Embedded register levels and prosodic phrasing in French

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INTRODUCTION

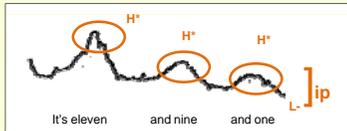**As in English, an intermediate phrase is postulated in the French prosodic hierarchy**
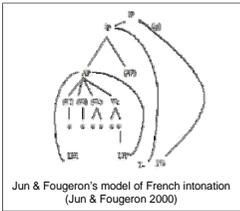
Jun & Fougeron's model of French intonation
(Jun & Fougeron 2000)

In Jun & Fougeron's model, the ip is postulated to explain specific intonation patterns:

H*   H*   H%
L-
[(Une bonne   bouteille   de champagane)**ip** (ça lui plairait)**ip]IP**
A good bottle of Champagne, would he like it?

In English, the Intermediate Phrase (ip) is the domain of downstep

H*   H*   H*
L-   ]ip

It's eleven   and nine   and one

The ip right boundary **blocks downstep**: the pitch is reset after the ip boundary
(Liberman & Pierrehumbert, 1984)

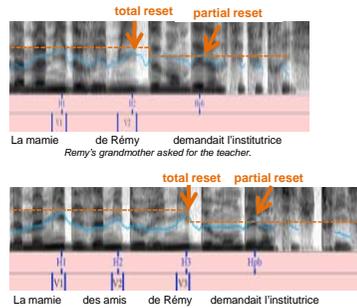## GLOBAL PHRASING CUES: TOTAL AND PARTIAL RESET

Total and partial reset in German

total reset   partial reset
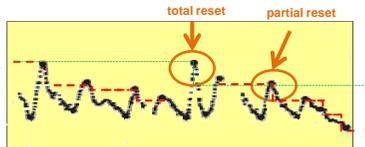
« Der Maurer und sein Lehrling wollen der Werner in Kamerun en Lama malen] [und der Maler will im Janner in Murnau wohnen] »
(Truckenbrodt 2002)

Total and partial reset in French

total reset   partial reset

La mamie   de Rémy   demandait l'institutrice
Remy's grandmother asked for the teacher.

total reset   partial reset

La mamie   des amis   de Rémy   demandait l'institutrice
The grandmother of Remy's friends asked for the teacher.

ISSUES

Is downstep ip internal in French?
Is downstep blocked before or after the boundary?
Is there partial reset after the ip boundary?

HYPOTHESE

ip boundary is not restricted to specific syntactic patterns, but coud be found at NP/VP break

PREDICTIONS

1. Stronger boundary at *ip* boundary that at regular AP boundary (more preboundary lengthening)
2. ip boundary blocks iterative downstep and provokes a return to the register level (set by the first peak in the phrase)
3. The first postboundary peak will show partial reset

METHOD

Stimuli

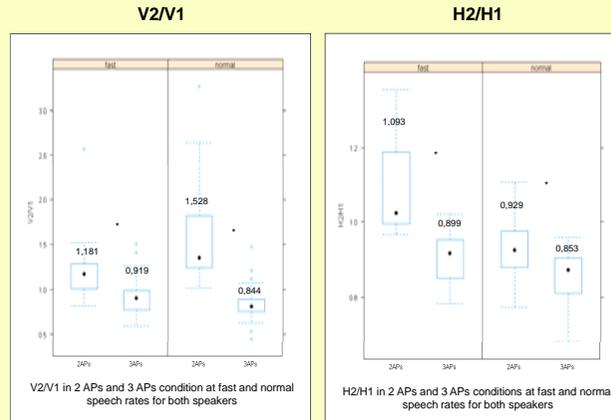| 2APs condition	3APs condition
([La mamie]**AP** [de Rém**y**])**AP/ip**...	([La mamie]**AP** [des ami**s**]**AP** [de Rémy])**AP/ip**...

Measures
Duration of V2 in the 2APs and 3 APs condition (V2/V1 ratio)
F0 height of H2 (H2/H1 ratio)
F0 height of the first LH*on the following ip (Hpb/H1 ratio)

Task
2 French native speakers read the sentence 4 times at normal and fast speech rates (128 experimental sentences)

RESULTS I

V2/V1

V2/V1 in 2 APs and 3 APs condition at fast and normal speech rates for both speakers

H2/H1

H2/H1 in 2 APs and 3 APs conditions at fast and normal speech rates for both speakers

V2 is higher and longer in the 2APs condition (when V2 is ip final) independent of rate

RESULTS II

H-/H1 and Hpb/H1 at fast and normal speech rates for both speakers
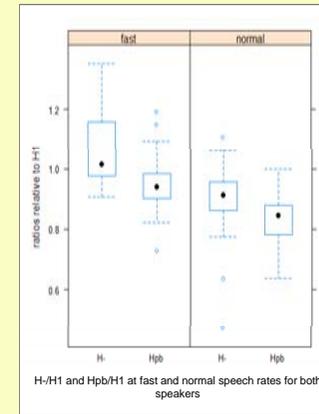
Hpb: the first peak after the ip boundary
H-: the last peak before an ip boundary

2 APs condition
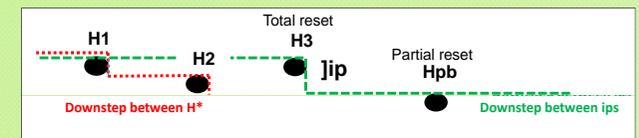
H-   Hpb   ]ip

3 APs condition

H-   ]ip

Hpb is significantly lower than H- independant of rate

DISCUSSION

Two levels of downstep in French (cf. Truckenbrodt & Fery 2005 for German):

H1   Total reset   H3
H2   ]ip   Partial reset
                                       Hpb
Downstep between H*   **Downstep between ips**

The tonal marking of the ip:

- An ip phrasal tone (H-) blocks the downstep of LH* within the ip
- As in English this tone could have spreading properties (Jun & Fougeron 2000)

Two constraints (ranked in the framework of the Otimality Theory) are responsible for the ip right boundary placement in French:

ALIGN XP,R,ip,R: align the right edge of a maximum syntactic projection with the right edge of an ip
MIN-BIN: stating that non final ip consists on minimally two APs

CONCLUSIONS

• The ip is not restricted to specific syntactic patterns
• The ip is the downstep domain of iterative H peaks
• We found total reset before and partiel reset after the ip boundary

References

- Jun, S.A., & Fougeron, C. (2000). A Phonological Model of French Intonation, in *Intonation: Analysis, Modeling and Techology*, ed. By A. Botinis. Kluwer Academic Publishers, 209-242.
- Liberman, M. and J. Pierrehumbert (1984) ``Intonational Invariance under Changes in Pitch Range and Length,'' in M. Aronoff and R. Oehrle, eds, Language Sound Structure, MIT Press, Cambridge MA. 157-233.
- Truckenbrodt, H. (2002). Embedded Register Levels, *Phonology*, 19, 77-120.
- Truckenbrodt, H., & Féry, C. (2005). Sisterhood and Tonal Scaling. In Boundaries in intonational phonology (Studia Linguistica 59.2/3), Merle Horne and Marc van Oostendorp, 223-243.