

About the prosody of a non-canonical reason question

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Syntax-semantics issues of *comment* (how) questions. French *wh*-questions introduced by *comment* ‘how’ can be ambiguous between a reading where they ask about manners or means, 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 ‘prejacent’ (Fleury and Tovenà 2018). Both readings are available in information seeking and rhetorical uses. Only the reason reading is associated with disconfirmed expectations and surprise. In the examples below, the same *comment*-question has either a manner (1) or a reason (2) interpretation, depending on the surrounding context.

(1) You are organizing with other friends a surprise birthday party for your friend Léon. You want to prepare the birthday cake yourself.

You: *Comment voulez-vous que je fasse le gâteau d'anniversaire?*

how want-you that I make the cake of birthday

‘How do you want me to make the birthday cake?’

A friend: Léon loves rock; do it guitar-shaped!

(2) You are organizing with other friends a surprise birthday party for your friend Léon. A friend is assigning tasks: yours is to prepare the birthday cake. You refuse, but your friends insist.

You: *Comment voulez-vous que je fasse le gâteau d'anniversaire?*

Je n'en ai jamais fait de toute ma vie!

‘How come you want me to make the birthday cake? I never made one all my life!’

The *wh*-item binds a variable of a modifier of the event predicate manner-*comment* in (1). However, *comment* in its reason reading in (2) does not bind a position inside the clause. Whether there is a variable bound by the *wh*-item at all is an open question. What is clear is that the rest of the clause is not expected to contribute lexical material used as sentence radical to form the alternative answers together with the value of a variable, as it is the case for canonical *wh*-questions. Syntactically, the reason-*comment* seems to be generated high, as it has been proposed for ‘why’ (Rizzi 2001). Semantically, it is a reasonable assumption to interpret reason-*comment* as inquiring about something external to the clause expressing the prejacent, the reasons for the event to occur are not part of the description of the event itself. The prejacent is background information, and typically disconfirms the speaker’s expectations. For instance, the prejacent ‘I make the birthday cake’ in (2) goes against the speaker’s expectations, since the speaker does not find it plausible that she can make a birthday cake. Expectation disconfirmation may be associated with a hint of reproach. This might have led Desmet and Gautier (2009) to argue that these are rhetorical questions that express the opposite negative assertion, following Sadock (1974).

The prosody of *comment* questions. At first sight, the various observations on the non-canonical structure and interpretation of reason-*comment* questions prompt mixed predictions as to their prosody. One may expect a question intonation in compliance with an information structure where the focus corresponds to the *wh*-phrase, cf. Rooth 1992; but on the other hand, it should signal that the variable introduced by the *wh*-word is not inside the clause. Next, there could be a weaker marking of a questioning illocutionary force than in regular questions, due to a double task of these utterances, namely to ask a question about the reasons for the a situation, and to convey that the speaker’s expectations are disconfirmed by such a situation. In this paper we take a fresh look at the semantics and pragmatics of these questions precisely by looking into their prosody. As far as we know, no work of this kind has been done so far on such questions in French (see though Wochner et al 2015 on rhetorical questions in German). A production experiment was conducted to check whether the intonation of reason-*comment* questions has specific characteristics, and test whether they differ from those of manner-*comment* questions.

Assuming that reason-*comment* questions are always associated with expectations and that, by consequence, a surprise effect is often associated with them, our predictions are that they display a wider speech range than manner questions, as well as a more important slope of the f0 on *comment*, which are both marks of surprise in French (Martin 2009). We also assume that these questions are not necessarily rhetorical but can also be true questions; therefore, we expect them to have a question intonation that, in French, can be characterized by both falling (Delattre 1966) and rising contours (Beysade et al 2007, Delais et al 2015).

Methodology: Four questions beginning with *comment*, each presented in two different contexts (triggering either a manner, or a reason interpretation, as in (1) and (2)) were read three times by 9 speakers, for a total of 206 items. The questions were presented randomly as fillers of a production experiment on a different phenomenon. Informants were asked to first read the context, and then produce the different questions as naturally as possible. The parameters of pitch (f0 values: Max, Min, Mean, and final f0 values on the basis of syllables) and speech rate were measured, and the contour on *comment* and right-end boundaries at the intonational phrase level was manually annotated.

Results and discussion: Quantitative analysis for all measured acoustic parameters did not reveal any specific difference between the two types of questions. Speech rate is slightly faster for questions with a reason reading, but results are not significant. The most common f0 pattern with both readings has LH* on *comment* and an L% final boundary, which corresponds to the pattern we expect in a wh-question in French (Marandin et al. 2011). The qualitative analysis shows that some speakers clearly distinguish the two interpretations, though the strategies adopted by different speakers or with different items vary. With a reason reading, it can be the case that the modal is accented and *comment* deaccented (while it is accented with a manner reading). We account for this as a strategy to highlight the “disconfirmation of expectations” interpretation of *comment*. The final contour also varies depending on the speaker: a final rising and lengthening is sometimes associated with a reason reading. Such marks of continuation can be due to the fact that reason questions in our stimuli were followed by an utterance by the same speaker explaining why the event is considered as impossible. Finally, clear prosodic cues associated with surprise are observed, such as a specific ‘bell’ pattern (Martin 2009 for French) or f0 resetting and thus a higher pitch level, or a wider pitch range (Lai 2008). In conclusion, our results do not provide evidence for a specific prosodic cue distinguishing reason from manner questions, due to a large inter- and intra-speaker variability. Nevertheless, some strategies are clearly reconstructed, and in particular, the prosody of reason questions seems to mark their specific semantic component, expectation disconfirmation (and the surprise effect that generally accompanies it). Building on these results, we have set off a new production study in order to compare the data from the first experiment with data on non ambiguous sentences. Ambiguity is reduced by exploiting bias-inducing properties. These can be semantico-syntactic (e.g. subcategorization constraints, degree modifies, presence and type of a modal), and lexical (e.g. verb choice). The results will hopefully better identify prosodic patterns associated with reason questions and provide material for a perception experiment.

Selected references. Beysade C., Marandin J.M., Delais E. ‘The Prosody of French Interrogatives’, *Nouveaux Cahiers de Linguistique Française*, U. de Genève, 2007, 163-175 ** Delais E., Post B., Avanzi M., Buthke C., Di Cristo A., Feldhausen I., Jun S., Martin P., Meisenburg T., Rialland A., Sichel-Bazin R. and Yoo H. 2015, ‘Intonational phonology of French: Developing a ToBI system for French’, *Oxford Scholarship Online* ** Desmets, M. and A. Gautier, 2009, ‘Comment n’y ai-je pas songé plus tôt ? Questions rhétoriques en *comment*’. *Travaux de linguistique* 58: 107-125. ** Fleury D. and Tovenia L.M. 2018, ‘Reason questions with *comment* are expressions of an attributional search’, *22th SEMDIAL*, 112–121 ** Martin P., 2009, *L’intonation du français*, Ophrys ** Wochner D., J.Schlegel, N.Dehé and B. Braun, ‘The prosodic marking of rhetorical questions in German’ *Interspeech 2015*, 987–991.