



UMR 6057 CNRS

Laboratoire Parole & Langage

Université de Provence - Aix-en-Provence, France

Prosodic units in French interactional data

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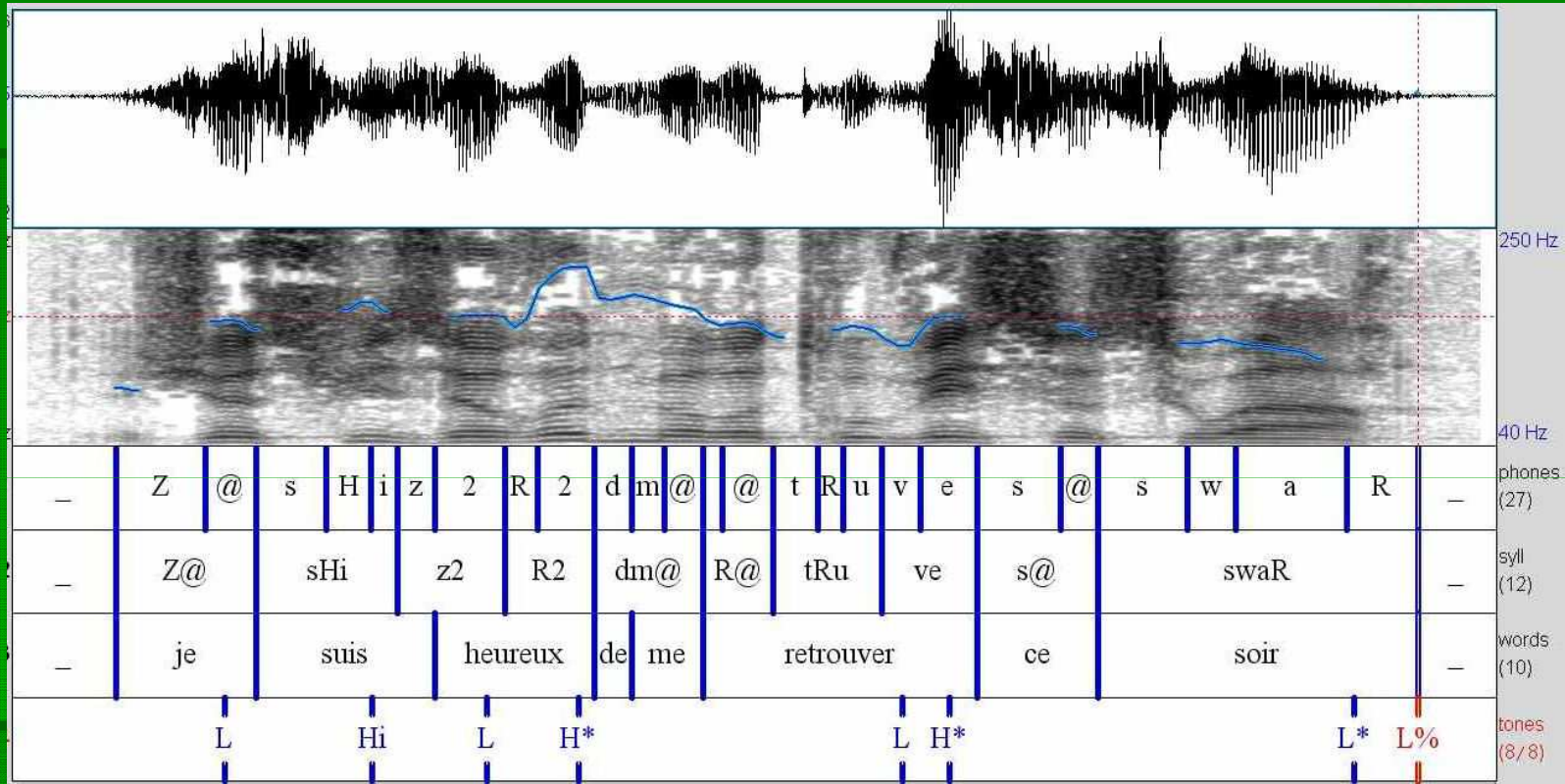
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Claim

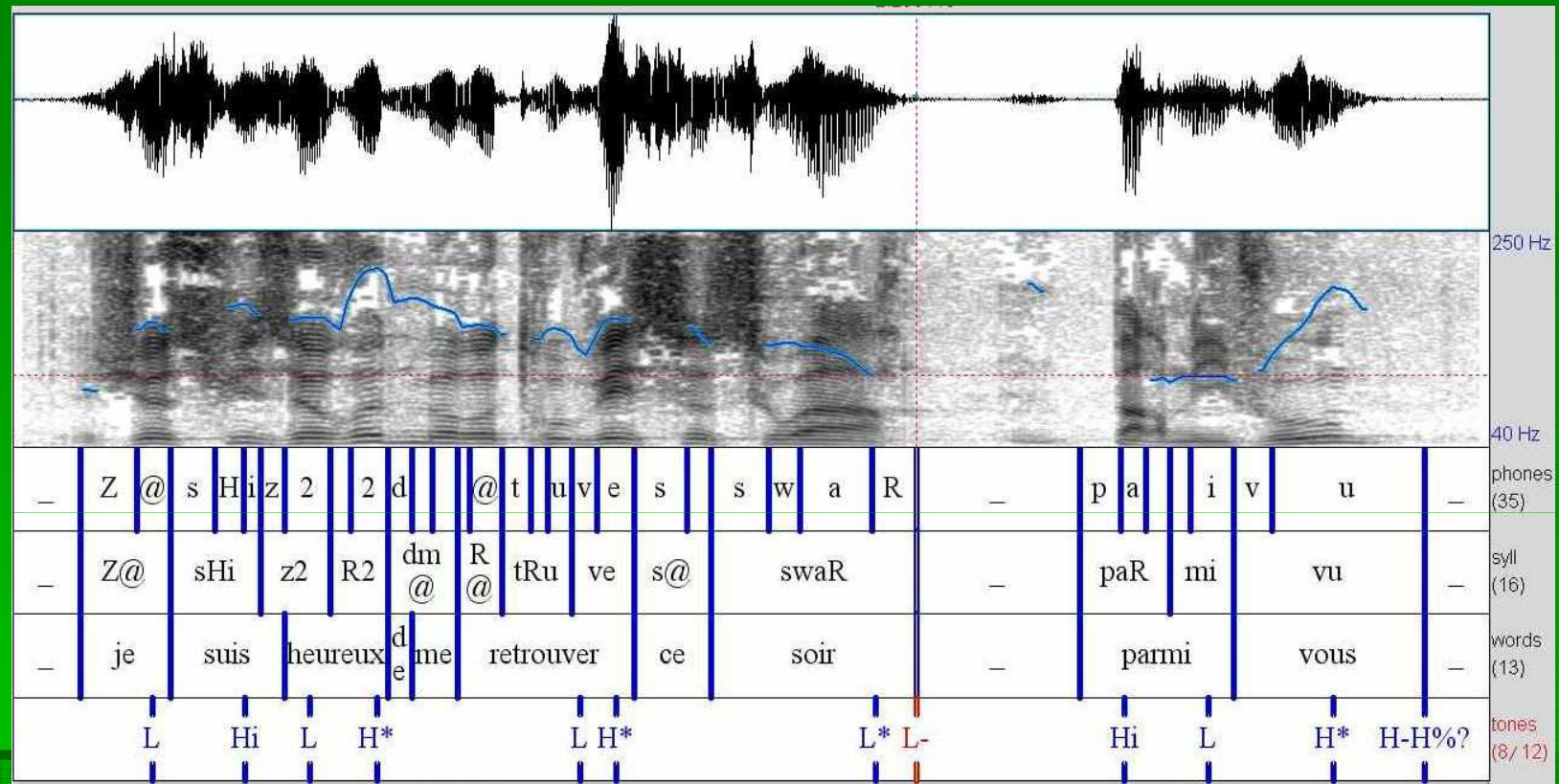
- The prosodic *abstract* phonological units elaborated thanks to experimental data can be identified in all kinds of data, including conversational ones
- 3 conditions:
 - Factorize prosodic « orthogonal » continuous dimensions
 - Factorize dysfluencies
 - Sometimes factorize turn taking

Abstract phonological units 1



- A falling end of the intonational phrase (IP)
- The end of the clause

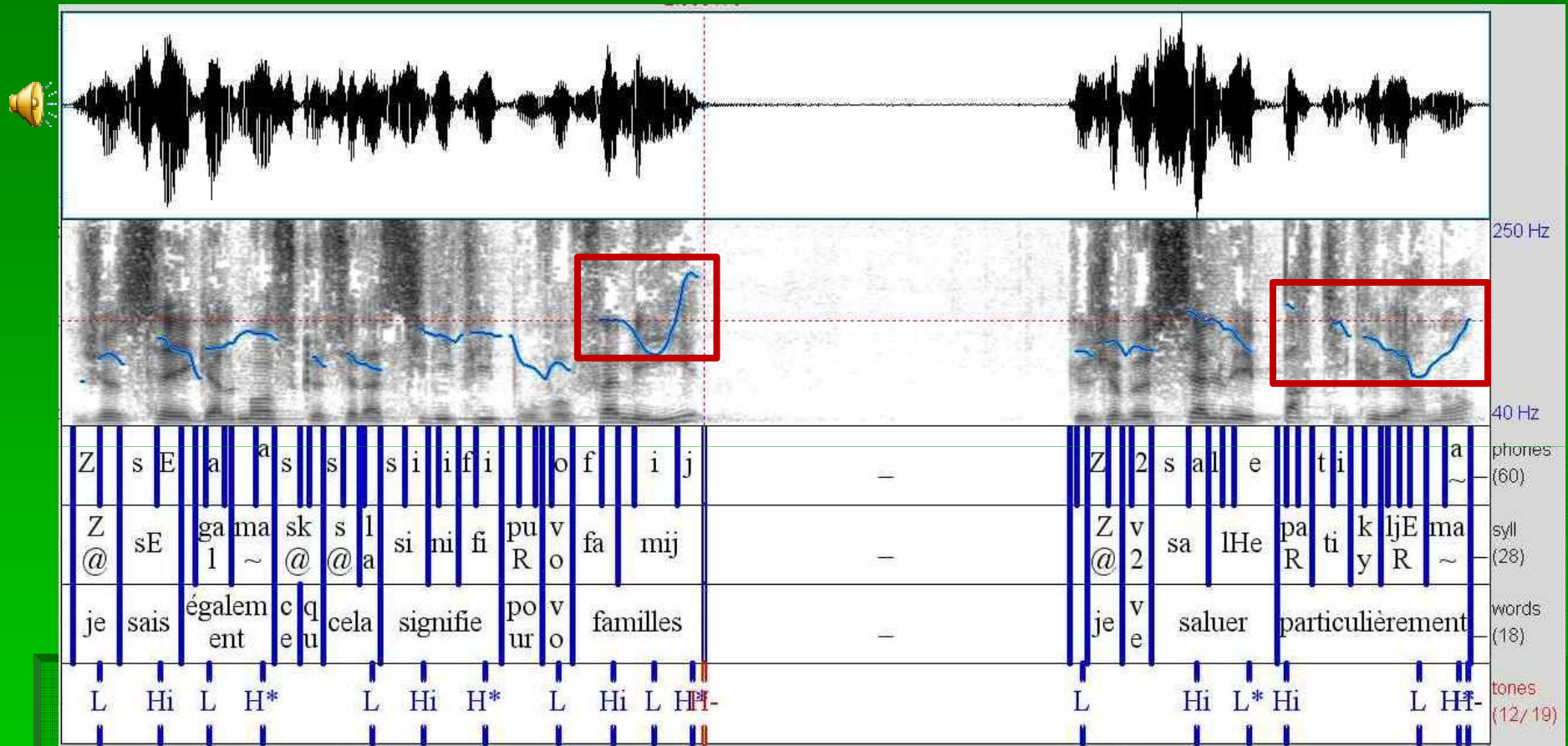
Abstract phonological units 2



- A falling end of the intermediate phrase (ip)
- Non final of the clause
- The verb having a different meaning
- Role of the silent pause

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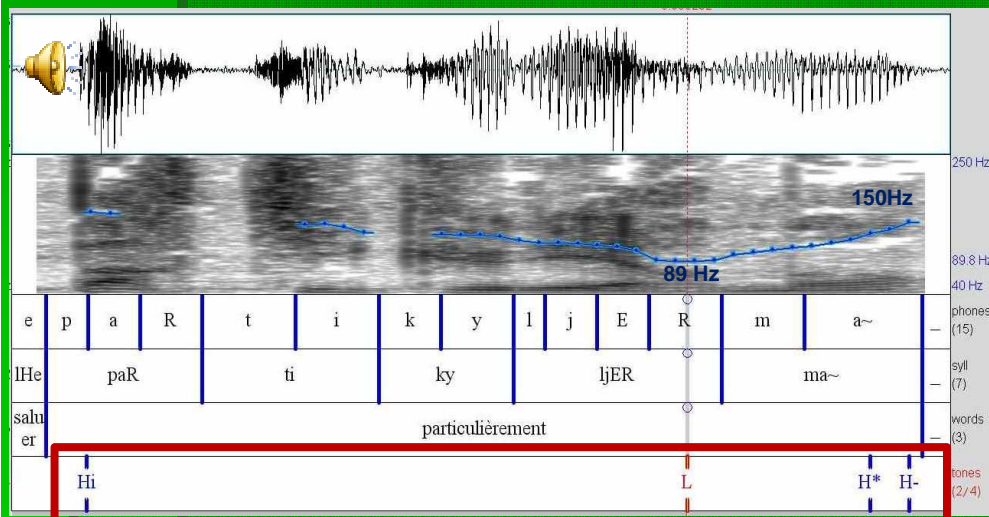
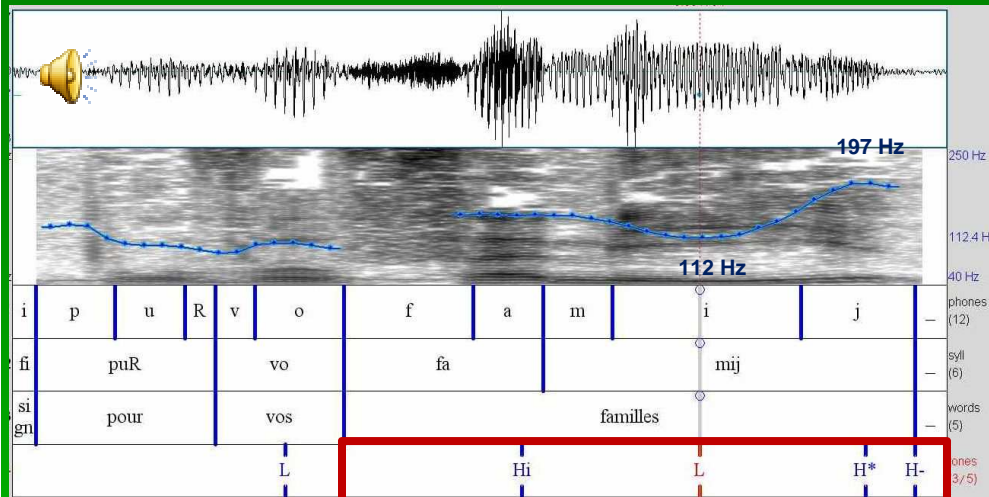
Phonological constraints: syl nb



- 2 occurrences of HiLH*H-
- Register differences: level and span
- L alignment difference

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Phonological constraints: syl nb



- HiLH*H-
- A different number of syllables
- L alignment difference = phonological constraint = tonal crowding
- Register differences = discourse status = parenthetical

First conclusions

- Prosodic abstract phonological units:

1- Are not directly recoverable from their phonetic realization

- Problem for automatic identification

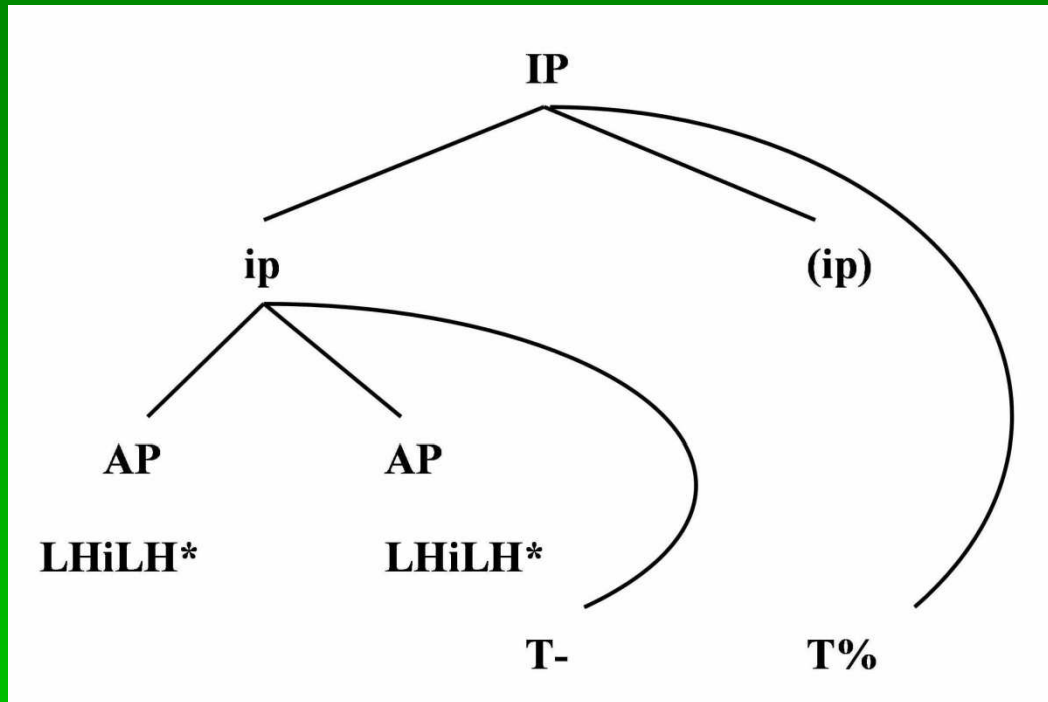
2- Change following phonological constraints

- Tonal crowding

3- Change following orthogonal prosodic variation

- Register (tempo)
- Pragmatic and social meanings

French intonational phonology



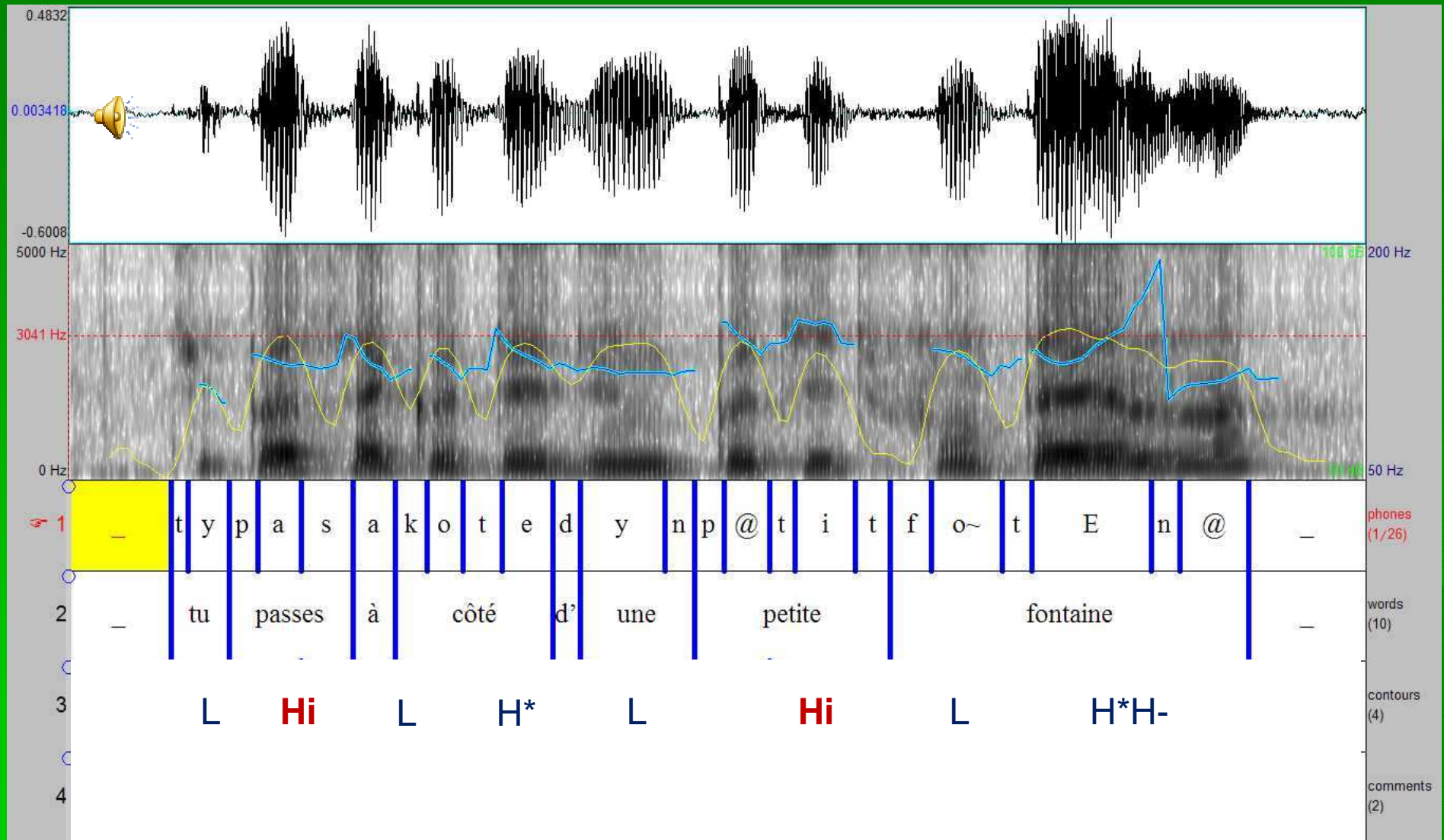
- IP: Intonational Phrase
- ip: intermediate phrase
- AP: Accentual Phrase
- L: low tone
- Hi: initial high tone
- H*: high pitch accent
- T-: phrasal tone
- T%: boundary tone

- Surface realizations of AP:
 - LHiLH*
 - LH*
 - LLH*
 - LHiH*
 - LHiL*

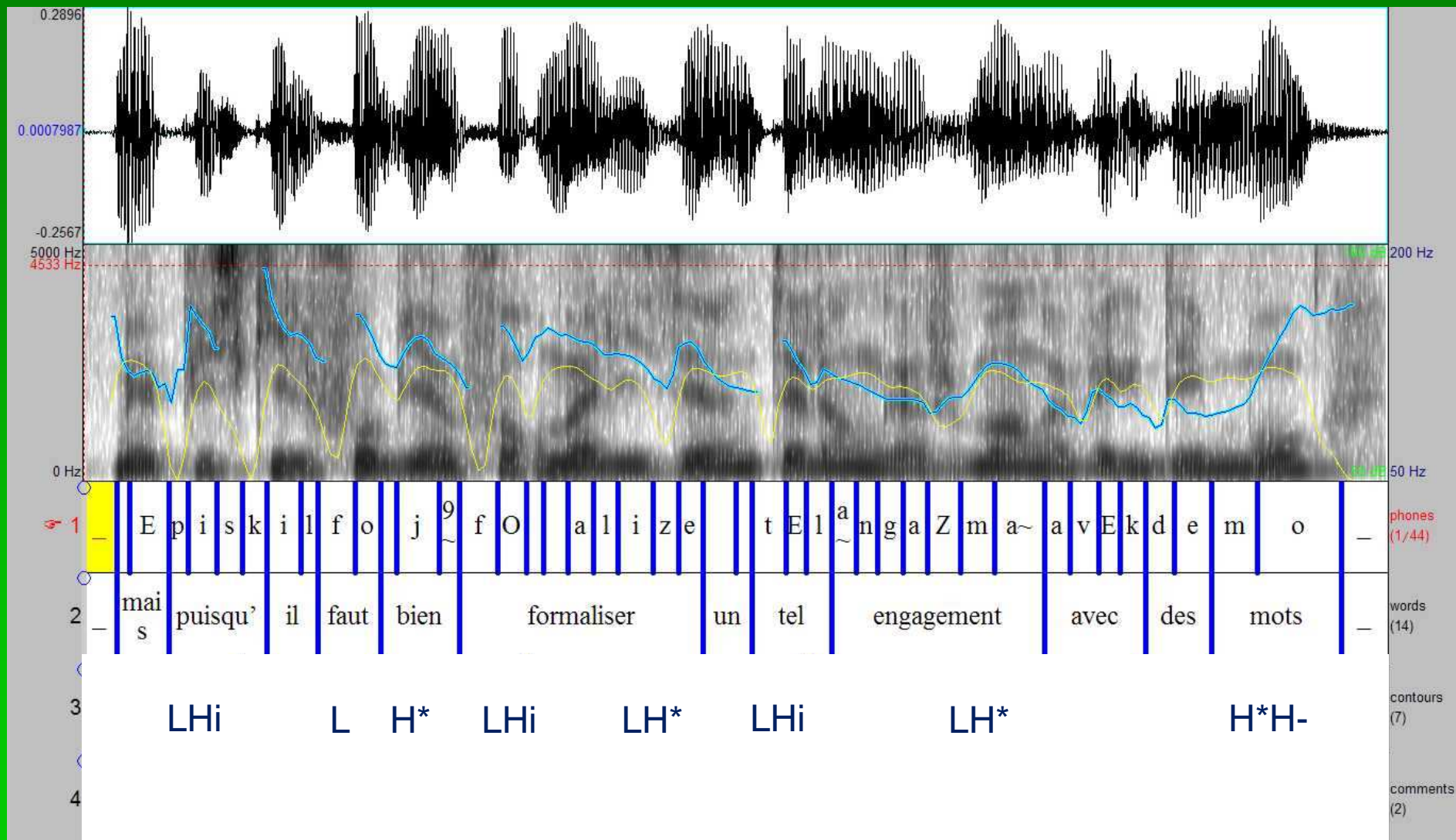
Adapted from Jun & Fougeron 2000, 2002

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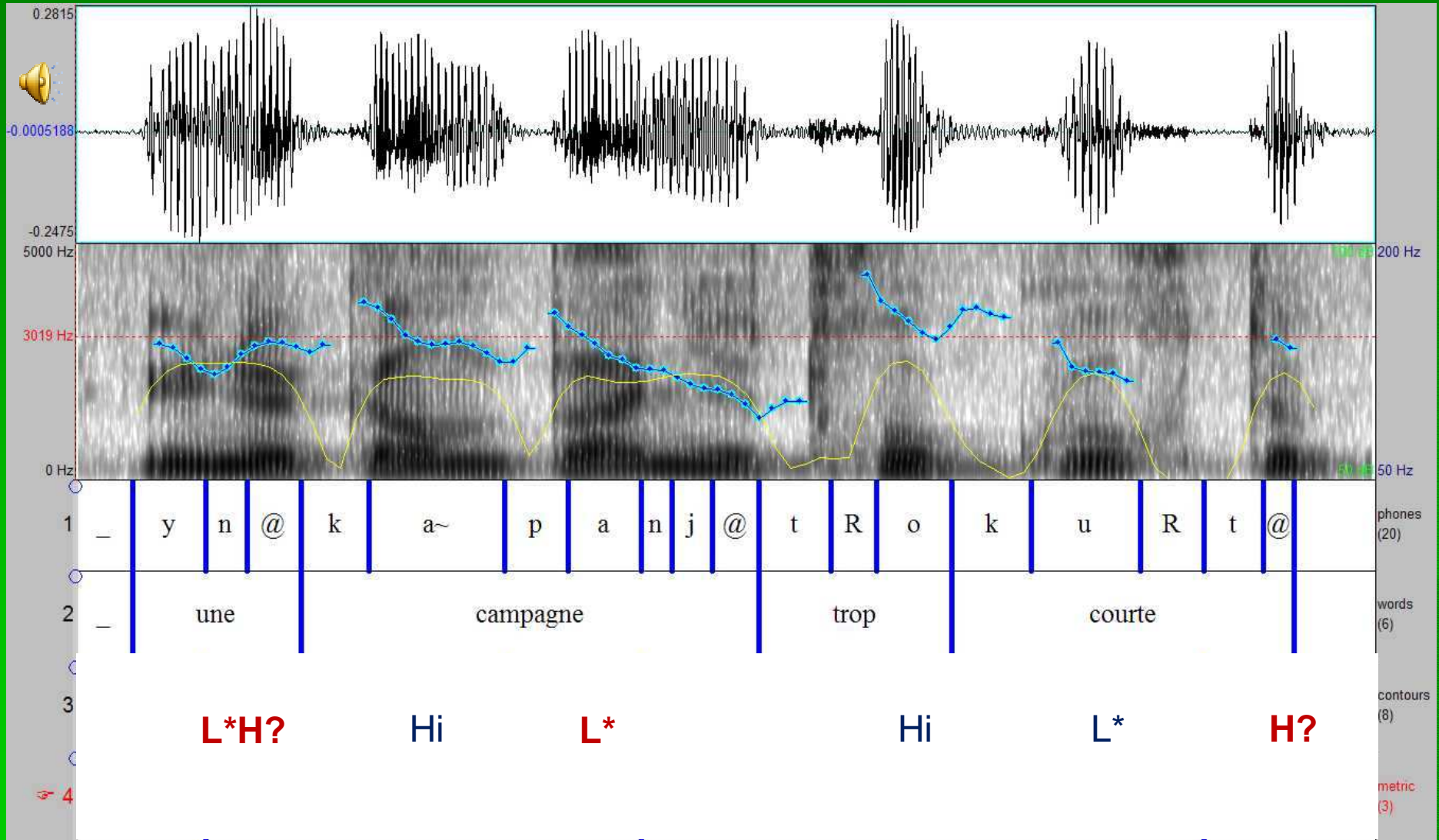
Accentual Phrase: Hi initial?



Accentual phrase: downstep



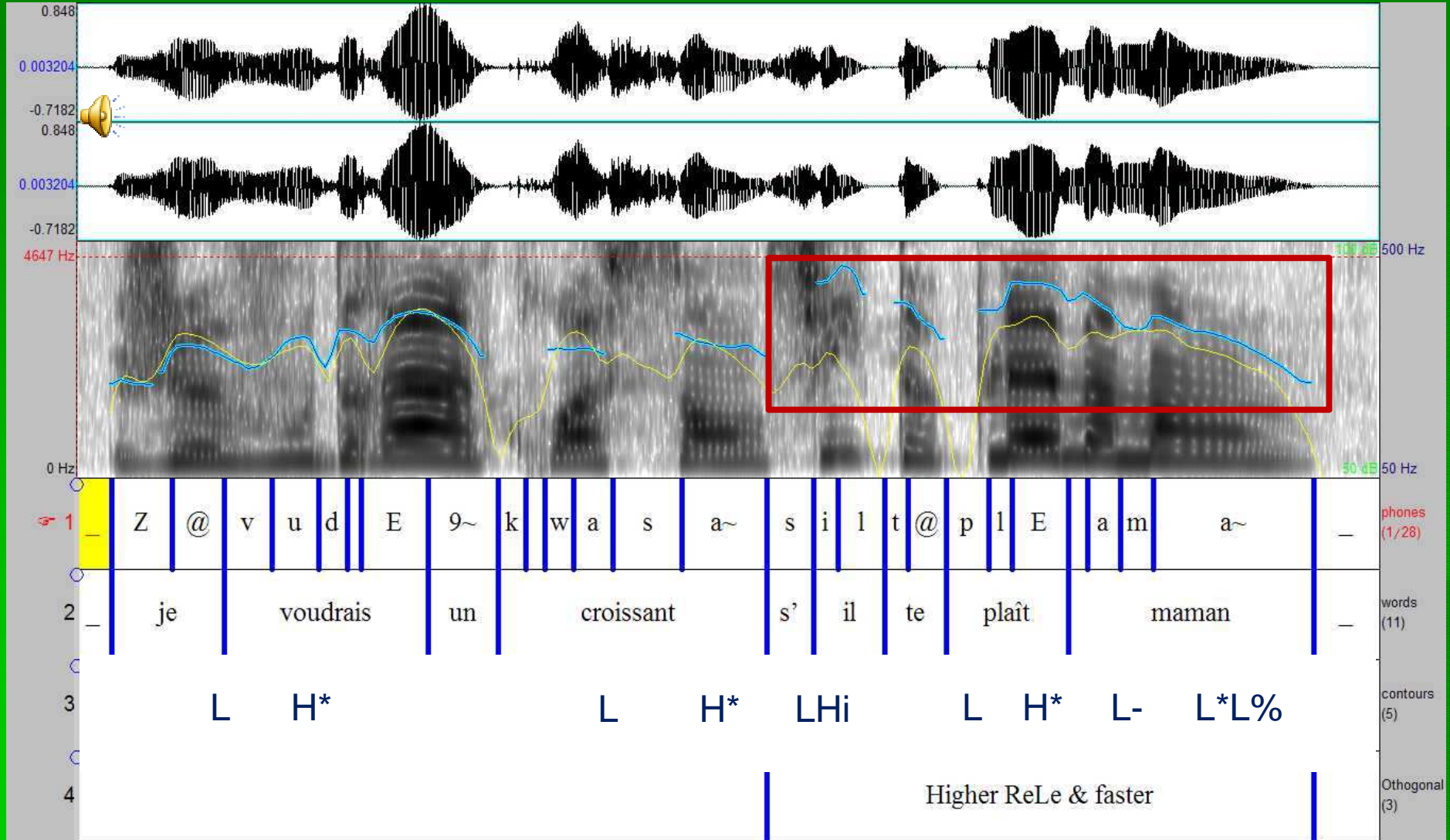
Unusual patterns



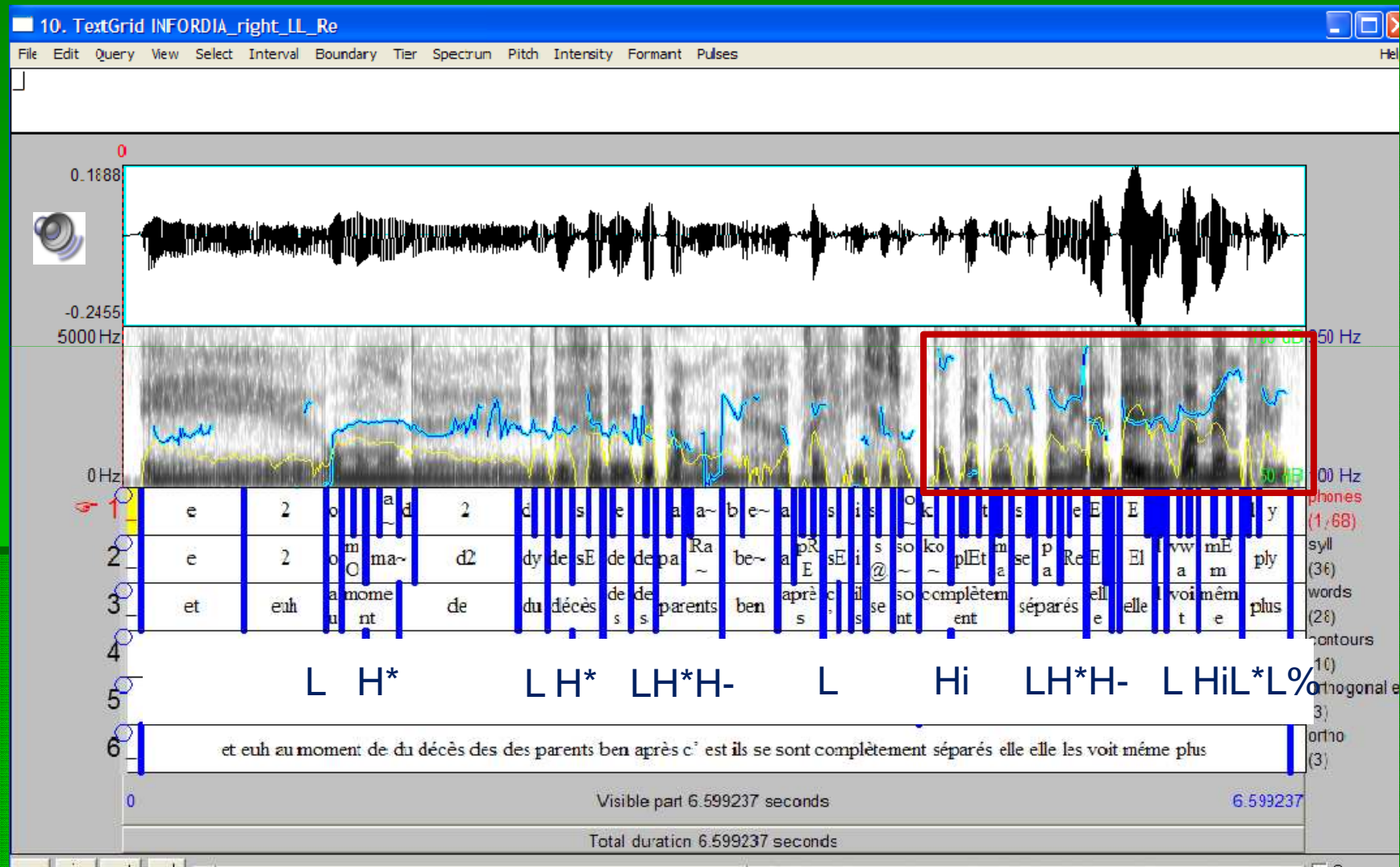
Two *continuous* orthogonal prosodic dimensions

- Register
 - Level (of L targets):
Higher or lower
 - Span (difference between L and H targets)
Expanded or compressed
- Tempo
 - Faster or slower
- Pragmatic and social meanings

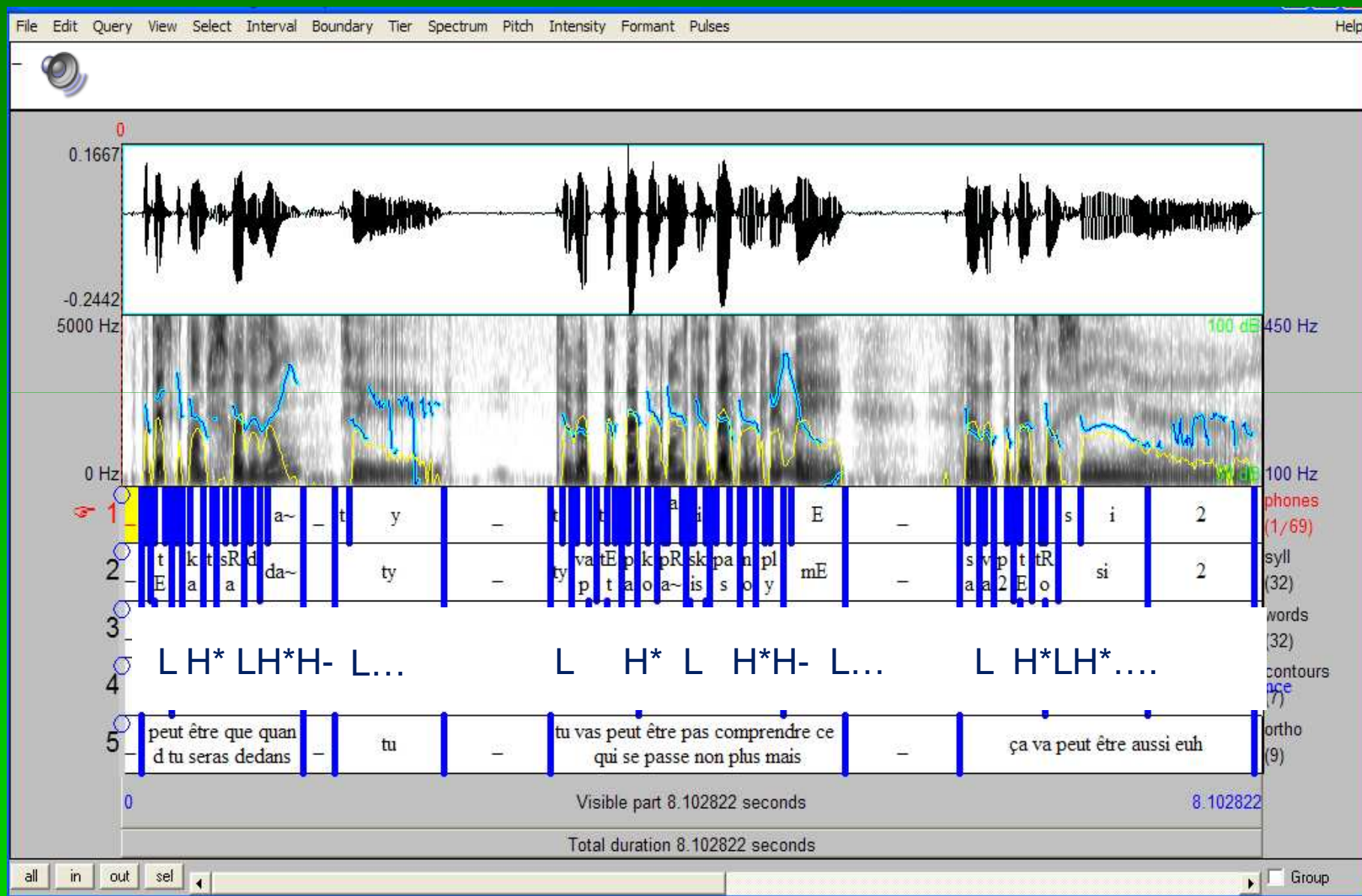
Tempo et register



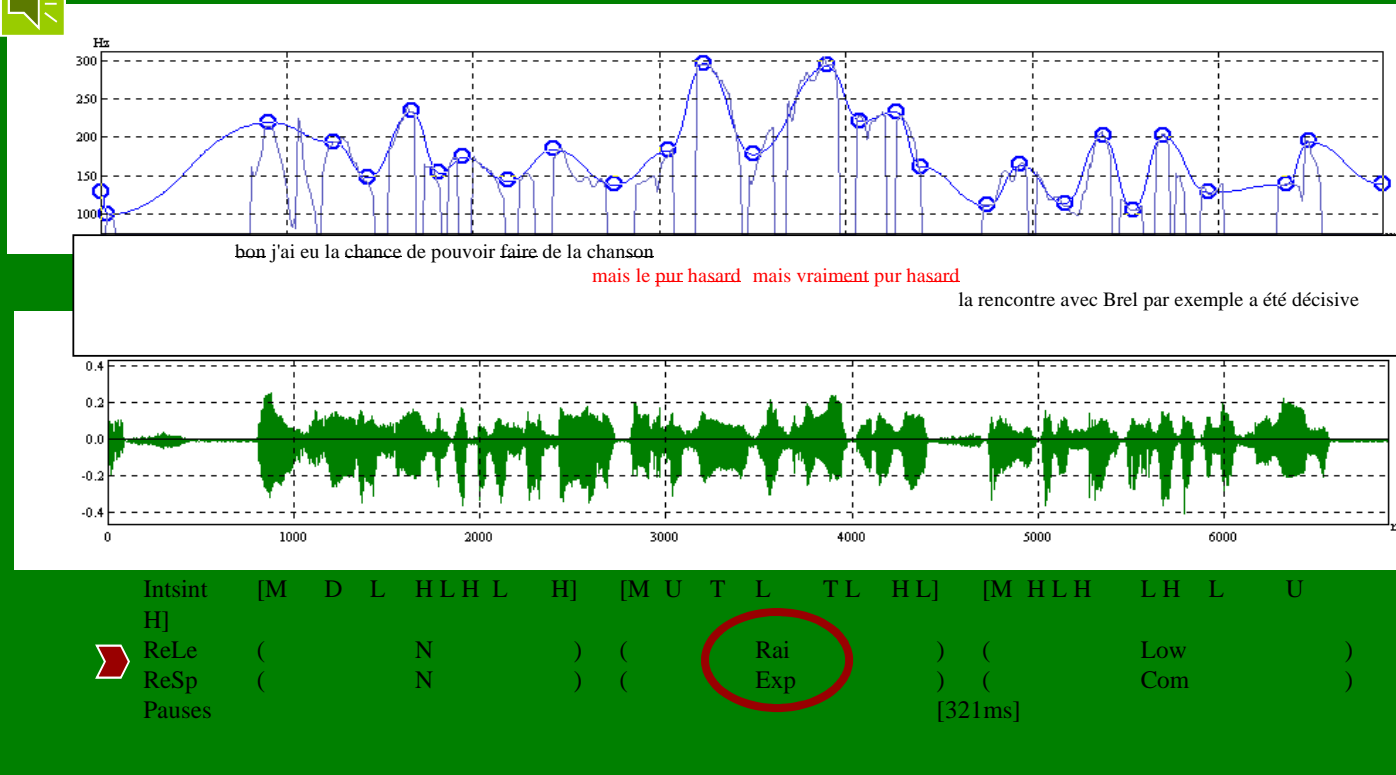
Tempo + register (level and span)



Rhythm

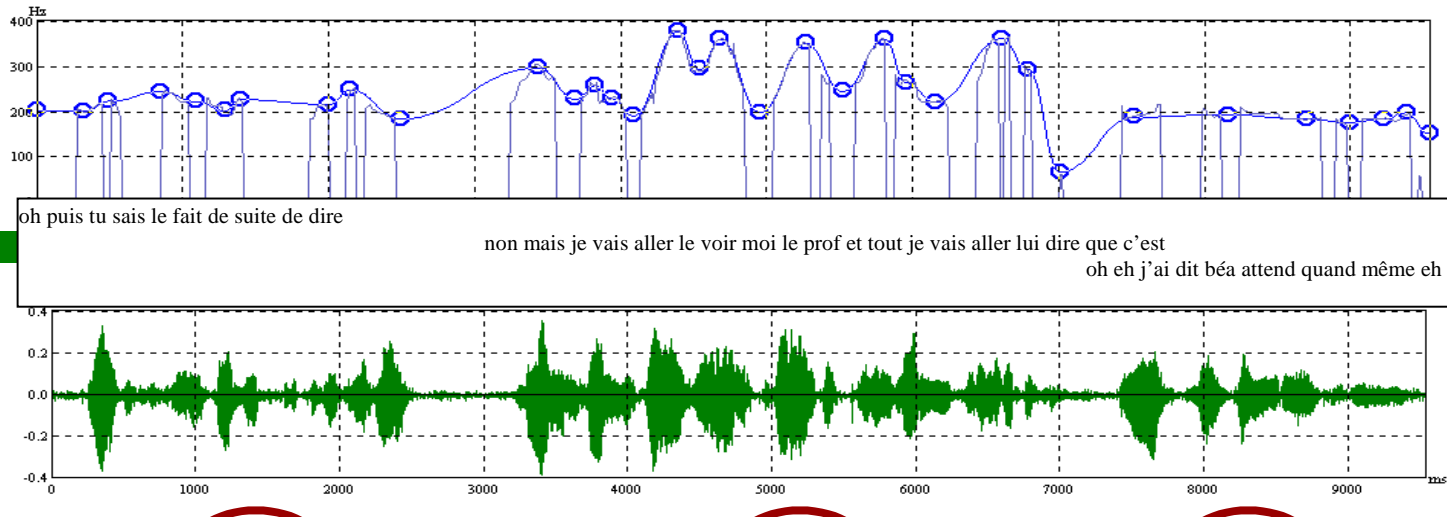


Register: emphatic parenthetical



- Higher level and wider span

Register: reported speech

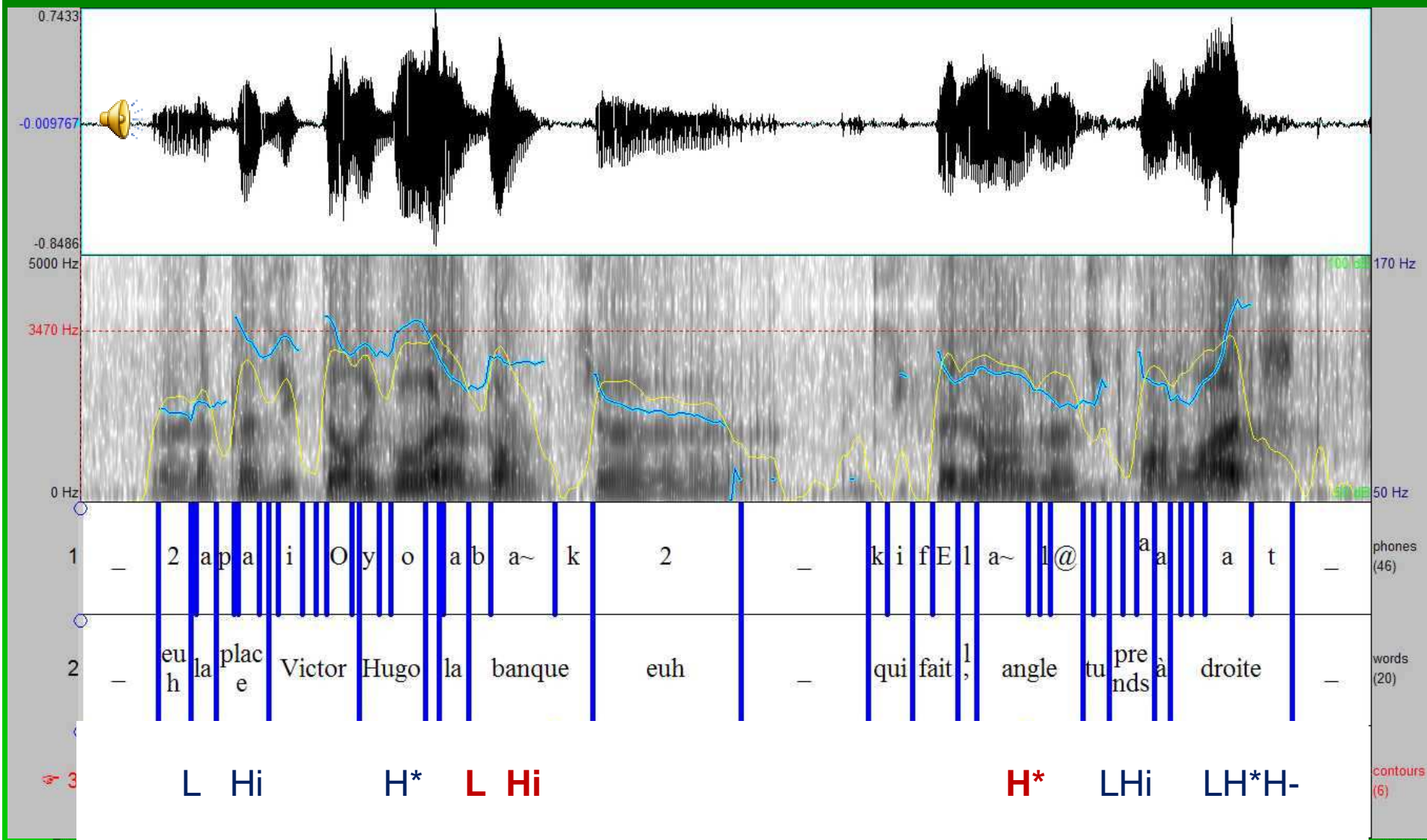


oh puis tu sais le fait de suite de dire
 non mais je vais aller le voir moi le prof et tout je vais aller lui dire que c'est
 oh eh j'ai dit béa attend quand même eh

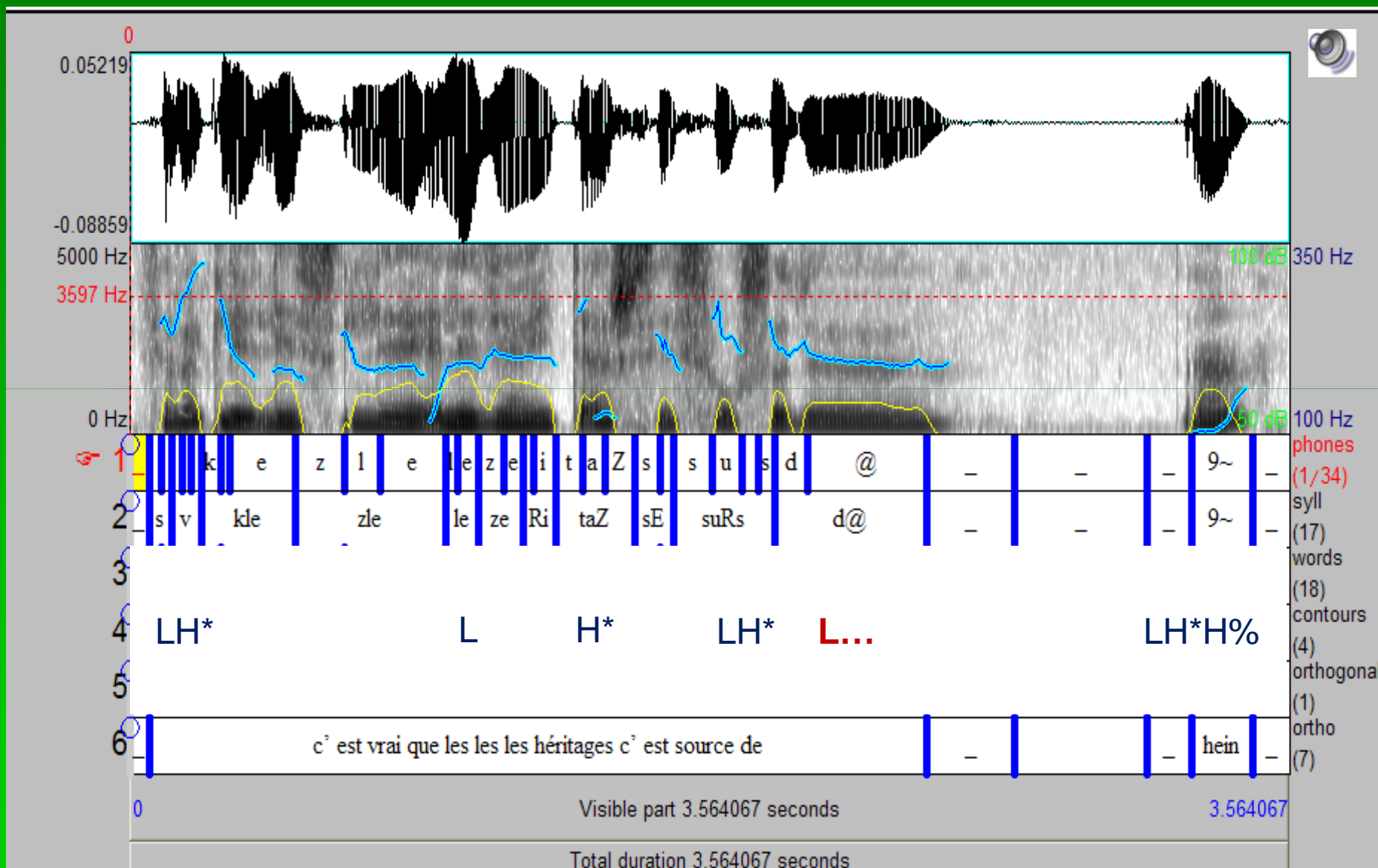
ReLe	(N)	(Rai)	(N)
ReSp	(N)	(Exp)	(Com)
Pauses			[722ms]			[331ms]			

- Normal ReSp/ReLe = speaker current speech
- Raised and expanded= reported speech
- Normal and compressed= speaker self reported speech

Dysfluencies: inside a unit



Disfluencies: unfinished unit



Coproduction



16. TextGrid INFORDIA_right_LL_modpivot

File Edit Query View Select Interval Boundary Tier Spectrum Pitch Intensity Formant Pulses Help

The interface displays a multi-tiered linguistic analysis of an audio recording. The top panel shows the raw audio waveform. Below it is a spectrogram with frequency markers at 0 Hz and 5000 Hz. The main area contains six linguistic tiers:

- Tier 1 (phones):** d @ gRo ko~ fli d@ e mEm d@ se pa f 9~ - s a -
- Tier 2 (syll):** d@ gRo ko~ fli d@ e mEm d@ se pa f9~ - sa -
- Tier 3 (words):** de gros conflits de et même de sépa enfin - ça -
- Tier 4 (contours):** L Hi H* L... L H* L... L Hi L... L...
- Tier 5 (comments):** (empty)
- Tier 6 (ortho):** de gros conflits de et même de sépa enfin ça -

Time markers: 1.591183, 3.182366. Visible part: 3.182366 seconds. Total duration: 3.182366 seconds.

all in out sel Group

Conclusion

- Abstract phonological units are recoverable in all kinds of speech data but to find them it is necessary to understand what make them vary in surface
- Modeling dysfluencies appart also allow to understand the role of dysfluencies in conversation (turn taking)
- Same for continuous prosodic variation: register and tempo
- It is also useful to accept that prosodic units may be independent of turn taking: coproduction