

Prosodic aspects of reported speech

Sylvie LEANDRI
 Université Paris7
 UFR Linguistique, Laboratoire de Phonétique

ABSTRACT

Trying to characterize reported speech compare to direct speech, I discuss some prosodic properties thanks to a statistic study of the mean f0 values measured at different level in the utterances.

INTRODUCTION

My aim is to characterize phonetically so-called "heterogeneous" utterances (reported speech), which eventually will contribute to give them a linguistic status. My first hypothesis came from regular observations I made while studying French spontaneous speech. To support them on a "phonetics-lab" French basis, I built a corpus containing different types of speech-styles in two types of environment: a long one (tales); and a short one (isolated sentences). Here I am dealing with the second type.

In a preliminary study (on the "tales" corpus), I observed that contrary to common thoughts and compare to other types of utterances, a reported sentence (direct style) is not preceded by a significantly long pause; I noticed also that important cues can be observed on boundaries.

In this study, I compare first the global characteristics of utterances according to the context which is used to define their speech style. Then I compare what happens at the boundary parts between the introductory sentence and the "target" utterance.

CORPUS

The corpus is made of five different "target" utterances read by 5 male and 6 female speakers in 4 different contexts which are expected to induce different speech- styles:

N= Neutral Declarative (control context, isolated target) .

D= Direct style (X said: "target").

I = Indirect style (target introduced by "que").

Q= Quotation (embedded target with no special introductory marks).

The length of the "targets" vary between 8 and 17 syllables; the syntactic structures are quite different; the expressive and semantic weights of the utterances vary also.

The target sentences are:

" C'était sur que ça marcherait pas"; "Selon les pompiers, la bombe aurait été placée dans les cuisines"; " Il reviendra ce soir à 5 heures"; "J'étais la honte de la famille"; "Hier soir, tous les syndicats appelaient à la grève".

The speakers had to read for example:

a) J'étais la honte de la famille. (N)

b) Je le dis sans malice: " J'étais la honte de la famille". (D)

c) Il était évident que j'étais la honte de la famille. (I)

d) Son nouveau tube 'J'étais la honte de la famille' entre 9ème au Top 50. (Q)

The expected realization of each target sentence is supposed to be triggered, or induced, by its context "N", "D", "I", "Q".

RECORDING CONDITIONS AND ANALYZE FACILITIES

The corpus was recorded in the recording room of the phonetics laboratory on a Marantz tape-recorder, then sampled at 11khz with a MacRecorder.

The analysis was made with E. Keller's program "Signalize 2" on a McI Quadra.

The statistics were computed with "Stat-View".

VARIABLES CONTROL

The first measurements were necessary to evaluate the two variables:

a) male / female speakers . b) different syntactic structures.

A two factors Anova computed on the "mean f0" of the target sentences shows that the male/female factor is relevant (P < 0,005) (obviously we are dealing with two different registers), while the syntax factor is not: These two factors are independant.

On the "N" sentences group, the anova made on mean f0 between the different speakers, shows the same partition between male and female readers. Thus it is not possible to use parametric statistics tests.

COMPARISON BETWEEN THE DIFFERENT "TARGET" SENTENCES

The parameters which I choosed to be measured are: mean f0 of the whole sentence, mean f0 of the 2 first syllables (300ms), and of the two last syllables (500ms).

In each case, there is a double question: Are the "targets" different on an absolute basis, or are they different according to the fact that they have been produced by the same speaker in different contexts.

To answer the first question, the H value of the KRUSKAL-WALLIS test is computed, while for the second question the FRIEDMAN test (χ^2) is used as the two compared values are paired.

As the final f0 values are compared on two groups only (N and Q), the U value of the MANN-WHITNEY test is used in the first case , and the WILCOXON test in the second. The results are given in Table 1:

Table 1: Comparison of f0 values according to the contexts.

	unpaired tests	paired tests
onset syllables	H=5,11 P=16%	Chi2=29,76 P=0% *
global mean f0	H=4,49 P=21%	Chi2=29,92 P=0% *
Final syllables "Q"vs"N"	U=294 et Z=-2,31 P=2% *	Z=-4,7 P=0% *

(P is the percentage of probability for the result to be at chance level. * indicates that the test shows significant differences between the different contexts).

According to the 1st column, the general and the onset mean f0 values are not significantly different, while the final f0 value is clearly different.

According to the 2nd column (paired tests), the differences are clearly significant.

The two following graphs illustrate Table 1:

figure 1: target sentences "3"

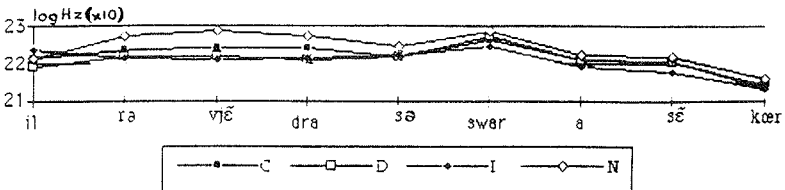


Fig.1 shows that the first part is distinctive: the onset slope is negative in the case of "I", while it is positive in the other cases. This is generally true even if it is not always so well marked (P= 0% between "N" and "I"; P< 4% between "N,I,D" and "Q,P").

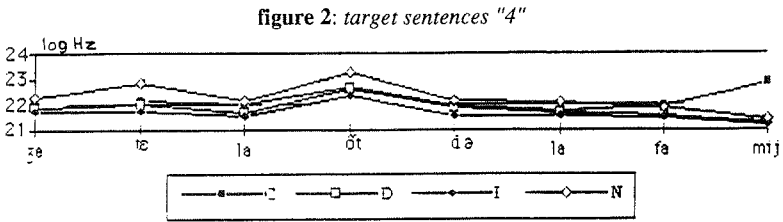


Fig. 2 shows the positive slope on the 2 last syllables in the case of embedded sentences ("Q").

As far as global mean f0 values are concerned, it appears that "N" target utterances have higher values (N > C > D > I). These first results indicate that we must consider what happens at boundary.

COMPARISON BETWEEN THE "TARGET" AND ITS CONTEXT

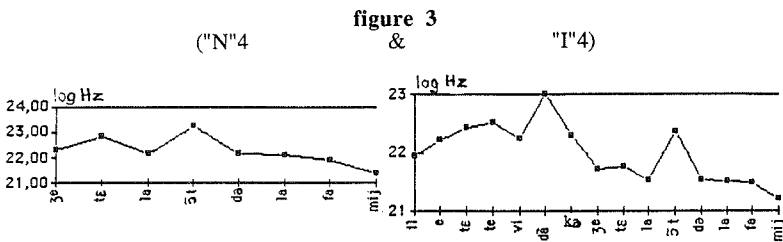
Here, paired tests are not necessary as it is the same utterance which varies in different contexts.

According to the results, the 2 parts (introductory and target) are clearly different, except in the case of the mean f0 values in the "D" group and the onset f0 values in the "I" group.

Of course, one must be cautious in interpreting these results as the utterances and their length being different, there is an interaction between the value of f0 heights and the declination line. This is particularly the case of the "Q" embedded sentences; but if we compare the mean f0 values of the introductory part, of the target part and of the context final part, the differences are significant.

These observations lead me to think that there is an interaction with the place of the measured segments within the utterances, and that comparing the mean values reveals the height variations due to the place.

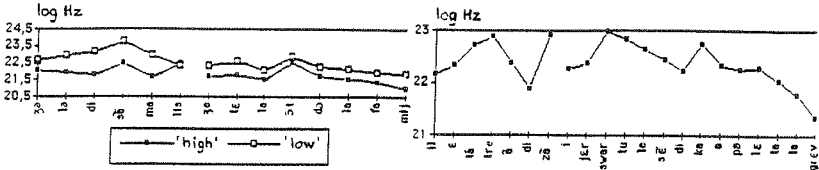
We can now have a look at what happens at boundaries, having in mind that there may be a pause between the two sentences.



If we compare "N" and "I" groups, we can see that in the case of "I" sentences, the onset of the target has a negative slope, going on with the general fall of the introductory part. If we think of what is generally said, from a linguistic point of view, about indirect style, we may conclude that "I" utterances are "Monolithic", while the 2 others, "D" and "Q", are "dual".

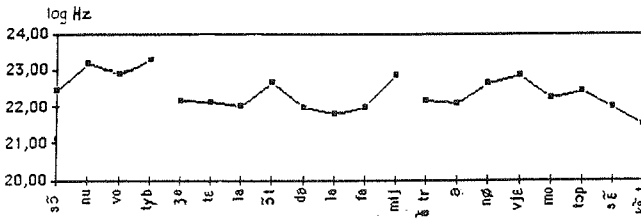
If we remember that the mean f0 of the "I" utterances has generally lower values, we may say that these targets are lowered along the expected declination line, because they are not the beginning of an utterance but always the ending part of some introductory sentence.

figure 4
("D"4 & "D"5)



In "D" utterances there is a supplementary feature: a pause. In a previous study, I claimed that there is a relationship between the existence of a pause and the value of f0 on both sides of the boundary. It is difficult to precise the nature of this relationship because speakers may adopt 2 different strategies: In one case, which I call the "high" solution, there is a rise before the pause and the target has a lowered onset. In the second case, there is no preceding rise and the onset of the target is on the same level, or even on a slightly higher one.

figure 5 ("Q"4)



In the "Q" group the same double possibility is used, and there is always a pause, at least perceived if not silent. In this group it must be emphasised that the transition from the target to the end part of the context is always made according to the "high" strategy, with or without a pause.

CONCLUSION

I hope to have shown in this study that there are prosodic differences which I tried to systematize between different types of reported speech.

Indirect style can be contrasted with the others as it is constituted by one prosodic group only with a continuously falling f0 line on the whole utterance, the introductory morpheme "que" being never stressed.

In direct style, there is a correlation between an inter-sentence pause and the values of f0 heights before and after the pause; two strategies can be observed: rise/fall vs. continuous fall.

It will be worth to examine more precisely the case of "Quotations", compare to "free indirect style" in order to discuss their status in linguistic theory.