

Chanting Intonation in French

Zsuzsanna Fagyal

1. Introduction

There is a well-known intonational contour in English which—in the early phonetics literature—was named *calling contour* (Pike 1945), and observed in “calls, often with warning by or to children” (p.71-2). Liberman (1975) used the more generic term *vocative*, and considered the contour as variety of *warning/calling tunes*. In the following example, the tune is associated with a call a parent may utter to call a child home (from Ladd 1978:517):

(1) an--
 Alex der--

Ladd (1978) shows that the connection between the contour and its calling function is incidental: the tune is used to signal stereotyped, predictable messages in a variety of contexts. Current studies subscribe to this interpretation. Pierrehumbert and Hirshberg (1989) formulate Ladd’s proposal in terms of *shared convention* between the speakers, which applies “even if the convention is a private one between individuals” (299). McLemore (1991) generalizes this claim by showing that the use of phrase-final level tones, in general, is “motivated by the ‘givenness’ or ‘obviousness’ of the [discourse] content” (99).

The contour was also described as a type of calling tune in French (Dell 1984). This interpretation was later enlarged to different types of vocatives (Di Cristo to appear). However, the contour seems to appear in a variety of contexts other than vocatives. The following paper shows that it is also a typical pattern in listing and in conversational implicature. Most of these contexts were previously illustrated in the literature. Chanted listing or “paroxytonic enumeration”, for instance, was identified by Fónagy and al. (1983:168) as a commonly used intonational ‘cliché’ in French, and a special ‘implicative’ contour was introduced among the “Ten basic intonations of French” by Delattre’s (1966). This paper’s intention is to demonstrate that there is a common pragmatic and formal link

between these seemingly different contexts. Just like in English, the common pragmatic element can be derived from the tune's core meaning, which conveys that the utterance's propositional content is 'predictable' from the discourse context. Because of this broader interpretation, the term 'chanting intonation' will be preferred to 'vocative' or 'calling contour', considered as sub-types.

Early descriptions in English emphasized the contour's characteristic 'chanting air', attributed to the tonal interval (about a minor third) between the penultimate high and the lowered, often lengthened, final tone. According to Liberman's (1975) representation, the contour's basic tonal pattern is (L)HM, with the final Mid tone necessarily preceded by a High tone, and only optionally completed by a Low tone, if the word is longer than two syllables. In Pierrehumbert's (1980) two-tone intonational model, the *vocative chant* is represented by a bitonal H*+L pitch accent followed by a downstepping H- intermediate phrase tone and an upstepping L% boundary tone. Ladd (1996) treats the contour as a sequence of H and downstepped !H tones, with no boundary tone.

The contour also has different representations in French: (i) LHM, following Dell (1984), Di Cristo and Hirst (1996), (ii) lh\HH, according to Mertens (1987), and (ii) H* H- L%, as suggested by Jun and Fougeron (1997). Although in the majority of cases, there is no reason to prefer one phonological model to another, it will be shown that seemingly different intonational patterns can be treated as subsets of chanting intonation in a model assuming an H- intermediate phrase tone (Jun and Fougeron 1997).

2. Chanted vocatives

2.1. Contexts of occurrence

Chanting intonation occurs in different types of vocatives in French. It is used when the speaker addresses someone with whom he or she can assume having a shared convention or agreement. The importance of an agreement on the propositional content of the utterance can be indirectly demonstrated by the inappropriateness of the contour in emergency situations where—by definition—a new information has to be transmitted (see Ladd 1978 for English). Compared to

the appropriate emergency call ‘Fire!’ in (2), the call uttered with chanting intonation in (3) is unacceptable:

(2) Au f^f
e_u ! (3) *Au^f feu !

The mutual convention has to be shared by both the speaker and the addressee. In other words, even if the addressee’s identity is known to the speaker, only a mutually acknowledged, private convention between the two can license the use of the contour in friendly, chanted greetings like ‘Hello!’ in (4):

(4) Bon^f
jour !

In another type of chanted vocative, the speaker addresses someone—most frequently a child—with the intention of warning him or her. Again, in warnings uttered with chanting intonation, the tune conveys the meaning of a ‘routine’. This explains why (5) sounds like a complaisant reminding about a potential danger, rather than a serious warning in an emergency situation:

(5) A^{tten}
tion !

The contour’s most typical vocative use is found in direct calls (section 2.2.) where the tune aims to “capture the attention of a person in a kindly manner” (Di Cristo to appear). However, there is often no need to utter a word in order to convey the meaning of a chanted call. Di Cristo (opt.c.) points out that the contour’s calling function itself is lexicalized: the call in (6) is reminiscent of the cuckoo bird’s call in French. As another pattern indicates, this calling function is not only lexicalized, but iconic¹. Two vowels—[e] and [o]—uttered with chanting intonation are sufficient to represent the meaning of a friendly call in (7) (see Ladd 1996:136 for German):

¹The iconicity of the sustained final pitch value—used to reflect spacial distance from the addressee—was argued in studies of English intonation, among others by Liberman (1975) and McLemore (1991).

- (6) Cou cou ! (7) Eh oh !

Another iconic use of the chanted vocative emerges in mockery (8), where non-sense syllables can mimic the intonational meaning of a ‘teasing’ call:

- (8) Na^{na} nère !

The contour was interpreted as “childish mockery”, an intonational ‘cliché’ based on three tones (Fónagy and al. 1983). Its typical chanting pattern “can be transferred to other utterances with an analogous function” (p.156), and it is not only used by children, but also “occasionally applied by adults” (Di Cristo to appear).

2.2. Formal representation in direct calls

There is currently no unanimously accepted phonological model for French intonation. Since different formal representations seem to equally well account for the chanting contour (section 1.), a systematic study of its tone-to-syllable mapping in words of different length was necessary.

Chanted calls and warnings were elicited from four native female speakers in controlled, read-aloud dialogs. The contexts consisted of voiced target words repeating the same targets embedded in a previous statement (9) (10). French first names *Anne*, *Anna*, *Joanna*, *Marianna* and *Marie-Joanna* were used as target words. Prosodically, each word corresponds to a one- to five-syllable Accentual Phrase (AP) and forms a one-word Intonational Phrase (IP)². First the speakers read the statement, then uttered the following target word with the calling intonation suggested in the statement (“calls sweetly” or “sweetly reminds her or him”). They were presented with one context at a time. Each context was printed on cards, with

²The terminology is of Jun and Fougeron (1995), but AP and IP correspond to Di Cristo and Hirst’s (1996) *tonal unit (UT)* and *intonational unit (UI)*, and to Mertens’s (1987) *accentual group (AG)* and *intonational group (GI)*, respectively.

the target words highlighted. The speakers repeated each reading five times, and were not aware of the expected chanting intonation.

- (9) Chanted call (translated example):
 A, the aunt, is taking Joanna, her niece, out.
 She can not see her, so she calls sweetly:
A: Joanna!
- (10) Chanted warning (translated example):
 A, the father, biking with Marianna, his daughter,
 sweetly reminds her again to pay attention:
A: Marianna!

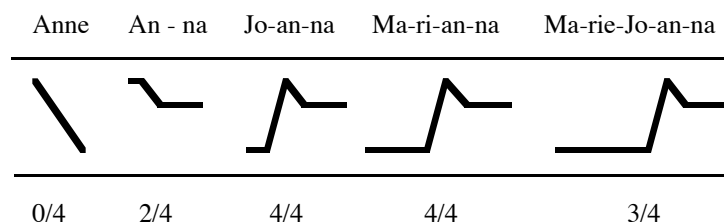
As shown in (11), the majority of the speakers produced, at least once³, chanting intonation on three-, four- and five-syllable words. Fewer occurrences were observed in the two-syllable word *Anna*, and none of the four speakers produced the contour in the one-syllable word *Anne*. With one exception in *Anna*, chanting intonation only occurred in calling contexts. The speakers—at least in this experiment—preferred to use falling intonation with gradient differences to convey the meaning of a friendly warning or reminding.

When produced, the contour was aligned with the right edge of the phrase, showing an F0 peak followed by a somewhat lower, ‘midish’ plateau. In words longer than two syllables, these were preceded by a low plateau. If the contour is represented as L, H and M (Dell 1984, Di Cristo and Hirst 1996) or l, h \HH (Mertens 1987) tones, the F0 peak and the final plateau are associated with the penultimate H (h) and the final M or \HH syllables, respectively. Depending on the length of the word, L is realized on the first one to three syllables. Jun and Fougeron (1997) suggest the representation: H* H- L%. H* is AP (accentual phrase) final tone which is realized—in this particular contour—on the penultimate syllable. H- is the ip (intermediate phrase) tone and L% is the IP (intonational phrase) tone. In these words, the H- and L% are both realized on the final syllable of the word. As already exemplified in English intonation (Pierrehumbert 1980), the sequence of H- L%

³Occurrences in this corpus are not indications about occurrences in spontaneous discourse contexts.

surfaces phonetically as a mid tone. Initial high tones (‘accent initial’) were not realized at the beginning of phrases longer than two syllables, which accounts for the low plateau at the beginning of the word. This representation requires a H* realization rule: H* (of the IP final AP) is realized on the penultimate syllable of the phrase, when ip and IP have different types of tones, both realized on the same syllable.

(11)



In this experiment, designed to spontaneously elicit “sweetly” calling and warning intonations, the speakers assumed they had to produce a variety of such patterns. Chanting contour was one of them, except for the word *Anne*. However, there is evidence that the contour also occurs in one-syllable words. The utterance in (12) was pronounced by one of the author’s friends living in a Parisian suburb. She explained that it is a recurrent, usual calling pattern in the family, typically uttered when calling a child—*Aude*—from the upper level of the house (Morel, p.c.). As (12) indicates, in French—just like in English—the contour’s minimal tonal configuration is a peak followed by a somewhat lowered plateau: HM, h\HH or H-L%. The only syllable of the word in (12) splits into two in order to provide ‘enough room’ for these two tones:

(12) Au--
 --aude !

2.3. Formal representation of compound vocatives

In the previous examples, the chanting contour was applied to single words representing a one-word unit on each prosodic level⁴. However, the contour can also stretch over longer units. Following Jun and Fougeron (1997), the compound vocative in (13) is formed by three words corresponding to two accentual phrases (AP), one intermediate phrase (ip) and one intonational phrase (IP).

(13)



Bon jour Ma dame Durand !
L H* -H- L%

Fónagy and al. (1983) describe this contour as an intonational ‘cliché’ which is only distinguished from the childish mockery (section 2.1.) by its different tonal intervals; their basic tonal configurations seem similar. This claim can be supported by assuming that the tune has the same (L) H* H- L% underlying representation as simple vocatives analyzed before. As the schematized pitch track in (13) indicates, the first syllable of *Bonjour* is phonetically realized as a Low tone. The following, primary stressed syllable (*jour*) is the highest F0 peak in the utterance, represented as H* AP final tone. The phonetically ‘midish’ plateau stretching over the next four syllables corresponds to the sequence of H- (ip) and L% (IP) tones. H- is spreading from the first syllable of the word *Madame* to the penultimate syllable (*Du*) of IP, while L% is realized on the final syllable (*rand*) of the phrase. Pitch accents between H* and L% are not realized. While other intonational models might have to use surface representations to account for the plateau, a model based on three levels of prosodic structure has the advantage of capturing the phenomenon phonologically, by using the rightward spreading

⁴There are two levels according to Dell (1984), Mertens (1987), Di Cristo and Hirst (1996), and three following Jun and Fougeron (1997).

properties of the floating H- tone. Ladd (1996) suggests a very similar representation for some of his examples in French.

Unlike in simple vocatives where H* was switched to the penultimate syllable of the phrase, in this example H* aligns with the final, primary stressed syllable (*jour*) of the first AP. Notice, however, that the same sentence with the same meaning can be uttered with a peak placed at the beginning of the phrase. Although more analysis is needed yet, this variability indicates that the representation of H may be at a level higher than AP. This difference might also account for the perception of the two contours as separate ‘clichés’ in the literature.

3. Chanted listings

The contour previously studied in chanted vocatives, and their iconic manifestations, also occurs in listings when the listed items are not meant to be individually informative. In instructions of how to cook a pound cake, for instance, an informative list (14) would use rising intonation in French:

(14) Il te faut ^{oeufs} des ^{beurre} du ^{rine...} de la fa

(‘You need eggs, butter, flour...’)

If the list does not represent a new information for the addressee who is, let’s say, an excellent cook, the speaker would utter the list with chanting intonation (15), which would then convey the contour’s typical core meaning: an established and mutually shared routine:

(15) Il te faut ^{des} ^{oeufs} du ^{beurre} de la ^{fa} ^{rine...}

(‘[You know...] you need eggs, butter, flour...’)

Similar difference is found between rise (L* H-) and high-rise (H* H-) intonations in English (see Beckman and Ayers 1994).

As demonstrated earlier, the typical licensing condition of the contour’s use in vocatives is a private, shared convention be-

tween the speakers. In listings, however, the shared convention is of different type. The chanted listing in (16) was uttered in a formal, face-to-face radio interview⁵ by a literary criticist who argues that contemporary French literature lacks of ‘great writers’: “when he was a teenager (1.), [...] there was Proust [...] (2.), and “there were people like Gide, Claudel, Valéry, Malraux” (3.-4.)” The last four writers’ names are uttered with chanting intonation:

- (16) 1. “Il n’y a plus de grands écrivains [...] Moi
 2. quand j’étais adolescent [...] il y avait Proust
 3. [...] il y avait des
 4. gens comme Gide, Claudel, Valéry, Malraux

In this context, the type of convention between the speaker and the addressee is socio-cultural. It identifies both of them as educated members of the same linguistic community, and as such, having the same socio-cultural background. Based on this common ground, the speaker assumes that the names listed as ‘great writers’ represent a routine information for the addressee. This assumption licenses the use of the chanted contour, conveying—once again—its core meaning of ‘stereotype’ and ‘predictability’.

This contour—considered by Fónagy and al. (1983) as a separate intonational ‘cliché’—has the same underlying tonal configuration as simple chanted vocatives (section 2.1.). As shown in the pitch track of (16) (see Appendix), the utterance can be divided in four intermediate phrases (ip), each ending with a writer’s name. Following Jun and Fougeron (1997), the first three phrases can be represented as H* switched to the penultimate of each phrase, followed by H- and L% on the final syllable surfacing as the lengthened, final mid plateau. Instead of a plateau, the last phrase (*Malraux*) shows a continuation rise that indicates informative content to come.

⁵ Special thanks to P. Mertens who provided the sound tracks for the analysis of this utterance extracted from his corpus (Mertens 1987).

4. Implicature

The contour's use in implicative utterances is also based on a non-private convention between the speakers. But unlike in listing, in implicature the mutually shared convention has to be derived from the context. In implicature, the 'givenness' of information is to be taken literally as 'already present or given in the discourse context'. The utterance where the contour occurs (**3.**) refers to previous turns of the conversation in which the speaker claimed that she—coming from a wealthy family—became a journalist instead of getting married, because of objective circumstances in her life: war, loss of her father...etc. Chanting intonation in **3.** signals that the addressee has to go back to these previous parts of the conversation to infer that the speaker used the argument of age in **1.-2.** as just another example of "objective circumstances". The anaphoric use of the determinant *les* in **3.** also supports this interpretation.

- (17) **1.** "Mais j'avais 14 ans, eh ben j'ai choisi de
2. travailler # Alors, il y a
3. tout de même les circonstances _{ob}^{jec} tives!"

The tone-to-syllable association (see pitch track in Appendix) matches the tonal configuration observed in simple vocatives: H* is realized on the penultimate syllable of the phrase, and it is followed by H- and L%, both realized on the final syllable⁶.

Phrase-final chanted contours seem to have turn-yielding function in French conversations. Examples similar to (17) suggest that the speaker yields the turn in order to make sure that the other was able to link the statement to the preceding context. This interpretation is consistent with native listeners' suggestion that such utterances "sound like asking for confirmation". Therefore, it is not surprising to observe that the contour might function as yes/no question, and elicit direct answers from the addressee. In (18), **B** interprets **A**'s chanting intonation (**2.**) as a direct invitation to take the turn, and to specify that she (**B**) did not "directly worked" with

⁶ This analysis differs from illustrations of the implicative contour in previous studies (see Fagyal 1997).

the famous movie director Jean Renoir (*lui*, ‘him’), but only “collaborated” (3.) with him.

- (18) 1. **A:** Parce que vous avez travaillé
 2. directement ^{vec}_a lui
 3. **B:** Oui, c’est a dire que j’ai collaboré avec
 4. Renoir...

Clearly, such interactive use of the chanting contour in phrase-final position differs from the uses of phrase-final level intonation in English. McLemore (1991) observes that, except for direct calls, “phrase-final level intonation [...] marks continuation within text, and it doesn’t elicit a response” (p.96). Therefore, in English the speaker does not expect—and does not get—backchannel cues while using the contour at phrase boundaries. The opposite seems to be true in French. By using chanted intonation in phrase-final position, the speaker seems to yield the floor to the addressee for comments on the instantiated proposition. This means that, in terms of tonal meaning, there is a potential contradiction between the tune’s core meaning (signaling the ‘obviousness’ of the propositional content) and its pragmatic implementation (eliciting confirmation from the addressee). Possible solutions of this paradox might come from a compositional interpretation of the contour’s meaning (see Fagyal 1997).

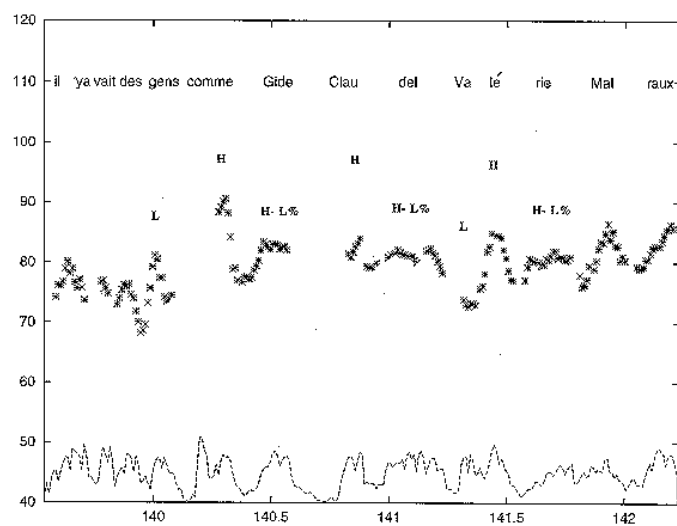
5. Conclusion

This paper showed that chanting intonation is also a widely used intonational contour in French. As suggested in the literature, the contour’s most typical function is related to calling. The tune emerges in a variety of vocatives, such as simple and compound calls, greetings, warnings and reminders. Its calling function is iconic in simple calls and childish mockery. Listing and implicative utterances also occur with chanting intonation. In all contexts, the common element is the tune’s core meaning: the propositional content of the utterance over which the contour is displayed is somehow ‘stereotyped’, ‘given’ or ‘predictable’ from the discourse context. The paper also argued for a possible formal link between these

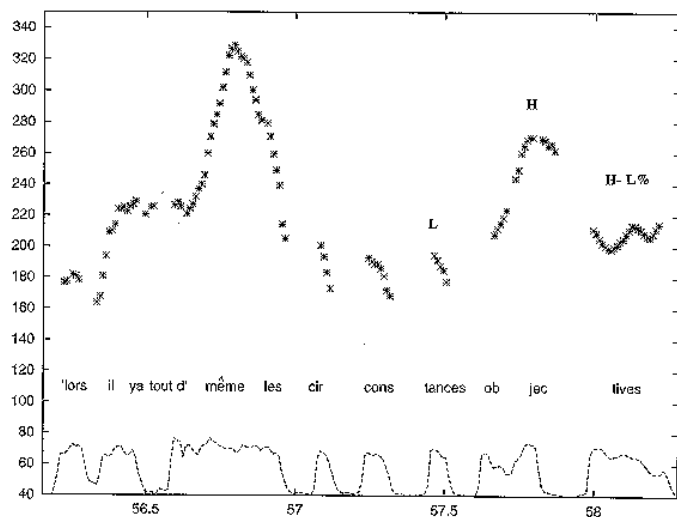
seemingly different intonational patterns. All contours presented were treated as subsets of chanting intonation, following a model which assumes an intermediate phrase level in French (Jun and Fougeron 1997).

By comparing contextual meanings and formal representations of the chanting contour in French and in English, this work points toward the tune’s universal and language specific properties.

Appendix



Example (16): Chanted listing (see section 3.) “Il y avait des gens comme Gide, Claudel, Valéry, Malraux...”



Example (17): Chanted implicature (see section 4.) “Alors il y a tout de même les conditions objectives!”

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Department of Linguistics
Institute for Research in Cognitive Science
University of Pennsylvania
3401 Walnut Street #400A
Philadelphia, PA 19104
fagyal@unagi.cis.upenn.edu