Perception and Interpretation of Non-Native Intonation Patterns

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1. Introduction

Most of the few studies on non-native use of intonation are production studies (Anderson, 1979, MacNaught, 1978), analyzing overt ‘foreign accents’ but failing to reveal the less obvious though no less impairing interference of defective comprehension of intonation (Berkovits, 1980; Scuffil, 1982).

This paper outlines an experiment designed to assess non-native comprehension of intonation in (European) Portuguese and (British) English, using as informants thirty native speakers of each language who could speak the other (Cruz-Ferreira, 1983). Material was, for each language, a set of thirty minimally paired sentences, differing in intonation only, or presenting the same intonation twice (‘filler’ pairs) spoken on tape by a native speaker of each language (the intonational framework used is based on Halliday, 1967 and O’Connor and Arnold, 1973). Each pair conveys meaning distinctions which may or may not be rendered by the same intonational means in L2 (or by intonation at all). The task was a closed-choice binary decision on two levels: i) perception: decide whether the sentences in each pair have the ‘same’ or ‘different’ meaning, and ii) interpretation: match one of the two meaning glosses provided for each pair with one or both of the sentences, according to the previous decisions. This layout enabled conclusions regarding non-native ability to discriminate the patterns (by perceiving them as the same or as different); to interpret the patterns (through the meaning assigned to each or to both); and to identify the patterns (i.e. to recognize them as meaningful in the filler pairs).

Each native group was asked to provide answers for their native tongues too, and the results were used as control values for statistical treatment of the non-native data (p≤.05). Some very general characteristics of Portuguese intonation are (as relevant in explaining the results presented below): there are no falling-rising intonations in Portuguese, but there is a very low starting falling tone, the ‘low low-fall’; the nucleus has a fixed final position within the intonation group.
2. Analysis of Some Results

Some typical non-native replies.

The non-natives had no difficulties

1. where the same meaning contrast is conveyed by the same intonational device in L₁ and in L₂.

   1. Same meaning conveyed by same intonational device in L₁ and L₂ object v apposed subject

   Port. ela comeu a galinha
   Eng. they've eaten the chicken

   int. dev. tonality
   n-n reply. 1 IG: NP = object
   2IG: NP = apposed subject

   The interpretation of F¬RF as conveying 'neutral' vs. 'impressed' statements in both languages was also correct for both groups of listeners.

2. where the meaning contrast in L₁ may be associated with a typical use of high versus low nuclear pitch in L₁.

   2. Meaning contrast in L₁ may be associated with a typical use of 'high' versus 'low' nuclear pitch in L₁.

   Port. não bebas dessa água
   Eng. don't leave the house

   int. dev. tonality Low LF¬LF
   n-n reply. Low LF = command
   LF = warning

   English F¬FR, conveying 'neutral' vs. 'reserved', statements, was also correctly interpreted by the Portuguese listeners. Even where one of the contrasted patterns does not exist in L₁, the non-natives seem to be sensitive to differences in the gross phonetic shape of the patterns, and to associate overall higher pitch with a more 'open' meaning, and lower pitch with a more 'final' overtone (see Cruttenden 1981).

The non-natives had difficulties

3. with idiosyncratic uses of intonation in L₁.

   These fall into three classes:

3.1. where the meaning conveyed by intonation in L₂ has no intonational equivalent in L₁.

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   Eng. they 'don't admit 'any students

   int. dev. tone F = 'none at all'
   n-n reply. percept: random

   The distinction between 'any and 'any is made through lexical means in Portuguese. In a filler pair presenting the any pattern twice, the Portuguese perceived the patterns as the 'same' but assigned to both the 'none at all' meaning of a straightforward negative.

   On the other hand, in a Portuguese pair presenting constant polarity tags with LR and LF, which convey the same 'patronizing' overtone, the English perceived the tones as 'different' and gave random replies to their interpretation.

3.2. where the meaning contrast is conveyed by intonation in both languages, but the device used in L₂ is non-existent in L₁.

   3.2. Meaning is conveyed by intonation in both languages, but L₂ device is non-existent in L₁.

   Eng. I thought she was married

   int. dev. tonicity V = pos
   n-n reply. perception: random

   3.3. where the intonational devices exist in both languages, but are put to different uses.

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3. with idiosyncratic uses of intonation in L₂.

These fall into three classes:

3.1. where the meaning conveyed by intonation in L₂ has no intonational equivalent in L₁.

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   int. dev. tone F = 'none at all'
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In these three cases, the contrastive meanings dependent on various aspects of intonation are idiosyncratic to L'. The use of intonation in L2 cannot therefore be deduced from uses of intonation in L1.

4. with items or syntactic structures usually associated with one particular meaning

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question vs exclamation

Eng. 'didn't John enjoy it
'didn't John enjoy it

int. dev. tone F = exclamation
LR = question

n-n reply, perception: random

interpretation: random

In English, inversion structures are commonly associated with an interrogative meaning. Random results were also obtained by the English listeners to a Portuguese pair presenting two alternative interpretations of a word ("como"), usually associated with an interrogative meaning too.

3. Conclusions

On the whole, the hesitation of the non-native in assigning meaning to the intonation patterns of L2 was clear. Most patterns were either misunderstood through the assignment of a wrong meaning to them – or not understood at all – as proved by the large number of random replies. These results argue for the arbitrariness of certain intonational meanings. But the results also show that the non-natives do not always hesitate when the foreign pattern is non-existent or has no equivalent use in their mother tongue. They apparently do not have the exact native patterns in mind and, in some cases, seem to make use of some 'internalized' abstract functions of intonation. These results show that some features of intonation and associated intonational meanings seem to lie beyond particular uses in each language. It seems possible to set up some interpretive strategies that non-natives use in listening for intonational meaning in L1:

- the transfer strategy: where the same intonational difference operates on a familiar structure in L1, the meaning conveyed by intonation in L1 is generalized to L2 (see 1);
- the pitch height strategy: where the meaning contrast conveyed by intonation in L2 can be associated with broadly similar uses of pitch contours or pitch height in L1, 'abstract' generalizations regarding meaning seem to be made, correlating higher overall pitch with 'openness' and lower pitch with 'finality' (see 2);
- the lexico-syntactic strategy: where certain lexical items or grammatical patterns of L2 are most commonly associated with one particular meaning, this straightforward interpretation suggested by the words will tend to override alternative interpretations which are intonation-dependent.

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(see 4); if the patterns are perceived as the 'same' (viz. in the filler pairs), this strategy results in the assignment to both patterns of the meaning favouring a more straightforward interpretation of the words (see comment for the pair presenting the 'any' pattern twice, in 3.1).

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References


