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How many levels in French? Focus marking as evidence for prosodic hierarchy

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In contrast with stress-accent languages, French does not signal focus through pitch accent assignment, rather it largely exploits phrasing (Féry, 2001; D'Imperio et al. 2012). In this study, we used a new experimental paradigm to collect semi-spontaneous data and test the strength of the prosodic boundary located at the right edge of focused elements.

French represents an anomaly among the Romance group because stress is specified at the phrasal level and its location is not contrastive. Given that stress is phrase-final, accentuation and phrasal boundaries always coincide. Two prosodic levels are widely accepted for French: the Intonation Phrase (IP) and the Accentual Phrase (AP; Jun & Fougeron 2002; Post, 2000), while recent studies (D'Imperio & Michelas, 2010; Michelas, 2011) provide evidence for an additional level of phrasing intermediate to these two, which appears in unmarked syntactic structures, usually between a subject phrase of at least two syllables and a verb phrase (Fig. 1). This intermediate phrase (ip) boundary is cued through a H- phrase accent, which can be observed by (i) its effect on the reference level of the phrase, and consequently the pitch accent immediately preceding the boundary, as well as (ii) a stronger degree of preboundary lengthening as compared to that associated with the AP-level.

In the present study, we tested the strength of the prosodic boundary associated with the right edge of contrastive focus elements in semi-spontaneous speech. The materials consisted of dialogues between two participants who had to collaborate to report information about Paris. An 'interviewer' was instructed to pose questions to a partner, who responded using a map. The interview was based on 12 sets of six response types in which we manipulate (i) the prosodic boundary associated with the last syllable of target phrases and (ii) the domain of focus (Table 1). First, we manipulated the length and syntactic structure of subject NPs to obtain target phrases whose final syllable is predicted, in an unmarked discourse context, to coincide with either an AP-, ip-, or IP-level boundary. Second, we induced specific patterns of focus (all focus vs. narrow focus) by manipulating answers located before and after target answers in series of three (see also German & D'Imperio, 2010). 24 native speakers of French took part in the experiment as interviewees. We measured both the duration and f0 properties of target syllables. The relative 'height' of target syllables was measured by taking the ratio of the f0 peak of the target syllable to that of the first accentual peak within the IP.

Consistent with existing research, we hypothesized that the three syntactic contexts would give rise to differences in boundary strength. Additionally, we hypothesized that, independent of syntactic context, target syllables corresponding to a focus boundary would generally coincide with a stronger prosodic boundary compared to those that did not. In other words, we expected that targets in the Narrow-Focus condition would have longer durations and larger F0 ratios than those in the All-Focus conditions. Two linear mixed models were fitted to (i) f0 ratio and (ii) the log of target duration. The results showed significantly shorter durations and lower f0 ratios in the AP-All-Focus condition than all other conditions, including AP-Narrow-Focus, while the comparison of AP-Narrow-Focus and ip-All-Focus was not significant, indicating that at least some targets in the AP-Narrow-Focus condition corresponded to ip boundaries (Fig. 2). In other words, a return to the reference line of the IP plus a degree of preboundary lengthening stronger than that associated with the AP-level was observed when an element was focalized. Using a novel method for eliciting semi-spontaneous speech, these results provide quantitative support for the view that contrastive focus in French is associated with a minimum prosodic domain size and bring additional evidence for the existence of an intermediate level of phrasing.

Figures

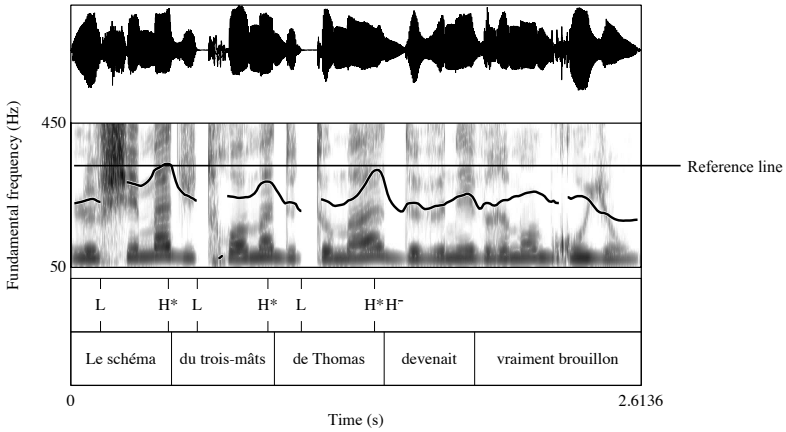


Figure 1. f0 tracks for a sentence meaning "The schema of Thoma's square-rigged became a lot of dirty work" exemplifying an ip boundary cued by a H- phrase accent at the noun-phrase/verb-phrase break.

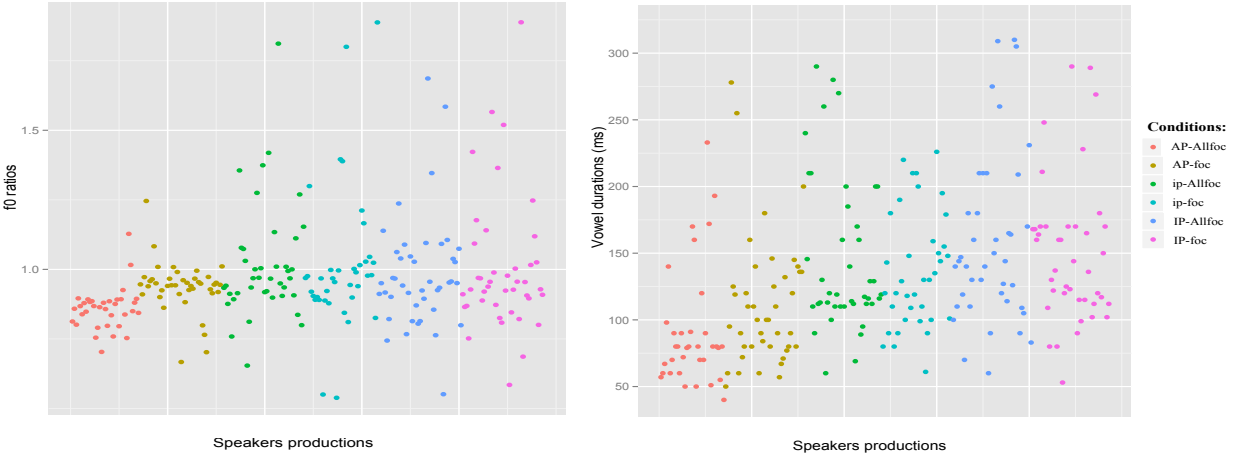


Figure 2. f0 ratios and vowel duration (in ms.) depending on our six experimental conditions.

Prosodic boundary	***Domain of focus***
	All-focus
AP-boundary	(Le palais de l'Ely**sée**]^{AP} de Paris fut édifié au 18eme siècle.)F
ip-boundary	(Le palais de l'Ely**sée**]^{ip} fut édifié au 18eme siècle.)F
IP-boundary	(Le palais de l'Ely**sé**e]^{IP} dont on a parlé hier, fut édifié au 18eme siècle.)F
	Narrow focus
AP-boundary	Le palais (de l'Ely**sée**]^{AP})F de Paris fut édifié au 18eme siècle.
ip-boundary	Le palais (de l'Ely**sée**]^{ip})F fut édifié au 18eme siècle.
IP-boundary	Le palais (de l'Ely**sée**]^{IP})F dont on a parlé hier, fut édifié au 18eme siècle.

Table 1. Example of a group of 6 expected answers illustrating the six experimental conditions. Target syllables /ze/ are in bold and domain of focus are indicated by "F".

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