

# The Intonational Marking of Topical Salience in Spontaneous Speech

## Evidence from Spoken French

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### Abstract

Our analysis of prosodic patterns in spontaneous speech in French is based on the hypothesis that intonation, far from being the reflection of syntactical and rhythmical organisation only, also depends on informative structure. This hypothesis is illustrated here by the role of prosodic markedness in the expression of topic. We propose a bottom-up modelisation of prosody, from signal processing (segmentation and labelling of prosodic units according to perceptual constraints) to phonological representation in terms of autonomous principles which reflect the intonational structure as it is co-constructed by speaker and hearer. A functional reading of our prosodic model is then proposed, regarding constraints derived from informative structure for topic construction.

### 1. Introduction

Prosodic modelling of languages in general, and of French in particular, is far from meeting with any general consensus, as is evidenced by the variety of approaches developed for the construction of models. Nevertheless, one point has the agreement of most researchers: the principle of autonomy. According to this principle, defended in particular by Standard Phonologies, a prosodic representation is constructed independently of content. However, in most models proposed today, based on top-down processing, prosodic constituents derive from an underlying syntactic structure considered to be primary in the tradition of Prosodic Phonology [4], [6], [12], [15]. This obvious contradiction between the initial intentions and the methods actually used inevitably leads to circular reasoning such as the postulate that prosodic and syntactic structures may be linked by certain relations even if they are not congruent. A situation like this can be clarified if one bears in mind the fact that prosodic forms participate fully in the segmentation and ordering of the message [14].

We therefore raise this question: can modularity be in the method when it is not in the object<sup>1</sup>? We shall answer in the affirmative and present an autonomous intonational model developed to map the prosodic functioning of spontaneous speech in interview situation. In practice, our model hinges around two modules constructed independently of any previous knowledge of the syntactic organisation of the utterances analysed<sup>2</sup>:

- A phonetic module, based on the segmentation of the sound continuum into intonational groups on the basis of perceptual cues: a global approach via perceptively controlled prosodic patterns.
- A derived phonological module which leads to the formulation of **internal principles** enabling us to discern an ordered intonational structure.

Our purpose is to present the semi-automatic method used for developing these two modules. A functional analysis of the prosodic objects which emerge from the processing is then proposed. We shall represent the frequent non-alignment between prosodic and syntactic structures as the result of instructions generated by the informative structure (SI)<sup>3</sup>. Our attention will focus on the prosodic marking of "topicalisation"<sup>4</sup>. We shall show:

- I. How prosody can become involved in topicalizing an element in contexts in which the syntactic constructions are neutral, thus supporting the hypothesis of [9]: «prosody encodes what syntax fails to mark».
- II. How contexts of topical overmarking can be identified *a posteriori* by joint use of syntactic and prosodic resources.

A topicalization scale (or topical continuum) will finally be put forward, enabling us to map the various degrees of topic salience which can be evidenced via the typical prosodic and/or morphosyntactic constructions.

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<sup>1</sup> See [13] for a discussion.

<sup>2</sup> The immediate constituents are not the primitive data of our prosodic model.

<sup>3</sup> In a given language exchange, a sufficient background of common knowledge is necessary for speech to function, the SI is responsible for implementing the progression of shared knowledge. This function is actualised by different pragmatic operations (topicalisation, focalisation, comment) which make it possible to attribute various degrees of informative salience. (foreground, background and middle plan).

<sup>4</sup> By "topicalisation" we mean the marked instantiation of the object of the assertion, the **theme**, which can be defined on two levels, communicative and structural (referring to the psychological and positional starting-point of the utterance). By a **marking operation**, we mean the recourse to the various means made available by language (prosodic and syntactic-semantic) to adjust the degree of salience of an element in speech.