

# THE MEANING OF INTONATION: SOME FRENCH DATA

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In this talk<sup>1</sup>, we would like to consider seriously various remarks along the line of the following ones from Jackendoff and Pierrehumbert & Hirschberg, and try to propose an analysis of the meaning of three intonative phenomena, as they are observed in French.

- (1)a. « Stress and intonation in English have been commonly regarded as « mere stylistic factors » which do not contribute to the essential meaning of sentences. In this chapter we will begin to construct an account of the semantic effects of these phonological phenomena and show how they fit into the general theory proposed here and into a possible theory of discourse. » Jackendoff (1972 : 229)
- (1)b. « We propose that speakers use tune to specify a particular relationship between the « propositional content » realized in the intonational phrase over which the tune is employed and the mutual beliefs of participants in the current discourse » Pierrehumbert & Hirschberg (1990 : 285)

1- The first part is concerned with **the analysis of illocutionary boundary tones in French**. We observe that in French, the focal constituent bears a boundary tone, and more precisely an illocutionary boundary tone (IBT), which can easily be distinguished from other boundary tones like continuative tones, because IBT are associated with certain specific prosodic effects such as dowstepping, ultra high or extra low tones etc. (2a) and (2c) illustrate the cases of broad focus respectively in an assertion and in a question, (2b) and (2d) illustrate the cases of narrow focus respectively in an assertion and in a question<sup>2</sup>.

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|-----|----|--|--|
| (2) | a. | [Que s'est-il passé ?<br>(Jean-Pierre) (est arrivé).<br>L%   | <i>What happened?</i><br><i>Jean-Pierre has arrived.</i>   |
|     | b. | [Qui est arrivé ?<br>(Jean-Pierre) (est arrivé).<br>L%      L%   | <i>Who has arrived?</i><br><i>Jean-Pierre has arrived.</i> |
|     | c. | [Jean-Pierre est venu hier avec Bernadette.<br>Bernadette.]<br>Jean Pierre est venu hier avec Bernadette ?<br>H% | <i>J.-Pierre came yesterday with<br/>Bernadette.</i>       |

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<sup>1</sup> This work on intonation and meaning is the result of a collaboration with Jean-Marie Marandin, Annie Riolland and Elisabeth Delais, whom I want to thank here.

<sup>2</sup> [] indicates the context of an utterance.

- d. [Jean-Pierre est venu hier avec Bernadette. *J.-Pierre came yesterday with Bernadette.*]  
 Jean Pierre est venu hier avec Bernadette ?  
 H%                    H%

These examples clearly show that no specific intonational contour is used to express Focus. Focused constituents are marked by an illocutionary boundary tone on their right edge: the L%, which is characteristic of assertion in (a) and (b), and the H% in the cases of question (c) and (d). The generalization is the following: an illocutionary boundary tone that is determined by the illocutionary force of the utterance is realized on the last syllable of the focal domain and at least one copy of this tone is realized at the end of the utterance. In the case of (2d), the question concerns the day, and nothing else.

On the basis of this observation, we adopt an illocutionary definition of focus (3) which is very closed to a proposal first made by Jacobs (1984, 1991) and really different from those formulated in terms of new information or information which answers to an explicit or implicit question. We assume that this focalization belongs to illocutionary semantics.

- (3) Focus is the part of the content that is specifically affected ("inhaltlich besonders betroffen" in Jacobs' terms) by the illocutionary operator associated with the sentence.

Jacobs proposes to split the propositional content of assertive sentences into two parts, both within the scope of the operator of assertion ASSERT as in (4a). On the basis of French observations, we propose to extend the definition (4a) to questions and more generally to all illocutionary forces (cf (4b):

- (4) a. ASSERT <Ground, Focus>  
 b. ILLOCUTIONARY-OP <Ground, Focus>  
 where ILLOCUTIONARY-OP  $\in$  {ASSERT, QUEST, COM} (assertion, question and command).

At this point, since the very notion of focus is no longer primitive, we can formulate the following question : is it necessary to postulate a level of information structure in the grammar ?

**2-** In the second part of this talk, we will analyse **the meaning** of what Jackendoff (following Bolinger) has called B-accent in English, or what Büring has called T-accent in German, and the French equivalent that we called **C-accent**. Two things are very clear in French, clearer than in English or in German.

- First, this intonative marking device is entirely different from the mark associated to the focus. It is a pitch accent in French, and not a boundary tone.

- Second, this accent is not a sentence marker, but a discursive marker. It indicates that the speaker is answering to the question under discussion, but also that his/her answer is not sufficient to close the question under discussion. On the contrary, this answer brings about new questions, which have to be resolved. So this accent indicates that the speaker has more to say or to ask about the question under discussion.

To explain the difference between A-accent and B-accent on the basis of famous example (5), Jackendoff wrote « we presuppose ... that there were a number of people and a number of different things to eat, and that various people ate various things. Speaker A in the discourse is asking questions of the form *Who ate what?* and Speaker B is answering. For the first intonation pattern [(5a)], A is asking person by person. For the second pattern [(5b)], A is asking by foods ».

- (5) [Who ate what ?]  
 a. FRED ate the BEANS  
     A            B  
 b. B: FRED ate the BEANS  
     B            A

A comparable but more elaborated explanation is given by Büring, who studied the German counterpart of English B-accent, the T-accent<sup>3</sup>. Büring explains that in the three cases illustrated below, T-accent plays a discursive role. It signals that the speaker accounts for one of several aspects of the question, (s)he suggests that different buyers can be considered in (6), some popstars from different nationality in (7), and several wives in (8). This accent is obligatory in (6) and (7), because the answers are not direct answers to the questions. They can be considered as congruent answers only with this intonation. In example (8), the configuration is different : the answer is a direct answer to the question. Even without accentuation, this pair question / answer would be congruent. Then, what is the role of this specific accent ? To suggest that the speaker has more to say or to ask to the same topic.

Contrastive topic :

- (6) Q: Glaubst du, Fritz würde diesen Anzug kaufen?  
 R: / ICH würde ihn sicher NICHT \ kaufen.  
 (6') Q: Do you think that Fritz would buy this suit?  
 R: Well, [I]<sub>B</sub> certainly [WOULDN'T]<sub>A</sub>.

Partial topic :

- (7) Q: Was hatten die Popstars an?  
 R: Die / WEIBlichen Popstars trugen KAftane \  
 (7') Q: What did the pop stars wear?  
 R: The [FEMALE]<sub>B</sub> pop stars wore [CAFTANS]<sub>A</sub>.

Purely implicational topic :

- (8) Q: Hat deine Frau fremde Männer geküsst?  
 R: / MEine Frau hat KEine \ fremden Männer geküsst.  
 (8') Q: Did your wife kiss other men?  
 R: [MY]<sub>B</sub> wife [DIDN'T]<sub>A</sub> kiss other men.

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<sup>3</sup> "Crucially, the two accents are phonologically different. The first is marked by a rising pitch accent, indicated by the slash / in (6),(7), (8). Phonologically, we take it to be a sequence of a L(ow) tone and a H(igh) tone, written as L\*H. The second accent -- the backlash \ in (6),(7), (8) -- is a falling tone, i.e. a high tone followed by a low one, or briefly H\*L » (Büring, 1997 : 53).

We observe similar data in French. Moreover, C-accent occurs everywhere in the sentence, before the focus constituent, on the focus constituent or after the focus constituent<sup>4</sup>.

- (9) a. [Qui a préparé la tarte ? *Who prepared the pie?*  
Bernard a éPLUché les pommes, Marina a fait la pâte. *B. peeled apples, M. prepared the pie*
- b. [Qui est venu ? *Who came?*  
BERnard est venu. *Bernard came.*
- c. [Qu'est-ce qu'il fume ? *What does he smoke?*  
Il fume des cigarettes le DIManche. *He smokes cigarettes on Sunday.*

So, the interesting point is that this accent has a discursive role, and that this discursive function can be useful, even perhaps necessary for accounting for some phenomena in French syntax. We will quickly mention here the appropriateness of hanging topic vs clitic left dislocation, or the possibility / impossibility of subject inversion in relative clauses. We will comment the following examples :

- (10) [Qu'as-tu offert aux enfants à Noël ? *What have you given to the children for Christmas ?*]
- a. A Marie, je lui ai offert une bicyclette. A Pierre, je lui ai offert un train électrique.  
*To Mary, I clitic have given a bike. To Peter, I clitic have given a train*
- b. A Marie, j'ai offert une bicyclette. A Pierre, j'ai offert un train électrique.  
*To Mary, I have given a bike. To Peter, I have given a train*

It seems that, in the case of partial answer, hanging topic (10a) is better than clitic left dislocation (10b).

The second example concerns subject inversion in relative clauses. It appears that inversion is not related to subject focusing. Indeed, stylistic inversion occurs most frequently outside of the focus domain as witnessed in clefts:

- (11) C'est [au restaurant]<sub>F</sub> qu'a dîné Pierre.  
*It was in the restaurant that Pierre had dinner.*

Consider the context of question (12) and the answers (13) and (14), which contain a relative clause. In (13), inversion is in free variation, and there is no difference in meaning between the two variants a and b.

- (12) Que sont devenus les étudiants dont Bernard s'est occupé ?  
*What happened to the students Bernard took care of?*
- (13) a. Les étudiants dont s'est occupé Bernard ont tous réussi.  
b. Les étudiants dont Bernard s'est occupé ont tous réussi.  
*All the students Bernard took care of have been successful*

In (14), the verb in the relative clause of the answer is different from that in the question. Each clause in the reply is a partial answer, in which a subgroup of students is

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<sup>4</sup> Capital letters indicate C-accents.

distinguished by the property denoted in the relative clause. Inversion as shown in (14.a) is not appropriate.

- (14) a. # Les étudiants qu'a soignés Bernard ont réussi, ceux qu'il a dissuadés de poursuivre une carrière sportive ont repris un cursus normal.  
b. Les étudiants que Bernard a soignés ont réussi, ceux qu'il a dissuadés de poursuivre une carrière sportive ont repris un cursus normal.  
*The students Bernard treated have been successful, those he persuaded not to go into sports careers returned to their studies*

Consider now the answers in (15) to the same question (12): both are appropriate, but they are not in free variation. The verb in the RC of the answer (*entraîner*, 'to train') is different from that of the question (*s'occuper de* 'to take care of'); *entraîner* and *s'occuper de* may, but need not be interpreted as synonyms here. When the property denoted by *entraîner* is taken as an equivalent to that denoted by *s'occuper de*, inversion is felicitous and the answer in (15a) is interpreted as a complete answer. When the property is taken as non equivalent, inversion is then inappropriate. The answer in (15b) is interpreted as a partial answer as in (14b): it concerns a sub-group of students and it calls for the pursuing of the discourse.

- (15) a. Les étudiants qu'a entraînés Bernard ont réussi aux Olympiades universitaires.  
b. Les étudiants que Bernard a entraînés ont réussi aux Olympiades universitaires.  
*"The students that Bernard trained have been successful at the University Olympics"*

To sum up, it seems to us that inversion in relative clause is not possible when the speaker uses the relative clause in order to layer the Discourse Topic (in the sense of Büring's terminology). In this case, if the inversion is forced, there is a semantic consequence, the Discourse Topic must stay identical, so the set denoted by the NP with the relative clause has to have the same extension as the set denoted by the NP in the precedent question.

The data presented here are just one aspect to be accounted for in a complete analysis of stylistic inversion from an informational perspective (see Marandin, forthcoming). Nevertheless, they clearly show that Ground-Focus articulation is not involved in the felicity and meaning of inversions in relative clauses. Rather, it is the type of discourse strategy that plays the crucial role to explain this data.

**3-** In the third and last part, we will provide an analysis of **the meaning of final high tones vs final low tones in French** (in ordinary dialogues). This part of our work takes its origin in Bartels' and Gunlogson's theses. They have observed that there is no one-to-one mapping between an illocutionary force (assertion vs question), a syntactic type (declarative vs interrogative sentence) and a tune (fall vs rise) : H% does not code for questions nor L% for assertions. In fact, it is easy to find in corpora falling questions (namely syntactically marked questions such as *wh*-questions (cf 16)) and as well as rising assertions (cf. (17) from Fontaney (1991)).

- (16) *Qui est venu avec Jean ? L%*      *Who came with John ?*  
(17) [1] A: *C'est quoi .. comme carte ?*

- [2] B: *Euh c'est cette carte H%. Oui c'est cette carte là H%*  
*This is the card. Yes, this one.*
- [3] A: *Moi j'la connais pas hein*
- [4] B: *Ben c'est la carte de personne âgée H%*  
*This is the card for old people.*

So, insofar as we want to consider seriously (1a) and (1b), we have to solve the following question : what is then the meaning of H% vs L% and how does it interact with illocutionary force?

Our claim is that the contrast between H% vs L% is related to Speaker's attitude towards the local context of his/her utterance and the choice between a falling or a rising tune depends on whether (s)he sees the context as a defective context or a nondefective context (Stalnacker 1978<sup>5</sup>).

- (18) By using a final L%, the speaker is signalling that (s)he sees the context as nondefective c: (s)he assumes that the hearer agrees on the current activity and/or their presuppositions.
- (19) By using a final H%, the speaker is signalling that (s)he is aware that the hearer does or may disagree on the current activity and/or their presuppositions.

The effect of (18) is that L% is so to speak transparent to illocutionary forces: the illocutionary value of the utterance is that which is associated with its syntactic type (see Ginzburg & Sag (2000) for the association syntactic type / illocutionary force). Hence, a declarative sentence with final L% carries an assertion whereas an interrogative sentence with L% carries a question. On the other hand, (19) explains the value taken by assertions or questions with H%. In (17), at turns [2] and [4], the speaker signals that she is fully aware of the disagreement of the hearer, but nevertheless fully confident that (s)he is entitled to assert that (s)he has a card and that her card is of the right type in order to get a reduction on her ticket<sup>6</sup>.

And finally, we can take an utterance of the interrogative type with H%, such as (20) :

- (20) A: [C'que j'comprends pas très bien, c'est pourquoi euh justement puisqu'en fait ces gens-là, ces profs d'EN, étant donné qu'ils travaillent en collaboration avec nous, cela signifie qu'ils soient compétents en la matière, hein euh]  
 Pourquoi est-ce qu'ils ont besoin d'aller chercher des professeurs à l'extérieur H%  
*Why do they need to get outside teachers ?*

The speaker signals that the hearer (who is in charge of the program) may disagree on the context set: even if the hearer has good reasons to hire teachers from outside, the speaker refuses the very fact that it should be so.

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<sup>5</sup> "Each participant in a conversation has his own context set, but it is part of the concept of presupposition that a speaker assumes that the members of his audience presuppose everything that he presupposes. We may define a nondefective context as one in which the presuppositions of the various participants in the conversation are all the same. A defective context will have a kind of instability, and will tend to adjust to the equilibrium position of a nondefective context" (Stalnaker, *Assertion*: 151). We extend Stalnaker's definition by adding that in a nondefective context the speaker assumes that the members of his audience agree on the current activity in which his/her move takes place. In a defective context, the speaker and his/her partner may disagree on the current activity.

<sup>6</sup> Note that H% is quite unexpected if one assumes with Bartels that falling intonation is associated with assertiveness.

**Hence**, it seems to us that these three sets of observations call for a dialogical modelization instead of the more monological ones that are often assumed in formal pragmatics frameworks. And we hope that they can constitute a first step in the elaboration of a grammar of French intonation.

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