

# French questions alternating between a reason and a manner interpretation

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## Abstract

Speakers use reason-*comment* ‘how’ questions in French to inquire about how the situation described by the proposition that follows *comment* (the *pseudo-prejacent*) might occur or have occurred, which goes against the expectations of the speaker. In this paper, we report on a rating study whose goal was to understand the extent to which reason-*comment* questions—compared to manner-*comment* questions—are interpreted as having some questioning force or, conversely, as being rhetorical. We also test whether reason-*comment* questions express a certain degree of surprise due to the unexpectedness of the possible truth of the pseudo-prejacent, also compared to manner-*comment* questions. Results concerning the presence of surprise confirm our hypothesis that with reason-*comment* questions the speaker tries to recover from an expectation failure, while results concerning the questioning force show that reason-*comment* questions can be true questions (though questioning is not their sole function), and invalidate analyses that systematically treat them as rhetorical questions.

**Keywords:** reason questions, questioning force, surprise, expressivity, French language

## 1 Introduction: French *comment*-questions

This paper deals with properties of French wh-questions beginning with the wh-word *comment* ‘how’.<sup>1</sup> As discussed by Fleury and Tovenà (2018), these questions can be ambiguous between a reading where they ask about the manner or the means in which a certain event has taken or will take place, and a reading where they ask for the reasons of a situation that is described by the proposition conveyed, roughly speaking, by what follows *comment*, i.e. the *pseudo-prejacent* in Fleury and Tovenà’s terminology.<sup>2</sup> In the examples below, the same *comment*-

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<sup>2</sup>Fleury and Tovenà (2018) call “(pseudo) prejacent” the proposition expressed by the clause the *comment* of reason combines with, borrowing the term from the literature on modality, because it is not a propositional function like an usual question nucleus, i.e. it does not contain a gap. They qualify it as “pseudo” because they do not commit themselves to an analysis where the wh-item is a sentential operator.

question has either a manner interpretation (1a) or a reason one (1b), depending on the surrounding context.

- (1) a. [For Léon’s birthday, you and other friends are organizing a surprise party. Paul and Julie want to make the birthday cake. You say:]  
*Et comment voudriez-vous faire le gâteau? Je propose de le faire en forme de ballon de foot.*  
 ‘And how would-you to-make the cake? I suggest to make it soccer-ball-shaped.’
- b. [For Léon’s birthday, you and other friends are organizing a surprise party. Two friends, who cannot cook at all, want to make the birthday cake. You say:]  
*Mais comment voudriez-vous faire le gâteau?! Vous ne savez même pas faire cuire un œuf!*  
 ‘But how would you make the cake?! You don’t even know how to cook an egg!’

In (1a), some piece of information is missing for the speaker: she wants to know with what characteristics (for instance, what shape) her friends wish to make the cake.<sup>3</sup> The *wh*-item binds a variable of a modifier of the event predicate (the manner in the answer is expressed by the adjunct *en forme de ballon de foot* ‘soccer-ball-shaped’). Even if the gap does not concern a constituent subcategorised by the verb, the addressee knows that he has to fill this gap in order for the speaker’s questioning act to receive the appropriate response. In (1b), no variable is bound inside the clause describing the event. The description of the event is presented as complete, so the gap of the *wh*-word is to be filled with some information that is external to the intended description of the event, precisely with the reasons for the event to occur or have occurred. The question then has an interpretation similar to that of questions with the *wh*-item *pourquoi* ‘why’. The *how/why* alternation is found in a number of languages. For a view about different languages and through different theories see a.o. Collins (1991); Tsai (2008); Fleury and Tovenà (2018).

However, ‘*how*’ and ‘*why*’ questions are not exactly equivalent. First, ‘*why*’ has some meaning that is not shared with ‘*how*’, given that it can get an answer where it is provided information about the goal of the event, rather than its cause or explanation. This is not possible with a ‘*how*’-question, see (2). Note that, syntactically, both reason ‘*why*’ and reason ‘*how*’ occur in the highest layer of the structure of the sentence (Rizzi, 2001; Ko, 2005; Tsai, 2008; Fleury and Tovenà, 2019), which argues in favour of relativising the alternation (if any) to a reading of these items, not to the items themselves. Secondly, ‘*how*’ also has some meaning that is not shared with ‘*why*’, which is the manner reading.<sup>4</sup>

- (2) Q: {*Pourquoi/#Comment*} *est-il parti?*  
 why/how is-he left  
 ‘Why did he leave?’
- A: *Pour aller chercher son fils à la gare.*  
 in-order-to go look-for his son at the station  
 ‘In order to go pick up his son at the station’

A third important difference is that reason ‘*how*’ questions are pragmatically loaded. Although their specific load is not the same in the various languages, reason ‘*how*’ in general

<sup>3</sup>By convention, we will always use the feminine pronoun when talking about the speaker, and the masculine pronoun when talking about the hearer.

<sup>4</sup>The reiterated association of manner and reason readings for ‘*how*’ *wh*-items across languages deserves a separate investigation.

implies a degree of negative stance to the state of affairs by the speaker. Specifically, it can be observed that reason-*comment* questions are always biased. They differ from both ‘why’ and manner-*comment* questions, in that the reason interpretation is associated with the disconfirmation of some expectations on the part of the speaker (Fleury and Tovená, 2018). For instance, the truth of the pseudo-prejacent ‘you make the birthday cake’ in (1b) would go against the speaker’s expectations, given her knowledge about the skills of her friends.

We are aware of two proposals on the nature of this bias. The bias is qualified as rhetorical by Desmets and Gautier (2009), who follow Sadock (1971) in taking the pseudo-prejacent to be presupposed and arguing that the question does not seek information but corresponds to an underlying assertion with opposite polarity.<sup>5</sup> On the contrary, the pseudo-prejacent is not necessarily true for Fleury and Tovená (2018). According to them, the nature of the bias resides in the fact that the information sought by the question is intended to help the speaker to recompute her expectations and eliminate the logical inconsistency with the pseudo-prejacent, rather than being directly intended to be added to the common ground. The notion of ‘attributional search’ captures the function of the question at discourse level. As a matter of fact, Fleury and Tovená observe that reason-*comment* questions are potentially information-seeking questions. The speaker in (1b) does not rule out a meaningful answer: e.g. the friends could inform her that they took an intensive cook class and therefore are now perfectly capable of making a cake. Surprise results from the mismatch between her expectations and the pseudo-prejacent.

In this paper we present the results of a questionnaire that we conducted in order to characterise the interpretive dimensions of reason-*comment* questions and to better understand their differences with respect to manner-*comment* questions and, by extension, to ‘pure’ information-seeking questions in general. Section 2 introduces the two main interpretive dimensions of reason-*comment* questions, related to their questioning force and surprise colouring. In Section 3 we describe the set up of the questionnaire, which also aimed at assessing the potential variability in these questions in the two dimensions. This research is part of a larger ongoing project also involving the prosodic representation of *comment*-questions, with respect to production and perception, presented in (Brunetti et al., 2020).

## 2 The interpretive dimensions of *comment*-questions and their linguistic counterparts

In the present paper, we would like to take a nuanced view on the interpretation of reason *comment*-questions and questions in general—more in line with the observations made by Freed (1994), Halonen and Sorjonen (2012), and Ozerov (2019)—and claim that their interpretation can vary depending on a range of linguistic and contextual factors that make it impossible to clearly set apart different interpretive categories. Reason-*comment* questions display what Halonen and Sorjonen (2012) call ‘a simultaneous and intertwining existence of elements indicating a search for more information and an expression of a stance’. Their

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<sup>5</sup>Desmets and Gautier (2009) also claim—but their claim appears to be in contradiction with their assumption about the rhetorical nature of the *comment*-questions—that these questions seek information on the conditions enabling the pseudo-prejacent to be true, while requesting the addressee to commit to the underlying assertion.

interpretation is assumed to consist, in principle, of the following ingredients:

1. A questioning force asking for the reasons of the event described by the question to take or have taken place;
2. a bias, because the speaker thinks, based on her expectations, that a negative answer should be given to the question, namely one stating that there are no reasons that justify the truth of the pseudo-prejacent;
3. a surprise effect derived from the speaker's learning about the (possible) truth of the pseudo-prejacent or about the interlocutor's belief of its truth;
4. an emotive import which is generated by the inconsistency between the speaker's epistemic state and the event described by the pseudo-prejacent: the speaker is confused, puzzled, outraged, scared, etc.

We believe that these ingredients are not present to the same degree in each reason-*comment* questions, but their presence varies depending on a number of lexical, semantic or contextual factors. Our claim is therefore that a reason-*comment* question has a role that can be placed at different points of a continuum, going from an information-seeking role to a rhetorical one, and can carry different degrees of expressivity, from surprise alone to surprise accompanied by strong (typically negative) emotions.

In the remainder of the section, we say a few words on the interpretive scales that we propose, before presenting the questionnaire we used to test the degree of questioning force, the degree of surprise, and the presence of other emotions in *comment*-questions.

## 2.1 Questioning force and rhetoricity

There is widespread agreement that questions have an identifiable syntactic form, a propositional content that is separate from their pragmatic function, and a characteristic prosodic nature, see e.g. Hudson (1975); Sadock and Zwicky (1985); Freed (1994). On the other hand, there is considerable debate about issues such as whether there is a strict link between interrogative form and information eliciting function. For instance, a strict link is rejected in a pragmatic analysis by Searle (1969), and the existence of a clear distinction between information-seeking and rhetorical questions in real conversations has been challenged in conversation analysis (Steensig and Drew, 2008). More recently, Ozerov (2019) has reiterated the observation that it is difficult to draw a precise line between the rhetorical and questioning reading of a wh-question, and even when the questioning role of a wh-question is indubitable, other non-questioning roles may be added to the question in such a way that the distinction between rhetorical and genuine use is blurred.

Ozerov focusses on prosody and does not specify what may be the lexical, semantic, and pragmatic causes for variation, beside context, in the interpretation of wh-questions such as being rhetorical or not, and as having a questioning role or not. Halonen and Sorjonen (2012) focus specifically on a question with *miten* 'how' in Finnish, which is used to ask for a reason about the pseudo-prejacent. This type of question has many similarities with reason-*comment* questions, but differs in particular with respect to the required presence of a phrase with *nii(n)* 'so, so much', that they say is an intensifier that serves to bring a scale

to the forefront. According to their conversation analysis account, the search for a reason for a situation evaluated beyond a normal threshold implies a disapproving stance.

There is considerable debate about rhetorical questions in the literature. Some authors ascribe them the illocutionary force of an assertion Sadock (1971); Desmets and Gautier (2009). A point on which scholars seem to agree is the assumption that rhetorical questions are associated with no degree of uncertainty as to the answer on the part of the speaker, see a.o. Sadock (1971); Rohde (2006); Caponigro and Sprouse (2007). The answer may either be the question's negative answer, as in (3), or a specific answer, as in (4).

- (3) Q: *Who shakes hands when meeting a stranger during a pandemic?*  
A: *Nobody does.*
- (4) Q: *Who is going to clean up this mess, as usual?*  
A: *It's me, as usual.*

In both cases, the answer is known by speaker and hearer and corresponds to a general rule, a generally accepted behaviour, or a routine or habit. Since the answer is well known by both speaker and hearer, the question loses its information-seeking role.

While taking into account the complexity of the issue on rhetoricity, we try to make a number of predictions. We expect that the more the content of the utterance is understood as expressing a general rule, the more accessible the rhetorical reading becomes. Consider (5).

- (5) a. *Comment peux-tu refuser la proposition de Julie?*  
'How can you turn down Julie's proposal?'
- b. *Comment peut-on refuser la proposition d'un poste de directeur général?*  
'How can one turn down the offer of a chief executive position?'
- c. *Comment peut-on refuser la proposition d'un poste aussi important?*  
'How can one turn down the offer of such an important position?'

In (5a), the speaker finds it hard to understand how a certain person can say no to a certain offer, given the circumstances concerning that offer and the people involved. The question is understood as information-seeking in a neutral context. In (5b), the offer is made explicit and it is such that one may suppose that nobody would be inclined to turn down. The association between refusal and type of position offered evokes a kind of rule that can be expressed by a topos like *it is a high ranked position, let's accept the offer*, in the vein of (Ducrot, 1988; Anscombre, 1995). The impersonal subject indicates that refusal is considered as impossible in general, not just for a particular individual. The rhetorical reading is preferred. In (5c), the high degree expression *aussi* 'so' and the adjective that is modified by it makes it even more explicit that the offer is one not to be refused, since turning down that offer means to act beyond some limit of appropriateness (Halonen and Sorjonen, 2012). The rhetorical reading is preferred and carries a disapproving flavour.

The presence of an impersonal subject—see (5b) and (5c)—has the additional effect that the speaker addresses her question to an addressee who may not be responsible for the event described by the pseudo-prejacent. On the contrary, if the question is addressed to the person whose agency is directly relevant for the event described, then it is natural to think that the speaker is asking for some explanation. In other words, it is more natural to interpret

the utterance as having some questioning force. The presence of an addressee who can be held accountable for the truth of the pseudo-prejacent is an important factor in conferring a questioning force on the question. Yet, if an addressee is absent, or is in no power to reply as it may happen in utterances made in front of a large audience, in monologues, or in written texts, the questioning force may still remain. Indeed, as the corpus study by Tovená (2020) shows, reason-*comment* questions can be used for argumentative purposes in monologue written texts, as a form of public self-reflecting question.

## 2.2 Surprise and expressivity

We described above reason-*comment* questions as questions asking for some explanations for the happening of an event, and whose existence seems impossible to the speaker, given her expectations. From the inconsistency between her expectations and the pseudo-prejacent, an effect of surprise may arise. However, we suppose that the effect of surprise will be more present if the speaker finds out about the unexpected event right before her uttering the *comment*-question.<sup>6</sup> When the speaker utters the *comment*-question some time *after* she obtained the information about the event, her question will presumably not express as much surprise, but it will rather carry other emotions, which are derived from the speaker's reflection on the event.

Another factor that may have an influence on the expressivity of the question is whether the event described by the pseudo-prejacent is a future or a past event. Compare the following sentences:

- (6) a. *Comment peux-tu refuser sa proposition?*  
'How can you turn down his proposal?'
- b. *Comment as-tu pu refuser sa proposition?*  
'How could you turn down his proposal?'

In the former case, the speaker may ask the question in order to better understand the hearer's intentions and in case, to convince him that the future event should not take place; in the latter case, the speaker has no power anymore to influence the addressee's behaviour, so emotions like disappointment, anger, or dejection are more present.

## 3 Questionnaire

We have argued above that reason-*comment* questions may be interpreted rhetorically, but that this interpretation is not exclusive and some questioning force may be present. We have also argued with Ozerov (2019) that it is difficult to draw a precise line between the rhetorical and questioning reading of a wh-question. We have further argued that a certain amount of surprise is expected to be expressed in reason-*comment* questions, because of the inconsistency between the speaker's expectations and the pseudo-prejacent. This section describes a rating study whose goal was to understand the extent to which the interpretation of reason-*comment* questions varies on a rhetoricity scale, namely the extent to which they are interpreted as

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<sup>6</sup>We suppose that this observation is valid also for other utterances expressing the speaker's expectation disconfirmation, such as exclamatives.

being rhetorical or, inversely, as having some questioning force. In the study, we also wanted to verify the hypothesis that reason-*comment* questions express surprise as a reaction towards the unexpectedness of the possible truth of the pseudo-prejacent, though the strength of the surprise effect can vary depending on the context.

The experiment had the form of a questionnaire where three explicit questions concerning the interpretation of a *comment*-question were asked to participants. The first question concerned the degree of questioning force. It seemed better to avoid to directly ask for a judgment on the rhetorical nature of a question, the definition of which, we have seen, is source of disagreement among linguists. We considered that naive speakers could more easily judge how much of a request for information the question was, and conversely, could give the term 'rhetorical' a different meaning than the one we intended. Next, in order to test surprise associated with *comment*-questions, participants were asked to rate the degree of surprise that the question contained. Finally, we wanted to know whether other emotions were present in these questions. For this, participants were asked to say whether the question conveyed other emotions in addition to surprise. This last question was open, since we did not make predictions about the presence of specific emotions. We only predicted that the reason questions would be associated more with other emotions than the manner ones.

Our items simulated a dialogue and only contained questions concerning the interlocutor's behaviour (or the behaviour of somebody over whom the interlocutor had some control) and were never generic questions. The impersonal subject *on* 'one' was never used. We therefore predicted that the questions would be interpreted as containing some questioning force: the speaker wants the hearer to give her some arguments in favour of the truth of the pseudo-prejacent. The event described in the pseudo-prejacent was not a past event, but one that either was happening or would soon happen, generally to the addressee and as a result of the addressee's own decision. Again, this made us predict that some questioning force would be present, but also that some emotions would be expressed, due to the fact that the speaker still has the possibility of changing the addressee's decision by leaning on him. The context was such that the speaker learnt about the unexpected event right before her uttering the *comment*-question. This made us predict that the unexpectedness of the event would trigger a surprise effect. One of our stimuli is reported in (7):

- (7) a. *Pour l'anniversaire de Léon, toi et d'autres copains organisez une fête surprise. Deux copains, qui ne savent pas du tout cuisiner, veulent préparer le gâteau d'anniversaire. Tu dis :*  
 'For Léon's birthday, you and other friends are organizing a surprise party. Paul and Julie want to make the birthday cake. You say:'  
*Et comment voudriez-vous faire le gâteau?*  
 'And how would-you to-make the cake?'
- b. *Pour l'anniversaire de Léon, toi et d'autres copains organisez une fête surprise. Paul et Julie veulent préparer le gâteau d'anniversaire. Tu dis :*  
 'For Léon's birthday, you and other friends are organizing a surprise party. Two friends, who cannot cook at all, want to make the birthday cake. You say:'  
*Mais comment voudriez-vous faire le gâteau?!*  
 'But how would you make the cake?!'

### 3.1 Methods

The questionnaire was created using googleforms. 10 controlled items were created, each containing a *comment*-question presented in a context favouring either a manner or a reason reading. Fillers were added, which were two times the number of the target items, and contained exclamatives, declaratives, and information-seeking wh-questions (whose wh-word was not *comment*). The questions used in the stimuli were identical in the manner and in the reason context, except for two aspects: the presence, at the beginning of the sentence, of the conjunction *et* ‘and’ with the manner context and the adversative particle *mais* ‘but’ with the reason context, and for a different punctuation mark at the end of the sentence (? for manner, !? for reason). These cues reduced the risk that the context would not be sufficiently clear for the reader to get the intended reading, and were particularly important for participants to get the reason reading, which we assume to be the marked one and therefore less easily accessible, even in the appropriate context. As for the conjunction *et* ‘and’ with the manner reading, it helped to make the question more natural. Furthermore, since these questions were the same as those used in the production experiment described in Brunetti et al. (2020), the presence of a monosyllabic conjunction at the beginning of *both* questions guaranteed that they had the same number of syllables.

A reviewer was concerned that these cues would bias the participants’ responses to the three questions. For instance, the presence of a !? punctuation mark at the end of the reason question could bias towards high scores for surprise. Two remarks are in order. First, it should be remembered that the aim of the experiment was for the participants to say how much questioning force and surprise they thought the question contained, given either interpretation (manner or reason) of the question, and not to guess the interpretation of the question. These cues did not influence the participants in their judgements about the degree of surprise or questioning force contained in either interpretation. Second, note that the exclamation mark conveys an ambiguous message and it could equally signal the presence of emotions other than surprise, that participants were asked to report in the answer to the third question of the experiment.<sup>7</sup> The exclamation mark could indeed express a greater emotional contribution of the speaker in uttering the question; however, the fact that the speaker was particularly emotionally involved in the event was already implied by the reason contexts of the stimuli, which described a shocking, uncommon, or upsetting situation from the speaker’s point of view. Analogously, the adversative particle *mais* ‘but’ at the beginning of reason questions does not signal surprise or lack of questioning force, but simply expresses the existence of some opposition, which is not necessarily related to disconfirmed expectations.

The experiment was conducted online. The materials were presented on a screen, only in a written form. After each item presentation, participants had to answer the three questions mentioned above, concerning their understanding of the *comment*-question, presented on the same screen. The first question was: *Is the person uttering this sentence seeking information?*. Participants had to judge on a Likert-scale from 1 to 6. The second question was: *Is the person*

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<sup>7</sup>Exclamatives typically end with an exclamation mark in written text, but they do not necessarily express surprise, at least not for all scholars and not under a simple understanding of what surprise is. As observed by Zanuttini and Portner (2003), if someone is invited at a friend’s house for dinner and, while eating, says ‘How delicious your dinner is!’, she clearly does not mean that she is surprised to have a delicious dinner at her friend’s place, but simply wants to make a compliment and express that she finds the dinner very good. This difference between exclamatives expressing and not expressing surprise is even morphologically marked in Mandarin Chinese, see (Badan and Cheng, 2015).



*who says this sentence surprised?*. Participants again had to judge the presence of surprise on a Likert-scale from 1 to 6. Finally, participants were asked to write in a fill-in text-box any other emotion, if any, they thought the speaker of the question might feel in the context.

25 French speakers took part in the questionnaire, but three of them were eliminated because they did not answer all the questions, and one was eliminated because she had lived for half of her life in a non-French speaking country. The participants we eventually analyzed were therefore 21 (14 female, 7 male). The total duration of the experiment was about fifteen minutes, and participants did not receive compensation.

### 3.2 Analysis and results

A statistical analysis was made of the results of both the scores given to the *information-seeking* dimension and to the *surprise* dimension. Two ordered regression analyses were run, using the package "Ordinal" in R, (Christensen, 2019).<sup>8</sup> In the former, a model was used where the dependent variable corresponded to the 1-6 scores given to the information-seeking dimension; in the latter, it corresponded to the 1-6 scores given to the surprise dimension. In both models, the independent variable was Context, namely the context in which the question occurred (one triggering a manner reading or one triggering a reason reading). The random variable was Participant.<sup>9</sup>

Results showed a significant difference between a manner and a reason interpretation in the scores given for both the information-seeking dimension and the surprise dimension. Scores for the information-seeking dimension were significantly lower with a reason context than with a manner one ( $b=-2.08$ ,  $SE=0.21$ ,  $p<.001$ ). On the contrary, scores for the surprise dimension were significantly higher with a reason context than a manner one ( $b=3.74$ ,  $SE=0.26$ ,  $p<.001$ ). As Figure 1 shows, the mean scores for the information-seeking dimension with a reason reading, though significantly lower than those of a manner reading, were above 3 (recall, on a scale from 1 to 6). As for the surprise dimension, the mean ratings were particularly high for the reason reading (5.32) and particularly low for the manner reading (2.36).

Given such reversed results, a Pearson correlation coefficient was computed using the package "Ggpubr" in R (Kassambara, 2019) to assess the relationship between the scores given to the surprise question and those given to the information-seeking question in each reading. Results showed a marginal negative correlation in questions with a reason reading ( $r(208) = -.14$ ,  $p = .04$ ) and a strong negative correlation in questions with a manner reading ( $r(208) = -.55$   $p <.001$ ).

We also looked at the means of the scores by items and by participants. With respect to the items, no important variability was found, except for the surprise dimension in the manner reading, where scores ranged from 1.14 to 4.24 ( $SD = 0.97$ ). However, note that scores were particularly high only with *two* of the items (see Figure 2, left).

An important variability was found in the individual behaviour of participants, specifically in reason contexts for the information-seeking dimension, where scores ranged from 1.5 to 5.1 ( $SD = 1.1$ ) (Figure 3, right). For the surprise dimension, scores were uniformly very high,

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<sup>8</sup>In order to analyse the results of the Likert-scale scores, we ran both an ordinal mixed model (clmm in R) and a linear mixed model (lmer in R). The former model had a weaker AIC value and therefore looked more suitable for our data.

<sup>9</sup>We did not estimate random effects for items, since it resulted in zero variance. For participants, we only estimated random intercepts without slopes, since the data were not enough for a more complex model.

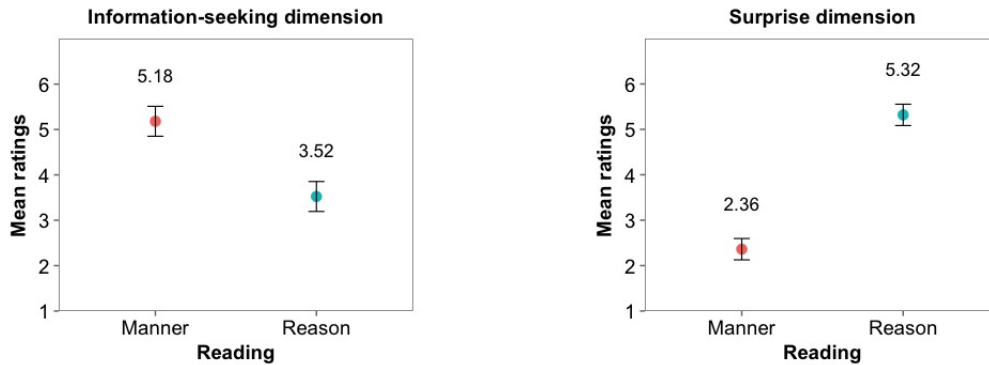


Figure 1: Overall mean ratings for the information-seeking and surprise dimensions with manner and reason readings. Error bars represent standard errors.

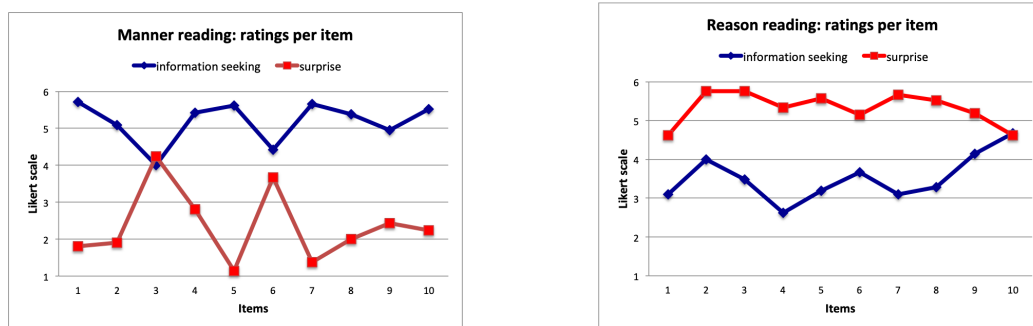


Figure 2: Mean ratings per item in the manner reading (left) and the reason reading (right).

except for two participants ( $SD = 0.82$ ). In the manner reading, the variability was less important both for the information-seeking dimension, where scores were all above 4 except for one participant, and for the surprise dimension, where scores were all between 1 and 3 except for one participant (see Figure 3, left).

Concerning the results of the third task of the questionnaire, which asked participants to write down any emotion other than surprise they thought the *comment*-question might convey (if any), responses could not be statistically analysed. A qualitative analysis however suggests a difference between reason- and manner-*comment* questions. With manner questions, participants only judged that other emotions were present in 21 cases out of 210, while with reason questions, other emotions were suggested in 58 cases out of 210. With manner questions, the emotions chosen by participants varied much less than those chosen for reason questions and in about one fourth of the answers the emotion suggested was curiosity. Participants also mentioned perplexity, disbelief, or concern. With reason questions, emotions varied more, and were mostly negative: anger, concern, but also, to a minor extent, disapproval, indignation, irritation, shock, disappointment. One non-negative emotion was also strongly present with reason questions, *incompréhension*, which might be translated as 'being at loss'.

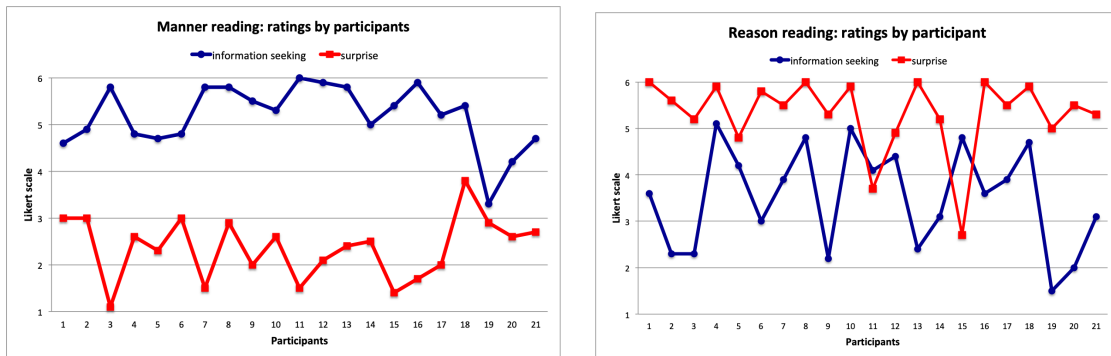


Figure 3: Mean ratings per participant in the manner reading (left) and the reason reading (right).

### 3.3 Discussion

The fact that the surprise dimension received higher scores in reason contexts (cf. Figure 1, right) matches our predictions. The presence of surprise was foreseen, since in the constructed scenes in our stimuli, the speaker was informed about the unexpected event right before uttering the question. At the same time, this result also confirms that expectation disconfirmation is indeed wired in the semantics of *comment*-questions with a reason interpretation. Some manner questions trigger surprise too, but that is not systematic.

Concerning judgements on the information-seeking dimension, results support the hypothesis that reason-*comment* questions may have an information-seeking function, though less important than that of manner questions. Being allowed to grade the information-seeking role of the question, participants could express the intuition that in reason questions such a role was less important, though not absent at all. The participants have judged the questions as real questions but at the same time they have signalled by the lower scores that something more is done with the question than just asking for information.

Note that if the interpretation were a rhetorical one, the participants would have judged the questions as not having any questioning force at all. Recall that our items only contained questions about the addressee’s deeds, and were never generic questions. This feature contributed to an interpretation that is not plainly rhetorical, and not just in Sadock’s terms. In a rhetorical interpretation of reason-*comment* questions, the speaker assumes that some general rule has been or is about to be violated, and is not looking for reasons to revise it or drop it. She challenges the addressee to prove that the rule is not valid, and implies that the truth of the pseudo-prejacent is only an exception to the rule, not its falsification. This is the strong case. But in our study, the addressee’s behaviour is presented as being in conflict with some expectations, not with a general rule. What the speaker wants to do, by asking the question, is to get the addressee to help her revise her expectations, so that she can admit the possibility of the pseudo-prejacent. Since the pseudo-prejacent describes an event that has happened or is about to happen to the addressee usually as a result of his own decisions, the speaker’s questioning of the addressee is really aimed at gaining a better understanding of his behaviour, and possibly at revising her own beliefs. Such openness of the speaker towards a revision of her expectations, we think, explains the information-seeking component of our reason *comment*-questions. In other words, we underscore that *comment*-questions with

a reason interpretation in French are not all rhetorical, pace Desmets and Gautier (2009), although some may be. We think that an additional support for this analysis comes from the fact that the emotion that was mentioned the most after *colère* ‘anger’ with reason questions is *incompréhension* ‘being at loss’. What the participants in the experiment wanted to indicate with this emotion is precisely the puzzled state of mind of the speaker uttering the question: the speaker cannot get over the idea of the pseudo-prejacent being true and wishes to get more information from the addressee in order to be able to revise her epistemic state in such a way as to accept the pseudo-prejacent as possible.

Another peculiarity of the results of the information-seeking role of reason questions is in the large variability of participants’ scores (Figure 3, right). One possible explanation for this variability is that participants found the task of evaluating this dimension more difficult in reason contexts, due to the particular semantics of the question. The task of judging the questioning force of a question is easier if the missing piece of information is the value of a variable inside the clause: there is a ‘gap’ in the event description and the question requests the addressee to fill it in. This is the ‘normal’ functioning of a wh-question. Grasping what piece of information a reason-*comment* question asks for is less straightforward. In this case there is no gap inside the expression describing the event, since the reasons for an event to take place are not part of the event itself. A more abstract explanatory relationship between a missing reason and the resulting situation characterised by the pseudo-prejacent is at work. The cognitive mechanism behind these questions is therefore more complex. Given this complexity, participants may display more variability in their ability to understand the level of informativeness of the question.

Some observations about the participants’ judgments on each item separately may also help us to better understand the participants’ variability in the information-seeking scores for reason questions. If we consider one of the items with lowest scores for the information-seeking dimension, reported in (8), which got scores 1 or 2 by nine out of 21 participants, we see that it describes a situation where the addressee is planning to do something dangerous and the context explicitly says that the speaker is worried about that. Compared to the other items, this one particularly focuses on the speaker’s concern about the addressee’s intentions. Generalizing from the context of this item, the information-seeking dimension is less important when the speaker’s priority becomes to express her emotional state towards such an event.

- (8) [A friend tells you that she signed up for a mountaineering competition on a potentially dangerous mountain. She just recovered from a serious fall. You say:]  
*Mais comment peux-tu y aller ?!*  
 ‘But how can you go there?!’

More generally, the expressive dimension may make the information-seeking dimension of the question less prominent. The results of the third task of the questionnaire support this explanation, in that reason-questions convey more and more varied emotions (usually negative) than manner questions.

Variability in the information-seeking dimension in a reason context is paralleled by the variability in the prosodic realizations of reason-*comment* questions. In Brunetti et al. (2020), we report on the production experiment that we conducted, which included the items of the questionnaire. In the results of that experiment, Brunetti et al. (2020) found that prosodic

cues, mainly the final contour, allowed to distinguish the two readings: the manner reading has a H\*H% final contour, while the reason reading comes with a final downstepped high plateau (!H\*!H% contour). However, that paper does not comment on the variability found in the prosodic data.<sup>10</sup> An item with an interesting inter-speaker variability in the questionnaire is given in (9). Out of 21 participants, nine assigned the two lowest scores (1 and 2) and eight assigned the two highest scores (5 and 6).

- (9) [Your brother, who always needs money, tells you that his boss is offering him a position with salary raise within his company, but that he is going to turn it down. You say:]

*Mais comment tu pourrais refuser sa proposition?!*

'But how could you turn down his proposition?!'

For this same item, variability is noticeable in the production experiment as well, specifically in the results of the reason reading. In the manner reading, (see Figure 4), though the final contour can vary, what precedes it is typical of an information-seeking question (accentuation of the *comment* wh-word followed by a deaccenting, cf. Delais et al. [2015]).

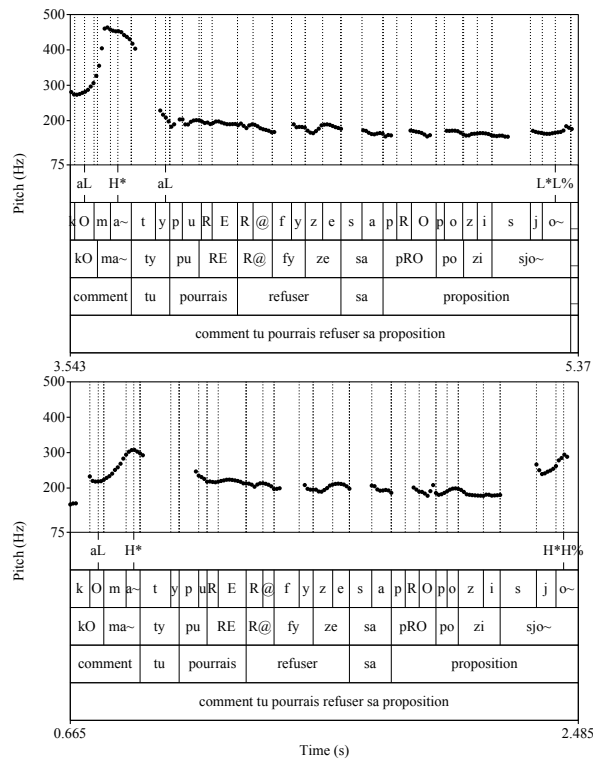


Figure 4: Two productions with falling L\*L% tune (upper figure) and a rising H\*H% tune (lower figure) of the item *Comment tu pourrais refuser sa proposition?* “How could you turn down his proposition?” with manner interpretation.

<sup>10</sup>We do not present here the detail of the experimental design. Please refer to Brunetti et al. (2020) for an exhaustive description of the production experiment.

In the reason reading, though the more frequent final contour remains the downstepped  $!H^*!H\%$  pattern (10 out of 18 trials, cf. Figure 5a), we also found 5 trials with a  $L^*L\%$  final contour (Figure 5b), and 3 trials with a rising  $H^*H\%$  final contour (Figure 5c). We believe that these differences reflect the variability in the participants’ interpretation of the intentions behind this question: the speaker may believe that she is not aware of some facts that can explain her brother’s behaviour and truly asks for some explanation; alternatively, the speaker is just angry with her brother who always lets great opportunities slip out of his hands, and wants to express her disappointment for it. Again, expressivity and information seeking seem

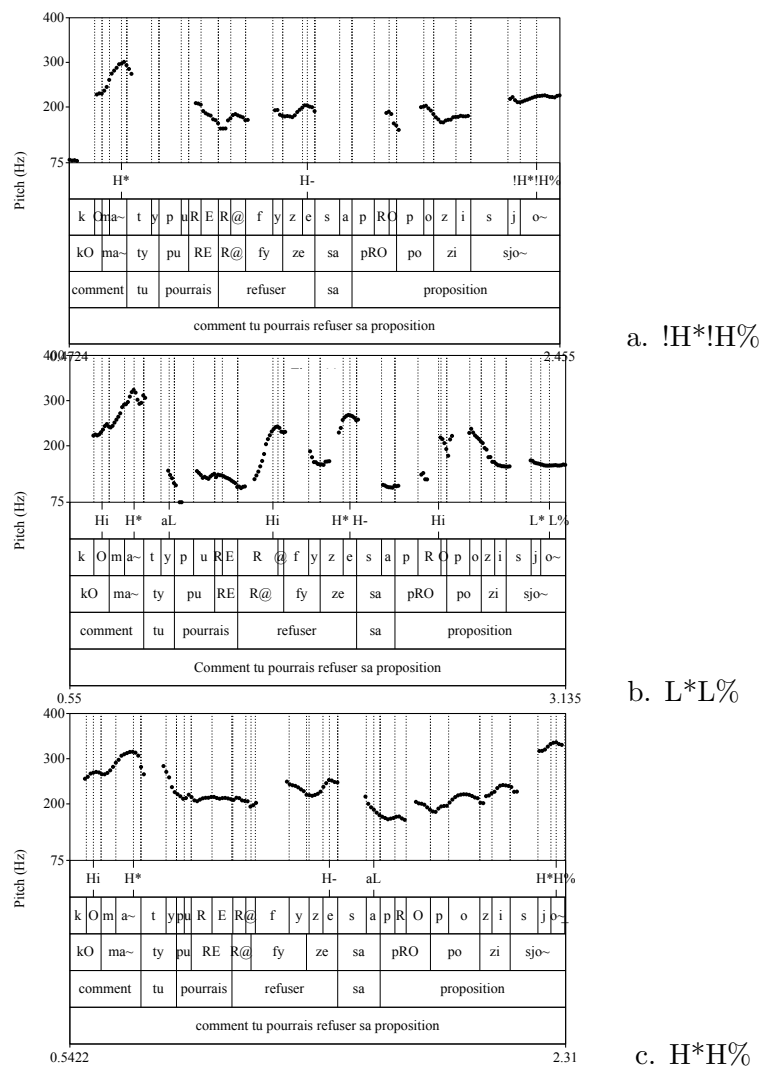


Figure 5: Three productions with a different final tune of the item *Comment tu pourrais refuser sa proposition?* “How could you turn down his proposition”? with reason interpretation.

to be related, in that one is inversely proportional to the other, both with respect to how the question is interpreted and with respect to how it is pronounced. In the questionnaire, a slight negative correlation between information-seeking scores and surprise scores was found in reason contexts. This result marginally supports the idea that the information-seeking

function of the question becomes less important when the need to express the disconfirmation of the speaker's expectations is stronger. Recall that the negative correlation was much stronger in the manner reading, as Figure 2 (left) illustrates (the only two items where the means of surprise scores are higher than 3 are also the only two items where the means of information-seeking scores are lower than 5). We suggest that the negative correlation in reason questions, unlike in manner questions, is not or not just between information seeking and surprise, but between information seeking and other strong emotions that the question may express, such as indignation or concern. Recall that surprise is judged as being always expressed at a high degree by the reason question, and prosody confirms that surprise is prosodically marked in all three utterances reported in Figure 1 (by extra high values on the *comment* wh-word and/or f0 resetting). Surprise in manner questions, on the contrary, is accidental, namely present only when a particular context explicitly triggers for it.<sup>11</sup>

## 4 Concluding remarks

In this paper we have discussed some interpretive properties of French interrogatives beginning by the wh-word *comment* that have manner or reason readings.

Reason-*comment* questions are identified as semantically marked by the results of our questionnaire. Scores given to the surprise dimension support the idea that reason questions are consistently judged as containing surprise, while this is not the case with manner questions, which can contain surprise but not in a systematic way. This confirms our assumption that in the reason reading, the speaker tries to recover from an expectation failure. Moreover, scores given to the information-seeking dimension confirm that reason-*comment* questions can be true questions, and invalidate analyses that systematically treat them as rhetorical questions. However, participants are less consistent in their judgements about the information-seeking dimension than about surprise. We suggested that participants may vary in their capacity to grasp the information-seeking dimension of a reason question, given its more complex semantics.

These results may also confirm that it is difficult to draw a precise line between the rhetorical and the information-seeking reading of a wh-question, and that even when the questioning role is clear, other non-questioning functions may add up in such a way as to blur the distinction. Interestingly, the inter-subject variability observed in the information-seeking scores in reason contexts matches the prosodic variability found in the results of the production experiment described in Brunetti et al. (2020). More specifically, prosodic variability lies in the production of the final contour of the question, whose main function is precisely to signal the illocutionary force of the utterance.

## References

Anscombre, Jean-Claude (1995). La théorie des *topoi*: sémantique ou rhétorique? *Hermès* 15, 185–198.

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<sup>11</sup>Since we did not ask participants to give scores on the expression of emotions other than surprise, this issue concerning the influence of other emotions on the information-seeking role of the question was not tested in the questionnaire.

- Badan Linda and Lisa Cheng (2015). Exclamatives in Mandarin Chinese. *Journal of East Asian Linguistics* 24, 383–413.
- Brunetti, Lisa, Hiyon Yoo, Lucia M. Tovenà and Rachel Albar (2020). French reason-*comment* (how) questions: a view from prosody. (in press). In Andreas Trotzke and Xavier Villalba (Eds.), *Functional categories and expressive meaning*. Oxford: Oxford University Press.
- Caponigro, Ivano and Jon Sprouse (2007). Rhetorical questions as questions. In *Proceedings of the Sinn und Bedeutung XI*, Barcelona, 121–133.
- Christensen, R.H.B. (2019). Ordinal-Regression Models for Ordinal Data. R package version 2019.12–10.
- Collins, Chris (1991). Why and how come. *MIT Working Papers in Linguistics* 15, 31–45.
- Delais, Elisabeth, Brechtje Post, Mathieu Avanzi, Caroline Buthke, Albert Di Cristo, Ingo Feldhausen, Sun-Ah Jun, Philippe Martin, Trudel Meisenburg, Annie Riolland, Rafèu Sichel-Bazin, and Hiyon Yoo (2015). Intonational phonology of French: Developing a ToBI system for French. In Sonia Frota & Pilar Prieto (eds.), *Intonation in Romance*, Ch 3. Oxford Scholarship Online.
- Desmets, Marianne and Antoine Gautier (2009). ‘Comment n’y ai-je pas songé plus tôt?’, questions rhétoriques en *comment*. *Travaux de linguistique* 58(1), 107–125.
- Ducrot, Oswald (1988). Topoi et formes topiques. *Bulletin d’études de la linguistique française* 22, 1–14.
- Fleury, Damien and Lucia M. Tovenà (2018). Reason questions with *comment* are expressions of an attributional search. In *Proceedings of 22nd workshop on the Semantics and Pragmatics of Dialogue (AixDial)*, 112–121.
- Fleury, Damien and Lucia M. Tovenà (2019). On the pragmasemantics of a high adjunct wh-word. *Proceedings of 49th Linguistic Symposium on Romance Languages (LSRL 49)*, (to appear).
- Freed, Alice F. (1994). The form and function of questions in informal dyadic conversation. *Journal of Pragmatics* 21(6), 621–644.
- Halonen, Mia and Marja-Leena Sorjonen (2012). Multi-functionality of interrogatives: asking reasons for and wondering about an action as overdone. In Jan P. de Ruiter (ed.), *Questions: Formal, Functional and Interactional Perspectives*, 222–237. Cambridge: Cambridge University Press.
- Hudson, Richard A. (1975). The meaning of questions. *Language* 51(1), 1–31.
- Kassambara, Alboukadel (2019). Package ‘ggpubr’. ‘ggplot2’ Based Publication Ready Plots, version 0.2.1.
- Ko, Heejong (2005). Syntax of *why-in-situ*: Merge into [Spec,CP] in the overt syntax. *Natural Language and Linguistic Theory* 23, 867–916.



- Ozerov, Pavel (2019). This is not an interrogative: the prosody of ‘wh-questions’ in Hebrew and the sources of their questioning and rhetorical interpretations. *Language Sciences* 72(1), 13–35.
- Rizzi, Luigi (2001). On the position ‘int(errogative)’ in the left periphery of the clause. In Guglielmo Cinque and Giampaolo Salvi (eds.), *Current studies in Italian syntax: Essays offered to Lorenzo Renzi*, 287–296. Amsterdam: Elsevier.
- Rohde, Hanna (2006). Rhetorical questions as redundant interrogatives. *San Diego Linguistics Papers* 2, 134–168.
- Sadock, Jerrold M. (1971). Queclaratives. In *Papers from the Seventh Regional Meeting of the Chicago Linguistic Society*, 223–232.
- Sadock, Jerrold M. and Arnold M. Zwicky (1985). Speech act distinctions in syntax. In Timothy Shopen (ed.), *Language Typology and Syntactic Description I: Clause Structure*, 155–196. Cambridge: Cambridge University Press.
- Searle, John R. (1969). *Speech acts*. Cambridge: Cambridge University Press.
- Steensig, Jacob and Paul Drew (2008). Introduction: questioning and affiliation/ disaffiliation in interaction. *Discourse studies* 10(1), 1–15.
- Tovena, Lucia M. (2020). A comparative corpus study on a case of non-canonical question. *Linguistic Vanguard*. (this issue).
- Tsai, Wei-Tien Dylan (2008). Left periphery and *how-why* alternations. *Journal of East Asian Linguistics* 17, 83–115.
- Zanuttini Raffaella and Paul Portner (2003). Exclamative clauses: at the syntax-semantics interface. *Language* 79(1), 39–81.