Utterance boundary tones in French

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General assumption and claims:

Aim: Accounting for the pitch movement realized on the rightmost syllable of utterances (UPs) in French. Here, we focus on questioning interrogatives.

Observation: Questioning interrogatives are usually associated with a falling nuclear contour (nuclear fall, henceforth L*) but a final movement (aligned with the declinaison slope, rising or falling), generally occurring on the last syllable, is observed. Very often, the L* is aligned with the penultimate syllable and the last syllable is realized as a rise, or a fall, or a continuation of the contour. The choice between the three contours is meaningful.

Claims:

– Final movements are reflexes of boundary tones restricted to the right edge of Utterance Phrases (this edge may coincide either with the right edge of the nuclear or the post-nuclear domain). Accordingly: M%, H% or L%.

– Final movements convey a meaning pertaining to the call-on-addressee (Beyssade & Marandin 2007, Truckenbrodt 2004).

Utterance BTs	Type of call-on-addressee
M%	neutral
H%	conciliatory
T%	peremptory

Prosodic analysis of boundary tones
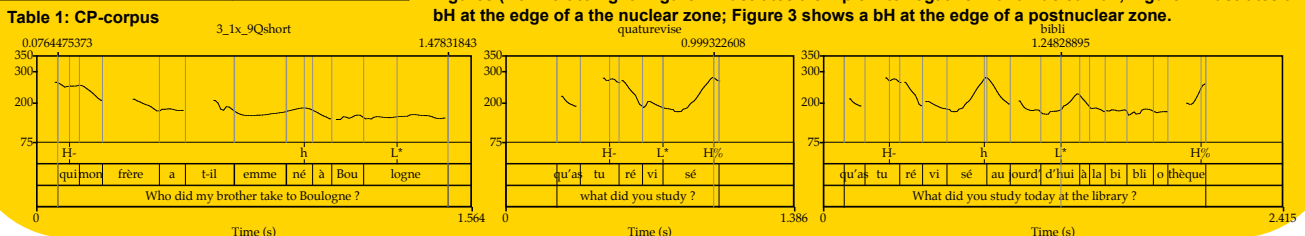
Material: Two corpora :

- a corpus of 60 wh-interrogatives making up the instructions of a production experiment recorded by a professional linguist in a sound-proof room. All feature a falling contour. (CP-corpus/Pro-Gram).

- a corpus of interrogatives extracted (on a perceptual basis) from ESTER: recorded radio speech (news, talk-show, interviews, etc.).

Post-nuclear constiuency	Number of tokens	
No post-nuclear AP	34	56,6%
1 post-nuclear AP	20	
2 post-nuclear AP	3	total : 38,3%
Left out tokens	3	
Occurrence of T%		
No T%	17	28,3%
H%	36	60%
L%	0	
Uncertain tokens	7	11%

Table 1: CP-corpus

Analysis of the elicited material:

- Tokens with a final H are never identified with tokens with a nuclear rising contours (nH) by speakers of French.
- Final Hs are aligned with the nucleus of the syllable (while nH are aligned with the onset)
- Final Hs may be realized at the end of appendices, even though a falling contour is realized on the rightmost edge of the nuclear domain (Beyssade et al 2007).
- Final Hs are observed in 60% of the CP-corpus.

Figures (from left to right: Figure 1 illustrates a simple interrogative with a nuclear fall; Figure 2 illustrates a bH at the edge of a the nuclear zone; Figure 3 shows a bH at the edge of a postnuclear zone.

Preliminary results of two perceptual tests (one judgement test and one identification test)

Judgement experiment (Praat listening experiment script):

Task: Judging whether the question fits in the context or not (closed choice)

Stimuli: 4 radio extracts ending with a question. The bT is manipulated (bHigh, bMid, bFall). 3 reiterations of the same extracts were presented in a random order (= 4 extracts x 3 conditions x 3 times = 36 stimuli) The participants could listen to a stimulus only once; there was no time limitation for answering.

Participants: 20 native speakers of French, adults, aged 20-35 years

Hypothesis: The felicitous /non felicitous fit of questions in context depends on the choice of bTs, which depends on the relation between questioner and questionee.

Expected answers:

stimulus	Original bT	bL	bH	bM	reason
CBF181	bH	+	+	+	The questioner is obliged to be respectful towards the ambassador, bL possible given the topic and if the status of the questionee is left out
CBF182	bM	-	+	+	Information seeking, bL impossible given the topic, bH possible
CBF184	bM	+	-	+	Self-addressed questions, bL and bH are strange because no real call-on-addressee
CBF185	bM	+	+	+	Professional but friendly interview between journalists, but bL possible given the topic on the Iraki war

Rate (in %) of correct answers

stimulus	bL	bH	bM
CBF181	58,3	63,3	86,7
CBF182	50	81,7	83,3
CBF184	88,3	70	70
CBF185	68,3	51,7	78,3

Work in progress with other stimuli (from radio corpus but also general conversation) in order to isolate only the dominance relations between DPs, no matter the topic discussion.

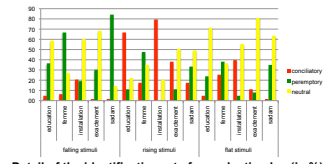**Identification experiment (Praat listening expriment script):**

Task: Judging whether the speaker is asking in a neutral, conciliatory or peremptory way.

Stimuli: 5 questions extracted from the ESTER-corpus. The bT of each question is manipulated (bHigh, bMid, bFall). 3 reiterations of the same extracts were presented in a random order (= 5 questions x 3 conditions x 3 times = 45 stimuli). The participants could listen to a stimulus only once; there was no time limitation for answering.

Participants: 21 native speakers of French, adults, aged 20-35 years.

Identification rate (%) for all stimuli

	conciliatory	peremptory	neutral
Rising	43,8	20,6	35,6
Falling	7,0	46,7	46,3
Flat	16,5	21,6	61,9

Detail of the identification rate for each stimulus (in %)

The CHI2 test shows a relation between the stimuli and the answers (Chi2(4)=171,99, p<0,001 ; contingency coefficient = 0,39).

In order to interpret the identification rates, one should keep in mind that the stimuli were obtained by manipulating actual questions. The topic of the question does interfere in the participants' judgment, e. g. the question *where is Saddam Hussein?* attracts a high number of peremptory judgements independently of the bT. Dominance relations will be more carefully monitored in future experiments.

Pro - Gram
http://pro-gram.linguist.jussieu.fr/

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