sometimes called the *common ground*, i.e. the information that has been jointly established during the conversation, including any issues that have been raised. Each part contains a set of BELIEFS as well as an ordered set of issues that have been raised and which I will refer to as questions under discussion, QUD, following Ginzburg.³ A short description of QUD and the relevant operations are given in (5).

(5) **Question under discussion (QUD)** (adapted from Ginzburg, 1996, to appear):

- a. **QUD:** A partially ordered set that specifies the currently discussable issues. If a question q is maximal in QUD, it is permissible to provide any information specific to q using (optionally) a short answer.
- b. **QUD update:** Put any question that arises from an utterance on QUD.
- c. **QUD downdate:** When an answer a is uttered, remove all questions resolved by a from QUD.

In the model in (4), there are two QUDs, one in the part of the information state which reflects the dialogue participant's private understanding of what the conversation is about and one in the part of the information state which reflects the shared picture of what is up for discussion. When the conversation runs smoothly, the contents on these two QUDs will be very similar. If an issue is present only in one dialogue participant's private QUD, this is often noticeable since the participants start making requests for clarification (see the discussion of reprise questions in section 5).

³The term 'question under discussion' is also used in Roberts (1996). Ericsson (2005, chapter 3) traces the development of ideas concerning QUD.

Let us see how this approach works. When the English speaking dialogue participant A utters a question as in (6), the shared QUD is updated with a representation of that question. I here use a simplified semantic notation, prefixing the question with '?'. The addressee B might be able to provide a resolving answer, in which case the question can be removed from QUD.

- (6) A: Does Mary like Paris?
QUD update: → QUD = ⟨?like(m,p)⟩
 B: Yes.
QUD downdate: → QUD = ⟨⟩
 A: Uh huh. → BELIEFS = {like(m,p)}

Often the person asking the question confirms that s/he has accepted the information provided by the other dialogue participant, as when A carries on with a short *uh huh* in (6). A thereby indicates that she has accepted the information and added the proposition *Mary likes Paris* to the set of shared beliefs. It then becomes part of the common ground; it becomes *grounded*, to use Clark and Schaefer's (1989) term.⁴

Let us next look at the way an assertion affects the information state. An assertion also introduces an issue on QUD, viz. the corresponding question, as shown in (7).

- (7) A: It's cold here.
QUD update: → QUD = ⟨?cold(here)⟩
 B1: Yes.
QUD downdate: → QUD = ⟨⟩
 B2: Do you think so?
QUD update: → QUD = ⟨?think(you, cold(here)), ?cold(here)⟩

Here B is shown to have a choice between agreeing with A (*Yes*), in which case the issue gets removed from QUD, and pursuing this issue further (*Do you think so?*). The latter option introduces a further issue on QUD, which must be addressed.⁵

An important assumption in Ginzburg's work is that QUD provides the right locus to account for the focus-ground articulation of utterances. In brief, an utterance with a particular focus-ground articulation is appropriate just in case the dialogue participants' shared QUD contains a question, viz. the question you get if you abstract over the focally accented part of the utterance. We can summarize this as in (8).

- (8) An utterance with a given focus-ground partition requires for its felicity the maximality in QUD of a certain question, obtained by λ -abstracting over the content corresponding to the focussed constituent(s).

This means that items on QUD are structured propositions.⁶ In order for an utterance to be perceived as congruent, its focus-ground realisation must match this structured

⁴See also Clark (1996) and Larsson (2002, chapter 3). Within Conversation Analysis, turns like A's *uh huh* are called *acknowledgment tokens* and indicate receipt of the content of the preceding turn (Jefferson, 1983).

⁵In Ginzburg's terminology, the topmost issue on QUD, takes conversational precedence. For more detailed discussions and examples of QUD operations, see Ginzburg (to appear).

⁶Structured propositions are used by several researchers, e.g. Jackendoff (1972); von Stechow (1981); Krifka (1992).

proposition. An utterance with an accented direct object as in (9) is thus appropriate if the question *What did John read?* is an addressable issue, which in turn means that this question is on the shared QUD of the dialogue participants.

- (9) John read the NEWSPAPER.
 QUD = $\langle ?\lambda x.\text{read}(j, x) \rangle$ (*What did John read?*)

Because of so-called focus projection, the utterance in (9) would also be appropriate in a context where the issue is *What did John do?*, i.e. a VP question about John's activities at the relevant time. In that case the question on QUD might be structured as in (10), where P is a variable over properties of individuals.

- (10) John read the NEWSPAPER.
 QUD = $\langle ?\lambda P.P(j) \rangle$ (*What did John do?*)

The reason we hardly ever perceive the potential ambiguity between the narrow focus interpretation of (9) and the wide focus interpretation of (10) is that normally only one of the questions will be addressable at a given point in a conversation and this then determines the appropriate reading.

In a similar way, an utterance with an accented subject, as in (11) will only be appropriate if the issue *Who read the newspaper?* is addressable at that point in the conversation.

- (11) JOHN read the newspaper.
 QUD = $\langle ?\lambda x.\text{read}(x, \text{paper}) \rangle$ (*Who read the newspaper?*)

Requiring that the focus-ground realization of an utterance correspond to an addressable question on QUD doesn't mean that this question has to have exactly the form of its English paraphrase or involve the lexical items used in the paraphrase. But I do think that the amount of structure that is reflected by the lambda abstraction is available and corresponds to speakers' intuitions about what is a coherent contribution and what is not at a given point in a conversation.

Let us now go one step further and look at how speakers can exploit this correspondence between the form of utterances and the availability of issues on QUD. If a speaker realises an utterance with a clear narrow focus—either by accenting a word or by e.g. using a cleft construction—then s/he talks as if the matching question is addressable, i.e. s/he presupposes that the question is on QUD. We can express this as in (12), and illustrate it by the example in (13).

- (12) **Focal question presupposition:**
 If an utterance u has narrow focus over x , u (focally) presupposes a question obtained by abstracting x over (the content of) u .
- (13) Did JOHN read the newspaper?
 QUD = $\langle ?\lambda x.\text{read}(x, \text{paper}) \rangle$ (*Who read the newspaper?*)

QUD update: \rightarrow QUD = $\langle ?\text{read}(j, \text{paper}), ?\lambda x.\text{read}(x, \text{paper}) \rangle$
 (*Was it John that read the newspaper?*)

Accenting the subject as in (13) conveys the presupposition that there is already a question on QUD, viz. *Who read the newspaper?*. When this is combined with the yes/no-question, the updated shared QUD will contain two questions, as shown above. The effect can also be expressed using an interrogative cleft *Was it John who read the newspaper?*

Presuppositions are useful devices, also for introducing new facts, but doing so in a way so that the hearer takes them to form the ground relative to something else. Marga Reis has captured this succinctly, as in (14) with the illustration in (15).

- (14) “A given focus-background-structure does not simply reflect what is \pm known or \pm given information, but it presents it as such.” (Reis, 1999)
- (15) Hast DU die Kaffeemaschine angelassen? (Reis, 1999, (24))
 have you the coffee machine left-on
 ‘Was it YOU who left the coffee machine on?’

Reis comments that if she were asked the question in (15), upon arrival at work one day, she would be justified in assuming that someone had left the coffee machine on the previous evening. The accented pronoun *du* must be understood as being a narrow focus, and this renders the rest of the question as ground, i.e. as providing information that is, or should be taken as, already known. Presenting new information as if it were already known is very common, both in written and spoken language. In fact, the practice is so common that it deserves a name and I will refer to this as *focal question accommodation* as in (16).⁷

- (16) **Focal question accommodation:**
 When an utterance *u* occurs which focally presupposes a question *q* not top-most on QUD, add *q* to QUD.

Before hearing the question in (15), Reis presumably had no issue relating to the coffee machine on QUD. But after hearing the question, she updates QUD not only with the yes/no-question but also with the accommodated focal question, as shown in (17).

- (17) Hast DU die Kaffeemaschine angelassen?
QUD update: \rightarrow QUD = $\langle ?\text{leave.on}(\text{you}, \text{c.machine}), ?\lambda x.\text{leave-on}(x, \text{c.machine}) \rangle$
 (*Was it you who left the coffee machine on?*)

We have now introduced enough terminological distinctions and formal apparatus to start looking at the information packaging of different types of questions. I will primarily look at the positioning of interrogative phrases and whether or not they are accented.

4 Information questions

Let us first look at utterances which are formed as requests for information. I will refer to them as *information questions*. Consider the English dialogue in (18).

⁷The term *question accommodation* was used in the TRINDI project, see Cooper et al. (2000); Engdahl et al. (2000); Larsson (2002).

- (18) A: Mary is going to PARIS.
 B1: Who is she going to VISIT?
 B2: # She is going to visit WHO?

After A's initial statement, B might follow up with a question realised as B1 with an initial, unaccented wh-word and where the main accent falls on the verb. The option of leaving the wh-word *in situ*, illustrated by B2, is not appropriate in this context. In French, on the other hand, both options for realising information questions are used.⁸

- (19) A: Marie va à PARIS.
 Marie goes to Paris
 B1: Qui est-ce qu' elle va voir ? *fronting + cleft*
 who EST-CE QUE she FUT see
 "Who is she going to visit?"
 B2: Elle va voir QUI ? *in situ*
 she FUT see who

The realisation in B2 involves leaving the wh-word *in situ* where it is accented, as expected at the end of the core clause. The choice between the fronted question B1 and the *in situ* question B2 depends on a variety of factors. In a recent investigation Myers (2005) found 29% *in situ* interrogatives in the Barnes-Blyth corpus of spoken French which represents a variety of registers. The most common ways of asking a direct question with a wh-word and a pronominal subject are illustrated in (20). The three types occurred with equal frequency in the corpus.

- (20) a. Où tu vas ? *fronting*
 where you go
 "Where are you going?"
 b. Où est-ce que tu vas ? *fronting + cleft*
 where EST-CE QUE you go
 c. Tu vas OÙ ? *in situ*
 you go where

Myers has an interesting discussion of which discourse conditions favour the *in situ* option and proposes that they are used primarily when the dialogue participant uttering the question has strong reasons to believe that the addressee will be able to supply the answer.⁹ Mathieu (2004) also concludes that the choice between fronting an interrogative phrase or leaving it *in situ* is determined by discourse factors rather than syntax. Mathieu also claims that *in situ* interrogatives are subject to certain syntactic and semantic constraints. He assumes that *in situ* interrogatives involve a phonologically null operator which raises to a clause initial position. This movement is blocked by

⁸Fronted questions may also be realised with clitic inversion, as in (i) or without inversion as in (ii).

- (i) Qui va-t-elle voir?
 (ii) Qui elle va voir?

⁹In terms of the information state model in (4), one could say that French speakers choose the *in situ* option when they believe that the answer is in the addressee's set of BELIEFS.

intervening scopal elements such as negation. According to Mathieu, an *in situ* question becomes ungrammatical in the presence of an intervening negation, compare his examples in (21a) and (21b). Moving the interrogative operator together with an overt wh-phrase is, on the contrary, not blocked by the intervening negation as shown by (21c).

- (21) a. Tu vois qui ce soir ? (Mathieu's (1a))
 you see who this evening
 "Who are you seeing tonight?"
- b. * Il ne voit pas qui ? (Mathieu's (4a))
 he NE sees not who
- c. Qui est-ce qu' il ne voit pas ? (Mathieu's (4a))
 who is-this that he NE sees not
 "Who doesn't he see?"

Admittedly (21b) is a pretty strange question. However, I think the reason that it sounds strange is primarily due to the fact that negative questions require special discourse conditions.¹⁰ A positive question like in (22a) can be used on many occasions, but the negated versions in (22b,c) seem to require that there is an addressable issue concerning the non-seeing of certain people, i.e. the negative proposition has to be part of the dialogue participants' ground.

- (22) a. Who are you seeing tonight?
 b. Who aren't you seeing tonight?
 c. Who are you not seeing tonight?

If this is correct, we would expect negated *in situ* questions in French to sound more natural if the context makes the negative form appropriate and this seems indeed to be the case. Consider the following exchange. A has just complained that her children are rather picky about what they eat.

- (23) A: Mon fils ne mange pas de POISSON.
 my son NE eats not fish
 "My son doesn't eat fish."
- B: Et ta fille, elle ne mange pas QUOI ?
 and your daughter, she NE eats not what
 "What about your daughter? What doesn't she eat?"

As we have seen, information questions in French can be realised both with fronting of the wh-phrase and without. Contrary to English, French uses *in situ* questions as

¹⁰Negative yes/no-questions, on the other hand, are very common and are often used as a way of facilitating a negative reply (cf. Brown and Levinson, 1987). (i) is considered a polite way of asking a question to which the asker expects a negative reply.

(i) Don't you want to come? –No.

In Conversation Analysis, it is generally assumed that *no* is a dispreferred response. By forming the question negatively, a negative response will align with the polarity of the question and thus be perceived as partly agreeing with the asker.

regular information questions, albeit under certain discourse conditions, as Mathieu (2004) and Myers (2005) have suggested. Further research is needed in order to pinpoint these discourse conditions.

I mentioned in connection with example (18) that initial *wh*-phrases in English are normally not accented. However, it is possible to accent an initial *wh*-phrase, but only in certain uses. Consider the dialogue in (24). A, B and C have been discussing a possible trip to Edinburgh. B and C are side tracked.

- (24) A: So *WHEN* are we going to Edinburgh?
 A1: # So, when are we going to *EDINBURGH*?

When A stresses the initial *when*, she conveys that the issue she is introducing is one that has already been raised in the conversation, but not been resolved. Accenting an initial *wh*-phrase in English thus may have the effect of making an issue prominent on QUD in a way that simultaneously signals that the issue is not altogether new to the dialogue participants. If A had realised the question as A1 in the same context, her utterance would have been perceived as incoherent. B and C might have concluded that A had not been paying attention to the previous conversation.

The example in (24) shows that speakers may modify the realisation of questions in subtle ways to make them fit in with the current stage of the conversation and the information states of the dialogue participants. Furthermore it seems clear that dialogue participants keep track of previous issues. We will now look at another example showing that the way a question is realised may exploit the previous turns of the conversation. Ericsson (2005) carried out a corpus study of elliptical utterances in English, French and Swedish. She found a number of instances of very short questions, as in (25).¹¹

- (25) A: Ta mère va bien ?
 your mother is fine
 B: Oui.
 Yes
 A1: Et ton père ?
 And your father
 A2: # Ton père ?

A starts off the conversation by asking if B's mother is fine (using a declarative question, see section 6). After B's positive reply, A asks the same question, as it were, about B's father. But she manages to ask this question without uttering it. Instead it seems that she reuses the previously raised question, replacing B's mother with B's father. Notice that the follow-on question in A1 is introduced by the conjunction *et*. A2 without *et* is less natural. Let us follow what happens to A and B's shared QUD.

¹¹(25) is a simplified version of one of Ericsson's examples (Ericsson, 2005, 232). My analysis differs slightly from hers.

- (26) A: Ta mère va bien ?
QUD update: → QUD = ⟨?be-fine(mother-of-b)⟩
 B: Oui.
QUD downdate: → QUD = ⟨⟩
 A1: Et ton père ?
A's LATEST MOVE: QUEST[QUD = ⟨?be-fine(x) ∧ x = mother-of-b⟩]
QUD update: → QUD = ⟨?be-fine(x) ∧ x = father-of-b⟩

After A's first question, QUD is updated with the issue under discussion. We have previously assumed that an affirmative reply leads to a downdate of QUD, and the removal of the issue. However, as we saw in the previous example, issues on QUD seem to remain available to the dialogue participants for a longer time. In (26), both A and B presumably have access to the previous utterances, e.g. A's LATEST-MOVE, as shown under A1. The minimal QUD update prompted by A1 is then the same question as in the previous move, replacing 'mother' with 'father' (I have structured the content of the issue so as to bring out the parallelism between the two questions). I take the existence and context dependent resolution of short questions as in (25) as further evidence that we need to refer to something like information states with shared QUDs in order to account for the ways questions are framed and interpreted in actual conversations.

5 Reprise questions

Although questions with the wh-phrase left *in situ* are not normally used as information questions in English, such questions frequently occur, for instance in contexts such as the one given in (27).

- (27) A: Mary is going to visit [*inaudible*] tomorrow.
 B: Mary is going to visit WHO?

B did not catch part of A's utterance and rephrases it with an accented wh-phrase in place of the unintelligible part. Such questions are often referred to as *echo questions*. However, they are also used when a dialogue participant requests more information about a previously introduced referent whose identity has not been sufficiently established.

- (28) A: Mary is going to visit them.
 B: Mary is going to visit WHO?

Bolinger (1978) suggests the term *reprise question* for both these uses and I will adopt this term here (see also Ginzburg and Sag, 2000). A reprise question is a 'replay' of (part of) a previous utterance. The reference to the previous utterance in fact is an essential ingredient in the analysis developed in Ginzburg and Sag (2000, 256ff), which I here follow. Let us look closer at what is going on in A's and B's information states when they carry out the exchange in (27). Let us assume that A knows that Mary is going to visit Sally.

- (29) A: Mary is going to visit [*inaudible*] tomorrow.
A's QUD update: → QUD = ⟨?visit(m, s)⟩
B's QUD update: fails
 B: Mary is going to visit WHO?
Shared QUD update: → QUD = ⟨?λx.assert(a, visit(m, x))⟩
 ≈ “Who did you assert (just now) that Mary is going to visit?”

When A makes her statement about Mary's impending visit, she puts this issue on her QUD, awaiting some kind for acceptance from B. B, who did not catch the name, cannot update her QUD, or can only do so in an incomplete way. Recognizing that she is unable to update QUD, B utters her reprise question, which then becomes the topmost issue on QUD. Note that this issue contains a direct referenced to the previous assertion by A, as shown also in the paraphrase in (29). The previous move need not be an assertion. It could be a command as in the following example from Ginzburg and Sag (2000, 259).

- (30) A: Go home, Bob!
 B: Go WHERE?
QUD update: → QUD = ⟨?λx.order(a, b, go(b, x))⟩
 ≈ “Where did you order me (just now) to go?”

A reprise question thus differs from an information question in always containing a reference to the previous move. In English, reprise questions normally involve accented wh-phrases *in situ* with a noticeable rising intonation.

It is instructive to look at how reprise questions are realised in German, in particular questions involving bimorphemic wh-words such as *wohin* (whereto) and *warum* (why).¹² When such a wh-word is used in an information question, the word accent always falls on the adverbial, non-wh part of the word, marked here with ´ before the accented syllable.

- (31) a. Wo´hin ist KARL gefahren? *information question*
 where did Karl go
 b. #´Wohin is KARL gefahren?

In a context where (31) is used as an information question, only *wo´hin* as in (31a) is possible. The realisation in (31b), *´wohin*, is inappropriate. On the other hand, in a context which calls for a reprise question, only *´wohin* is appropriate. Just as in English reprise questions, the main accent falls on the wh-word *in situ*.

- (32) A: Karl ist eben nach [*inaudible*] gefahren.
 “Karl has just gone to...”
 B1: Er ist ´wohin gefahren? *in situ reprise question*
 B2: *Er ist wo´HIN gefahren?
 B3: ´Wohin ist er gefahren? *fronted reprise question*
 ≈ “Where did you assert (just now) that Karl was going?”

Assuming that B did not catch all of A's statement, B1 is an appropriate utterance. B2, with the ordinary accenting pattern *wo´hin*, would not be not appropriate here. In German the distinction between information questions and reprise questions is reflected

¹²Most of the German examples in this article are taken from Reis (1992, 1999).

in the word accenting patterns and this is probably a stronger diagnostic than the positioning of the *wh*-phrase. In German, reprise questions optionally involve fronting of the *wh*-phrase, shown as B3, with the reprise accent. Fronting is also possible in Swedish reprise questions (see Engdahl, 2001, for additional discussion).

In French, as we have seen, the *in situ* strategy can be used to express information questions. But *wh in situ* is used in reprise questions as well, as shown below.

- (33) A: Ton fils, il lit QUOI ? *information question*
 your son he reads what
 B: Des bandes dessinées.
 comics
- (34) A: Mon fils, il lit [inaudible]
 your son he reads
 B: Il lit QUOI ? *reprise question*
 he reads what

Almost always the context will determine whether a particular utterance is an information question or a reprise. But there is probably a small difference in the way the two types are realised as well. To my ears, there is a perceptible difference in the ways the information question in (33) and the reprise question in (34) are realised. In both utterances, the *wh*-phrase is accented but the reprise use tends to be somewhat lengthened, with a clearly noticeable rising intonation.

Interestingly if you add a focalising adverb, as in (35a), only the reprise interpretation is available. In order to express this as an information question, you have to resort to a different construction, for instance as in (35b).

- (35) a. Il lit seulement QUOI ? *only reprise*
 he reads only what
 b. La seule chose qu'il lise, c' est QUOI ?
 the only thing he reads it is what
 "What is the only thing that he reads?"

The observation that focus sensitive adverbs don't modify *wh*-phrases in information questions applies to English as well. Whereas *only* can associate with an accented direct object as shown in (36a), it is not possible to get the corresponding interpretation for the question in (36b)

- (36) a. John only read WAR AND PEACE, not ANNA KARENINA.
 b. Which book did John only read?
 c. Which is the only book that John read?

Instead (36b) tends to be interpreted with narrow focus on the verb, *Which book did John only READ, as opposed to REVIEW?* In order to convey the reading where *only* associates with the questioned object, you have to use a cleft construction, just like in French. I will not pursue this topic further here, since it applies not only to questions but to relative clauses and topicalised sentences as well, i.e. constructions that involve syntactic fronting (Engdahl, 2006). The French example in (35a) is particularly interesting in that it shows that the restriction that focus sensitive adverbs don't modify *wh*-phrases applies also to information questions where the *wh*-phrase is left *in situ*.

Literal reprises and reprises of questions

After having looked at reprise questions with *wh*-words *in situ*, we now turn to other kinds of reprises. It is in fact quite common for dialogue participants to repeat all or part of a previous utterance. By doing so, the speaker can express incredulity and/or request confirmation that s/he has correctly understood the intended meaning. I here adopt Ginzburg & Sag's term *literal reprise* for such repetitive utterances.

- (37) A: We had snow in October. (\)
 B: You had snow in October? (/) *literal reprise*
 ≈ "Did you assert (just now) that you had snow in October?"

Notice that whereas A's utterance is rendered with a falling intonation (here indicated by \), B's reprise has rising intonation (/). Despite the name, literal reprises involve a certain amount of adaptation. For instance, deictic pronouns are shifted; 'we' in A's utterance becomes 'you' in B's reprise. Just as in the case of the reprise questions discussed above, the analysis refers to the previous utterance. Additional evidence that this is a correct analysis comes from looking at literal reprises of questions in Germanic languages.

- (38) A: Hat Karl Peter gekündigt? (German, Reis, 1992)
 has Karl fired Peter
 B: Ob er Peter gekündigt hat? *reprise of y/n question*
 if he Peter fired has
 ≈ "Did you just ask if he has fired Peter?"

In (38), A utters a yes/no question. B wants to make sure that she has understood the question correctly. Note the presence of the complementizer *ob* (if) and the verb final word order which is characteristic of subordinate clauses in German. These two properties strongly suggest that B is repeating the question as an embedded structure. The embedding clause is not realised, but it seems plausible that the issue that B brings up corresponds closely to the paraphrase. In Swedish, sentential adverbs are placed after the finite verb in main clauses but preceding the finite verb in subordinate clauses.

- (39) A: När är du säkrast hemma? (Swedish)
 when are you most-likely at-home
 B: När jag säkrast är hemma? *reprise of wh-question*
 when I most-likely am at-home
 ≈ "Did you just ask when I am most likely to be at home?"

In A's direct question, the finite verb *är* precedes the adverb *säkrast*. In B's reprise, the adverb precedes the verb, which is a strong indication that B is using a subordinate structure, motivated by the implicit reference to the preceding speech act.

The Romance languages display a more mixed pattern. French reprises of yes/no-questions require the complementizer *si* (if), as shown in (40), whereas reprises of *wh*-questions can be realised either as embedded questions (41:B1) or direct questions (41:B2).¹³

¹³These examples come from Claire Beyssade. More research is needed in order to find out whether the choice between direct and subordinate clause word order correlates with a difference in informa-

- (40) A: As- tu vu Marie? (French)
 have you seen Marie
 B: Si j'ai vu Marie? *reprise of yes/no q.*
 if I have seen Marie
- (41) A: Quand vas- tu partir?
 when will you leave
 B1: Quand je vais partir? *reprise of wh-question*
 when I will leave
 B2: Quand vais-je partir?
 when will-I leave

In English, reprises of questions are typically formed as direct questions. This goes for both yes/no-questions, as in (42), and wh-questions, as in (43).

- (42) A: Have you seen Mary?
 B1: Have I seen Mary? *reprise of yes/no q.*
 B2: # If I have seen Mary?
- (43) A: When are you leaving?
 B1: When am I leaving? *reprise of wh-question*
 B2: # When I am leaving?

Using a subordinate structure, as in B2's utterances, is not standard. It appears that the way reprise questions are realised is conventionalised in different ways in different languages.

In this section we have seen that whereas information questions introduce issues on QUD, reprise questions raise questions about a preceding utterance. They typically involve an accented wh-phrase *in situ*. This realization may also be used in special circumstances such as quiz shows.¹⁴

6 Declarative questions

So far we have mainly looked at questions which are formally recognizable as questions. By this I mean that they contain a wh-phrase, an interrogative complementizer or are verb initial (cf (38)). We have also come across one example of a declarative utterance which is interpreted as a question, *Ta mère va bien ?* in (26). In fact, it is quite common that utterances that look, and sound, like declaratives are understood as questions. In this section I will look closer at some Swedish examples.

tion states. See Beyssade and Marandin (this volume) for additional examples and discussion of French reprise questions.

¹⁴Ginzburg and Sag (2000, 280ff) also recognize a type of *in situ* wh-question which differs from reprise questions in that it does not literally repeat a previous utterance. Their example (63) is given in (i).

- (i) A: Well, anyway, I'm leaving.
 B: OK, so you'll be leaving WHEN exactly?

Reis (1999) provides similar German examples and suggests that the effect of the *in situ* wh-phrase is to connect the question to a previous discourse on the same topic, often by asking the hearer to clarify some fact that the speaker already has, or should have, in his/her BELIEFS.

- (44) a. Är du hungrig? *Y/N question*
 are you hungry
QUD update: → QUD = ⟨?hungry(you)⟩
- b. Du är hungrig. *assertion or question*
 you are hungry
QUD update: → QUD = ⟨?hungry(you)⟩

(44a) with its verb initial word order is a typical yes/no question and can only be interpreted as such. The effect of uttering (44a) is that the issue *Are you hungry?* is put on QUD. (44b) can be understood as an assertion whereby the speaker claims that the addressee is hungry, maybe because of the way s/he behaves or looks. But it can also be understood as a question whereby the speaker requests confirmation whether or not the addressee is hungry. Just as in (44a), the effect of uttering (44b) makes the issue *Are you hungry?* available for discussion. From the perspective of what are available issues on QUD, (44a) and (44b) appear to be indistinguishable (a somewhat surprising consequence which I will discuss below). Nevertheless they need to be distinguished formally. Beyssade et al. (2004) point out that while question-formed questions license polarity sensitive items, declarative questions don't. We can provide some further evidence for maintaining a distinction between formal questions and declarative questions by looking at the Swedish modal particle *ju*. The presence of *ju* conveys that (part of) the utterance is known to the addressee, or should be taken as such.¹⁵

- (45) Du är *ju* hungrig. *assertion or question*
 you are PRT hungry
 "You are hungry, of course." / "You are hungry, aren't you?"

If A utters (45) to B, it might mean that A realises that B is hungry, and that A had better start cooking. A might also utter (quarante-cinq) if A knows that B is hungry, maybe because of the way B is behaving, and tries to get B to realise that this is the case. (45) can also be understood as a request for confirmation, which in English often is expressed using a tag question. This shows that *ju* is compatible with a questioning illocutionary force. However, *ju* cannot be used in an overt question like in (46).

- (46) *Är du *ju* hungrig?
 are you PRT hungry

Consequently, we need to restrict the distribution of *ju* so that it occurs in declarative assertions and questions, but not in overt questions. It is often claimed that declarative questions are formally recognizable as questions because of the presence of rising intonation. However, when we look closer at the prosody, it turns out that it is quite common for declaratives to be interpreted as questions without any rising prosodic gesture. For instance, Gustafson-Čapková (2005), investigating to what extent ordinary speakers of Swedish make use of prosodic cues when structuring and interpreting spoken discourse, found that speakers will mark utterances as questions without any prosodic evidence. She let naïve subjects listen to recordings of dialogues and monologues, both planned and unplanned at the same time as they annotated transcripts. In one task,

¹⁵The particle *ju* is cognate with German *ja* which has similar, but not identical, uses.

the subjects had to insert punctuation marks, e.g. period and question mark, to indicate units of discourse. She was surprised at the large number of declarative utterances which were marked with a question mark even in the absence of articles like *ju* or *väl*, and without rising intonation. This was particularly common in the section of her materials which was taken from a Swedish Map Task recording where one person, called the instruction giver, tells the other person, the receiver, how to draw a path on a map with landmarks.¹⁶ In (47) I provide an excerpt from a transcript.

(47) From Swedish Map Task (Helgason, 2004)

G= Instruction giver, R= Instruction receiver

1. G: och sen fortsätter det i en mjuk eeh liten buktning
and then it continues in a soft eeh small bend
2. uppåt eeh åt åt höger innan jag fortsätter mellan
upwards eeh to to right before I continue between
3. dom här palmdungarna
these here palm groves
4. R: du går emellan dom /?/
you walk between them
5. G: ja
yes
6. R: eeh
eh
7. G: och fortsätter norrut
and continue north

On lines 1–3, the Giver is describing the way the path takes through some groves of palm trees. On line 4, the Receiver utters *du går emellan dom* (you walk between them). This seems to be a statement about what the Giver is doing, and a prosodic analysis showed falling intonation. Still many subjects took it to be a question and inserted a question mark (/?/) after line 4. The Receiver's utterance on line 4 cannot plausibly be understood as an instruction, nor is it likely that it is a description of what the Giver is doing since the Receiver can't see his map. Statements about the addressee's activities are seldom statements. Instead they serve as check questions. Is this what you are doing or intending to do? The effect of uttering line 4 might be something along the lines of (48).

- (48) 4. R: du går emellan dom /?/
you walk between them

QUD update: → QUD = ⟨?walk-between-them(you)⟩

The Receiver's statement gives rise to an issue on QUD, viz. the issue whether the Giver is walking between the palm trees. The Giver interprets this as a request for confirmation that the path indeed runs between the palm groves, as shown by his positive reply on line 5.

On the approach outlined in this paper, both overt questions and overt declaratives give rise to questions on QUD, questions that need to be resolved in the ensuing

¹⁶The Map Task experimental design was developed at the Human Communication Research Centre, Edinburgh. See Anderson et al. (1991).

conversation. It may at first seem surprising that declarative utterances should give rise to questions on QUD in the same way as questions do. But this way of looking at the dialogue participants' contributions provides a consistent account both of the dialogue participants' next turns and of the information packaging of these turns.¹⁷ As we have seen, statements about the addressee are commonly understood as requests for confirmation. Statements about the speaker, as in (49), are often followed by a further exchange before the issue is closed.

- (49) A: I'm going home now.
B: Are you?
A1: Yes.
B1: Oh, I see.

7 Concluding remarks

The information packaging of questions, just like any other utterances, reflects the information state of the speaker. We have seen that different contexts require different realizations of questions. By shifting the main accent or the position of the *wh*-phrase, the speaker puts different questions up for discussion. We have also seen that languages differ in what linguistic realization is used for which information state. *In situ* questions in French can be used for information questions but not so in English, German or Swedish. Reprises of questions in German and Swedish require subordinate clause word order but not so in English. I have here limited my investigation to some well-known and well-described European languages. In order to broaden the investigation, we need to look at different types of languages. But we need to be quite careful about the way we elicit the data and establish the facts. In order to be able to say that two linguistic realizations in two different languages are used to the same effect, we need to be able to correlate the utterances with types of contexts of use, and for this we need a model of the dialogue participants' information states. The model I have outlined and used in this article is in many respects too rudimentary, but it does bring out certain basic correspondences between information states and information structure which I think hold in all human languages.

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¹⁷But see Beyssade and Marandin (this volume) who argue that it is necessary to have a double update mechanism.

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