

## **Intonative Features of Young French Speakers: Studied Using Utterance Testing**

HATTORI Takuya (3rd year doctoral student, Studies in Language and Culture)

### **Introduction**

French intonation is typologically special. French is a stress-accent language, but its pitch movements tend to be diverse as the accent does not have a distinctive function.

For these reasons, although researches on French intonation are progressing, it is difficult to say that the results have been fully returned to educational sites vis-à-vis those of intonation languages such as English and Russian (Wells, 2006; Bryzgunova, 1977). In addition, recent studies of French intonation have a phonological orientation (Martin, 1987; Di Cristo, 1998, 2016), and their descriptions and tonal symbols are abstract and esoteric to the learner. Analytical models that are predominant in the context of pedagogy thus tend to be somewhat outdated (Léon & Léon, 1964; Delattre, 1966).

On the other hand, the influence of the French language is inevitably expand in the future, and some report that French will surpass English and Mandarin Chinese by 2050 and will return to the status of Lingua Franca again. It is expected that the number of learners will increase accordingly, so it is required to update the old framework by then.

Therefore, the present study attempts to verify the validity of Delattre (1966), which has a high educational effect, focusing on young French speakers.

### **Materials and Methods**

#### **Analytical Model**

Delattre (1966) was used in the current study. It extracted ten basic intonations from three different genres of French speech: lecture (by Simone de Beauvoir), dialogue, and theatrical play (Figure 1). Each section of the four pitch levels shows 6 ST, with a pitch range of one and a half octaves from level 1 to level 4. This division is highly accurate: Rossi (1999) has re-verified the pitch range, and it is confirmed that the average vocal range in conversation is approximately 18 ST in any language (Denes & Pinson, 2015).

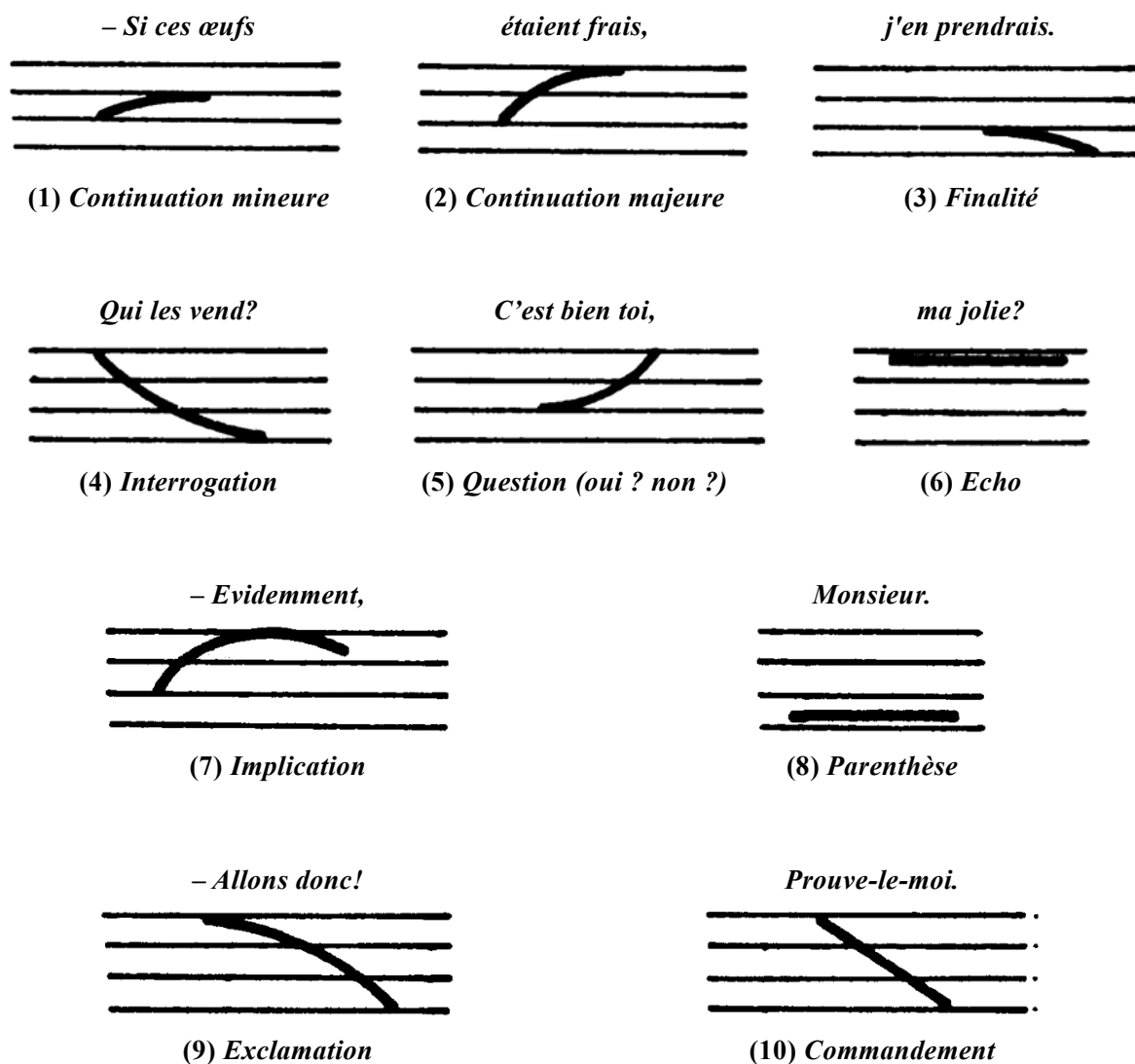


Figure 1. Schematic of the ten most frequent French intonations utilizing four pitch levels (Delattre, 1966, pp. 4–6).

– Si ces œufs étaient frais, j'en prendrais. (If these eggs were fresh, I would take some.)

[si sez œ etɛ fʁɛ | ʒɑ̃ pʁɑ̃dʁɛ]

Qui les vend? C'est bien toi, ma jolie? (Who sells them? Is that you, my pretty?)

[ki le vɑ̃ || sɛ bjɛ̃ twa | ma ʒoli]

– Evidemment, Monsieur. (Obviously, sir.)

[evidamɑ̃ | mɔsjø]

– Allons donc! Prouve-le-moi. (Come on! Prove it to me.)

[alɔ̃ dɔ̃k || pʁuv lə mwa]

## Participants

Four native French speakers living in the Kinki area participated in the recording (Table 1):

Table 1

*Participant Characteristics*

	Age	Sex	Location
FR_F1	20s	female	Lyon, France
FR_F2	20s	female	Lutry, Switzerland
FR_M1	20s	male	Paris, France
FR_M2	20s	male	Bottens, Switzerland

Of these, two are from the Vaud canton, a francophone area of Switzerland, but there is no regional difference in the French intonation spoken in France, Switzerland and Belgium (Avanzi, Obin, Bardiaux, & Bordal, 2012). Delattre (1966) created a pitch contour from utterances by one male speaker, but since the acoustic analysis of intonation customarily targets about four to five people, this study selected four participants.

## Acoustic Analysis

Acoustic parameters such as pitch range and its direction were measured using the acoustic analysis software Praat (ver. 6.0.29). In principle, pitch movements in syllables other than *tonique* fall outside the scope of this study. This is because it does not contribute to the expression of the pragmatic meaning of the sentence and shows a wide variety of movements. In the next chapter, the pitch range in Delattre (1966) will be used as the reference value, but it should be noted that it is a value for the entire *groupe rythmique*, so strictly speaking, it differs in nature from the results obtained in this study. Furthermore, based on recent research findings, the level of the register was also excluded from the analysis.

## Results and Discussion

As a result of acoustic analysis, problems to be updated and phonetically interesting points were found in the following three items: *continuations* (*continuation mineure*, *continuation majeure*), interrogatives (*interrogation*, *question* [*oui ? non ?*]), *parenthétiques* (*écho*, *parenthèse*). We will

explain each item in order below.

Table 2

*Pitch Range for Each Participant per Groupe Rythmique*

	<i>Cm</i>	<i>CM</i>	<i>Finalité</i>	<i>Interrogation</i>	<i>Question</i>	<i>Echo</i>	<i>Implication</i>	<i>Parenthèse</i>	<i>Exclamation</i>	<i>Commandement</i>
FR_F1	4.1	-1.9	-6.9	5.6	5.2	4.3	8.4	-3.4	-6.3	-7.9
FR_F2	10.1	8.6	-8.8	14.5	11.6	9.4	7.8	-4.8	-4.2	-2.0
FR_M1	2.8	4.8	-8.3	-7.5	8.7	-2.5	8.9	0	-8.8	-5.0
FR_M2	6.9	5.9	-4.3	7.4	7.9	6.5	8.4	-3.7	-5.8	-4.5
<i>M (re)</i>	6.0 (6.0)	4.3 (12.0)	-7.1 (-6.0)	5.0 (-18.0)	8.4 (12.0)	4.4 (0)	8.4 (12.0)	-3.0 (0)	-6.3 (-18.0)	-4.9 (-18.0)

*Note.* *M* = Mean, re = reference value

### Continuations

**Continuation mineure.** The overall average value was exactly the same as the reference value, but a large difference was observed among the participants. As a general tendency, there was a difference between the utterances by the French participants and those of the Swiss participants, and a relatively large pitch range was confirmed in the latter. In other *groupes rythmiques*, however, the opposite can be seen (e.g. *implication*), which does not mean that Swiss participants have a consistently wider pitch range. In the utterance of participant “FR\_F2,” the initial “*si*” is pronounced in the high-tone range, but the pitch drops to near the lower limit of her vocal range at the connected “*ces*,” and then at “*œufs*,” the pitch also rose to the high range (Figure 2).

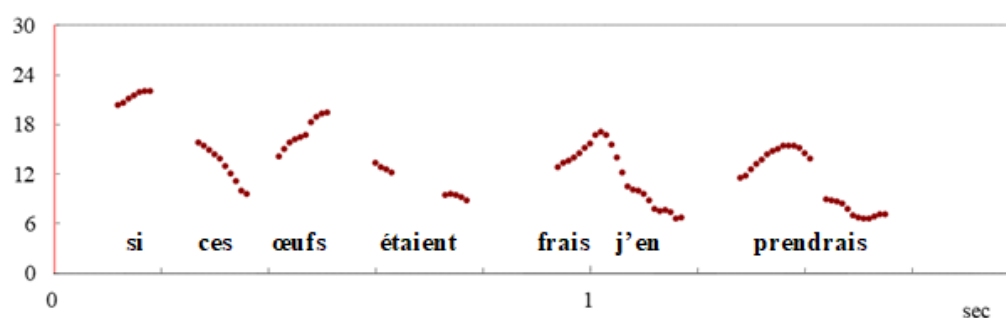


Figure 2. Participant “FR\_F2”: At the *tonique* in *continuation mineure*, the pitch rises significantly from the low-tone range to the high-tone range.

Generally, intonation has a phenomenon called “step down,” in which the pitch drops once to give momentum before it rises. “*Ces*” can be regarded as a remarkable phonetic realization of that step down.

**Continuation majeure.** The mean value was well below the reference value. By definition, *continuation majeure* requires an increase of about twice that of *continuation mineure*. In the utterances by the participant “FR\_M1,” they were 4.8 ST and 2.8 ST, respectively, and the results were close to those conditions in terms of the ratio of the pitch range, but the pitch range was still significantly smaller than the reference value (Figure 3).

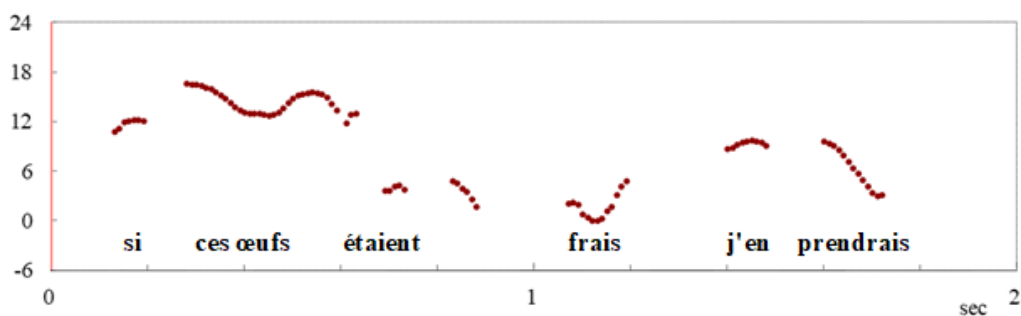


Figure 3. Participant “FR\_M1”: The amount of increase in *continuation majeure* is about twice that in *continuation mineure*.

Moreover, in the utterance by the participant “FR\_F1,” the pitch does not rise but even fall (Figure 4).

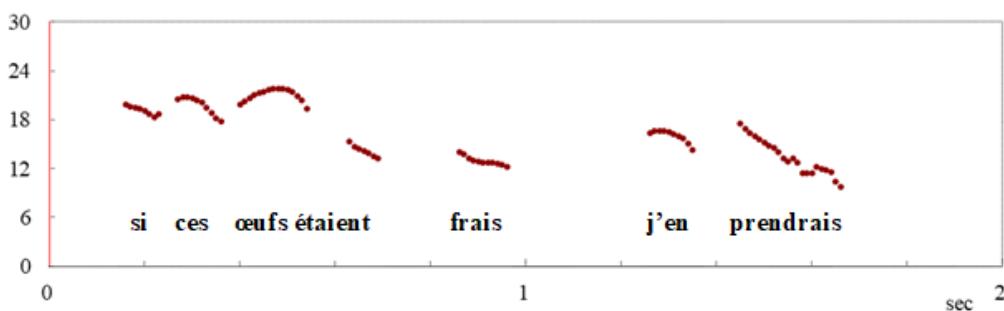


Figure 4. Participant “FR\_F1”: The pitch of *continuation majeure* is on a slight downward tendency overall.

The range used in her *continuation majeure* is one step lower than her *continuation mineure* overall, and despite the fact that the pitch is more likely to rise from the viewpoint of “step down,” it is noteworthy that the amount of increase was rather small. In sum, an upward trend was confirmed among most participants, so it seems at least possible to say that the end of *groupe rythmique* in a sentence rises in a context that does not have a special pragmatic meaning. On the other hand, the

generalization of “the pitch rises relatively significantly at the end of the clause” was found to be less accurate.

### *Interrogatives*

**Interrogation.** The average value obtained deviated from the reference value. Delattre stated that the intonation was lowered in the French interrogative. On the other hand, the intonation was rather rising here, and only in the utterance by the participant “FR\_M1,” the pitch was falling (Figure 5).

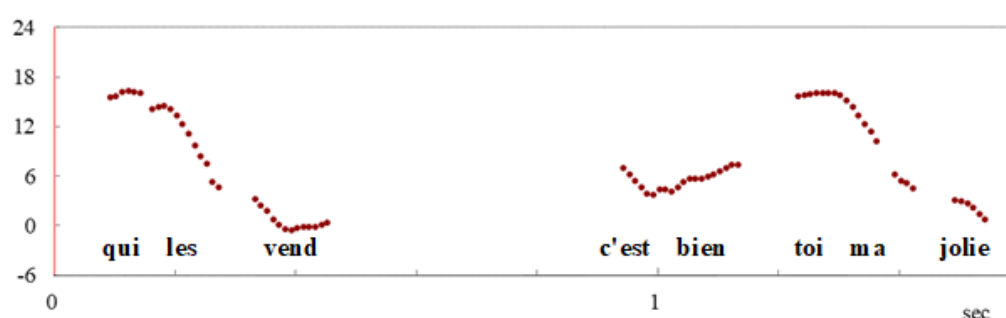


Figure 5. Participant “FR\_M1”: The intonation is falling in the interrogative.

In the case of pitch movement at *tonique*, as can be seen from the table, a pitch range close to the absolute value of the reference is confirmed only in the utterance by the participant “FR\_F2” (Figure 6).

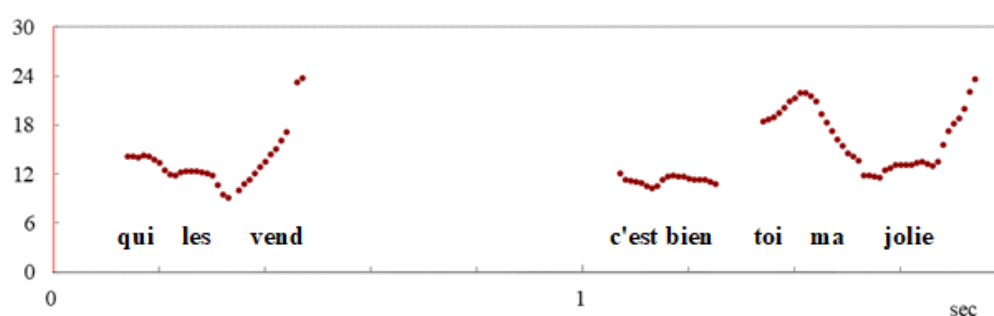


Figure 6. Participant “FR\_F2”: At *tonique* “vend,” the pitch has increased significantly to about one and a half octaves.

Furthermore, if the target is expanded to the entire *groupe rythmique*, the utterances by the participants “FR\_M1” and “FR\_M2” in addition to her will fall within this range (Figures 5, 7).

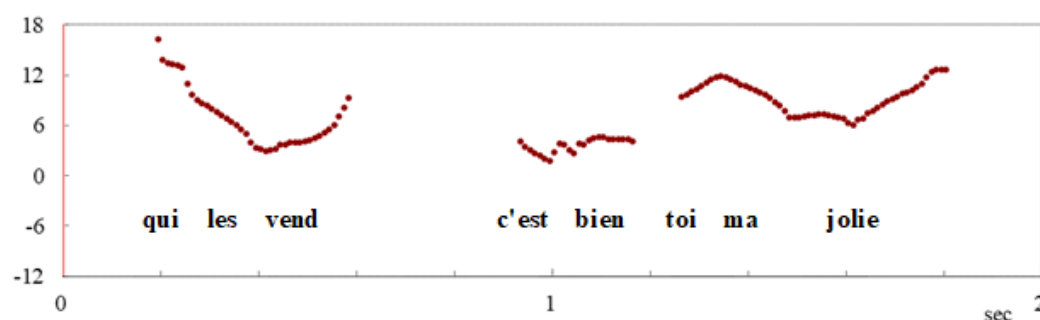


Figure 7. Participant “FR\_M2”: At “les” just before *tonique* “vend,” the pitch has dropped significantly.

However, the intonation increased in the utterance of the participant “FR\_F2,” and a remarkable step down occurred in the utterance of the participant “FR\_M2.” Looking at the *groupe rythmique* as a whole, it has a pitch contour like the English fall-rise.

**Question (oui ? non ?).** No significant difference was found when comparing the pitch range of each participant in this *groupe rythmique* with that in *interrogation*. Therefore, these statements by Delattre should be amended. Considering what was said in the previous section, if the pitch range and the direction of movement are the same, it would be better to integrate *interrogation* into “Question,” for example, from an educational point of view.

### **Parenthétiques**

**Echo.** The pitch ranges of all participants were smaller than the pitch range of the other *groupe rythmique*. However, the average value was larger than the reference value to some extent, and the pitch tended to rise overall. Consequently, the description by Delattre treated *écho* as level, but it may be better to treat it as rise, considering that the pitch range can be comparatively suppressed.

**Parenthèse.** The same result as in the previous section was obtained, but since the average value is close to the reference value, it should not be a problem to be discussed. However, the pitch was on a downward trend for all participants, and even in the utterance of the participant “FR\_M1,” the pitch was falling though the range was as small as 0.03 ST (Figure 8).

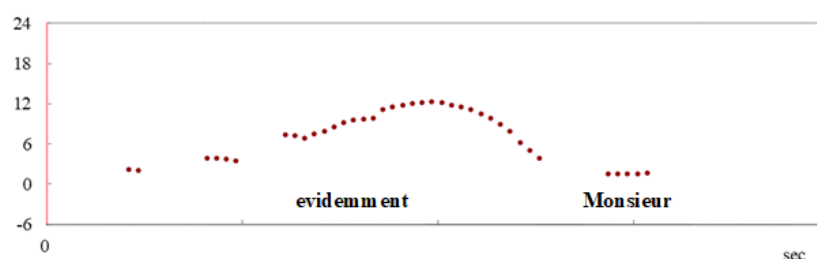


Figure 8. Participant “FR\_M1”: Tonique “Monsieur” is pronounced almost flat.

Therefore, the description by Delattre treated *parenthèse* as level, but since it is educationally easy to comprehend when considered as a set with the above-mentioned *écho*, it may also be a good idea to treat it as a fall, considering that the pitch range can be relatively suppressed.

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