



## Is there an Intermediate Phrase in French?

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# Is there an Intermediate Phrase in French?

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The existence of an intermediate level of phrasing (ip) has been shown for several Germanic as well as Romance languages, such as English (Beckman & Pierrehumbert, 1986), Italian (D'Imperio, 2002), Catalan (Feldhausen, 2008), as well as in non-Indoeuropean languages such as Cairene Arabic (Helmuth, 2007).

Within the autosegmental-metrical framework of intonation (Pierrehumbert, 1980; Ladd, 1996), Jun & Fougeron have proposed a model of French intonation based on two units: the Intonation phrase (IP) and the Accentual Phrase (AP; Jun & Fougeron 1995, 2000). Within this model, the existence of an ip, a prosodic unit whose rank in the prosodic hierarchy is lower than the IP and higher than the AP, has also been proposed, though its status and effects on prosodic structure are still controversial. According to Jun and Fougeron (2000) this constituent is marked by a L- or a H- edge (depending on the illocutionary value of the utterance) tone, though its distribution seems to be mainly restricted to the intonation contour of early focus utterances. Further evidence for an ip in French has been found in tag-questions, dislocated theme/rheme structures and wh-questions. (Jun & Fougeron, 2000). New empirical data collected on French seems to support the existence of the ip in French. (Di Cristo, to appear; D'Imperio et al., 2007; Portes et al., 2008).

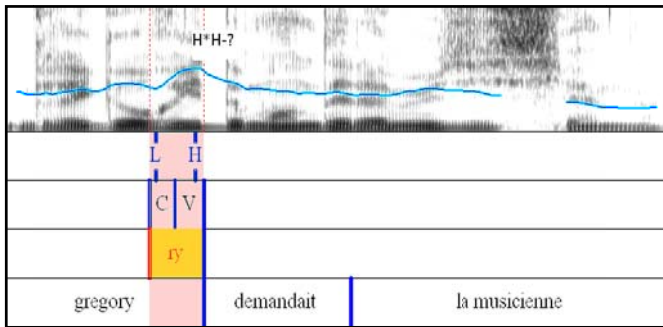
In the last decade, a large body of evidence has shown that the placement of intonational boundaries in various languages is not exclusively dependent on syntactic constraints, since factors such as information structure, constituent weight and speech rate play a major role in phrasing decisions (Nespor & Vogel 1986, Ghini 1993, Selkirk 2000). Within Romance languages, the role of prosodic branchingness has been underlined (D'Imperio et al., 2005). Finally, the role of alignment constraints on the placement of prosodic boundaries has been underlined (Selkirk, 1995, Truckenbrodt, 1999).

Our assumption is that the emergence of an intermediate prosodic level (ip) in French is not simply linked to a specific focus or marked syntactic structure. Our hypothesis is that an ip boundary might appear within a broad focus utterance when the syntactic structure allows it. We specifically predict that both ALIGN-XP,R and WRAP-XP conspire to place an ip boundary in correspondence with a major syntactic phrase boundary (Fig. 1). In other words, the boundary between NP and VP might be signaled by prosodic cues that are stronger than the ones associated to an AP boundary which is not associated with a major syntactic break (Fig. 2). This alignment between syntactic and prosodic structure could involve the emergence of an ip boundary marked by mainly by a H- edge tone as well as preboundary lengthening.

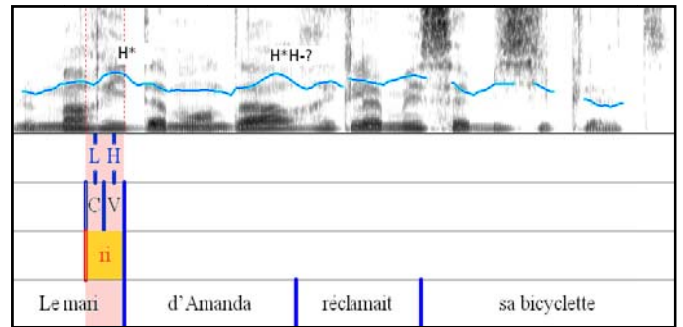
We predicted that the higher the unit in the prosodic hierarchy, the stronger the prosodic cues at its boundary. 100 experimental sentences were presented to 10 French listeners in a reading task (100\*4\*10=4000 sentences). The sentences were read in both normal and fast speech rates, for a total of 8000 utterances. We measured several target syllables in 4 contexts: (1) within a prosodic word, (2) at an AP (ip-internal) boundary, (3) at a potential ip boundary and (4) at an IP boundary.

In line with our predictions, the results show that preboundary syllable length increases with prosodic boundary strength, in that longer syllables were measured at IP boundaries (Fig 3), and an intermediate degree of lengthening was found at ip boundaries. Our results suggest that prosodic cues are reinforced when there is an alignment between prosodic and syntactic boundaries and support the existence of an intermediate prosodic level in French.

## Figures

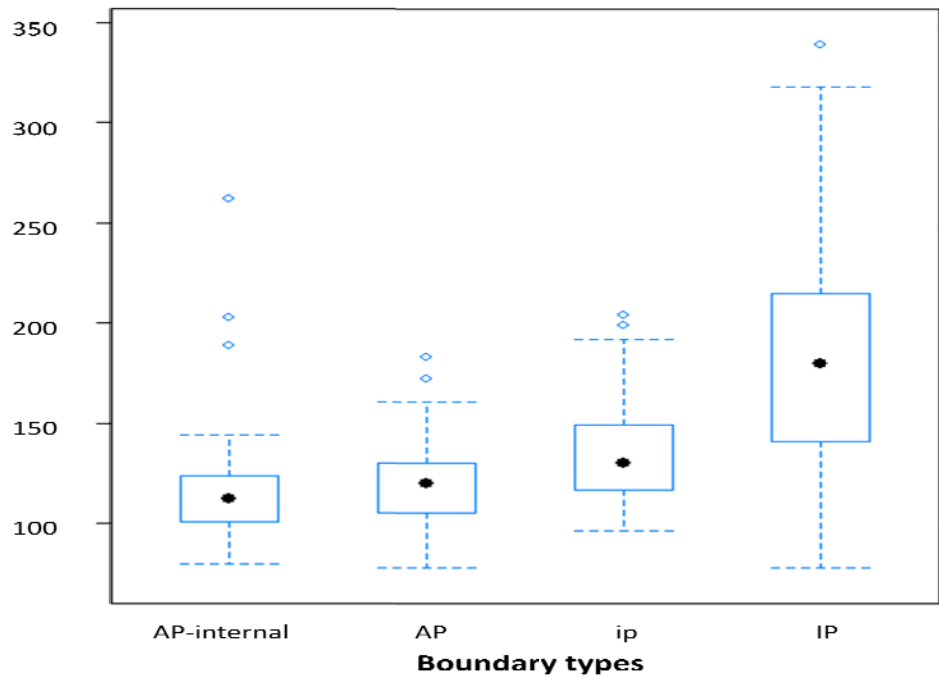


**Fig 1:** Noun phrase “Gregory” made up of one AP whose right edge is associated major syntactic phrase boundary.



**Fig 2:** Noun phrase “Le mari d’Amanda” (*Amanda’s husband*) made up of 2 APs. The 1<sup>st</sup> AP boundary is not associated with a major syntactic phrase boundary whereas the 2<sup>nd</sup> AP boundary is.

**Syllable duration (ms)**



**Fig 3:** Syllable duration (ms) for each boundary type (AP-internal, AP, ip and IP).

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