Mapping syntax onto prosodic structure: the intermediate phrase in French

INTRODUCTION
- The existence of an intermediate level of phrasing, the intermediate phrase (ip, Beckman & Pierrehumbert, 1986), or Major Phonological Phrase (MAP, Selkirk 2000) has been shown for several languages, such as English, Italian (D’Imperio, 2002), Catalan (Prioet to appear), Cairen Arabic (Helmuth, 2007).
- Within stress-timed languages, the ip is the domain of downstep and it is bounded at its right edge by a phrase accent.
- An ip boundary blocks downstep of subsequent H peaks (Beckman & Pierrehumbert, 1986) and induces pitch reset after it.
- But partial reset after an ip boundary has also been observed for English (Ladd, 1988) and German (Truckenbrodt, 2002).

THEORETICAL FRAMEWORK
Two complementary approaches to prosodic constituency in French:

1. The syntax-based approach of Prosodic Phonology
2. The prosodic approach

Further evidences for an ‘ip’ level of phrasing can be found for French in specific intonation patterns:
1. Di Cristo & Hirst (1996) observed an intermediate juncture (called intonation Phrase Segment, S.U) which seems stronger than an AP boundary but smaller than an IP boundary in specific prosodic structures such as tag-questions.
2. Jun & Fougeron (2002) proposed the ip level to explain specific intonation structures that they observed: a mid plateau at the end of a phrase.

RESULTS I

METHOD
- Stimuli: Two complementary approaches to prosodic constituency in French:
- Participants and Procedure:
  - 2 native speakers of French
  - 2 speech rates
  - Measures: F0 ratio of each H relative to H1; Duration ratio of V2 (target vowel) relative to V1

HYPOTHESIS
1. The target syllable height is relatively higher and longer when also ip-final
2. Block of iterative downstep at ip boundary (return to the register level set by H1)
3. Partial reset after ip boundary (on postboundary H, Hpb)

RESULTS II

DISCUSSION
- In French, the ip would not be restricted to marked constructions as was proposed by Jun & Fougeron (2002) and Di Cristo & Hirst (1996): an ip-boundary might appear within all focus utterances.
- An alignment constraint conspires to place an ip boundary to the right edge of a major syntactic break “align the right edge of a syllactic XP with the right edge of an intermediate phrase”. But prosodic weight and length constraints might interact with syntactic constraint.
- We propose the ip to be the domain of downstep in French, like in English, and that its right boundary is marked by a return to the register level set by the first peak of the phrase.
- Partial reset across the ip boundary is evidence for an internal structuring of the IP, supporting the hypothesis of a size difference between internal vs. external downstep (Truckenbrodt and Fery 2005).
- Fast speech rate did not induce boundary erasure, in contrast with previous results (Fougeron & Jun 1998), but only smaller preboundary lengthening and globally higher register than at normal rate.

CONCLUSIONS

PHONETIC RESULTS: Pitch reset and lengthening when target vowel is ip-final position. Partial reset after ip boundary.

PHONOLOGY: Pitch reset before ip boundary is due to H-, Syntax-prosody interface = right edge alignment constraint between XP, R and ip, R.

References