The intonation of *instruct* and *explain* in Neapolitan Italian

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ABSTRACT

In this paper we present the prosodic analysis of *instruct* and *explain* moves in Neapolitan Italian. We selected data from map-task dialogues of the AVIP *corpus*, in order to evaluate the intonational differences between pragmatic classes; the moves have been analysed using the INTSINT model and the ToBI model. Our data show a sloping F0 contour both in *explain* and *instruct*; nuclear pitch accents are, instead, slightly different: *instruct* moves register the highest percentage of L* targets while *explain* register a similar percentage of HL* and L* targets. We propose that these pragmatic moves can be characterized considering the global trend of the Tone-Units and the combination of pitch accents in the Tone-Units which compose the move. Such an analysis reveals a typical tune H+L that can be aligned in several ways to the morphosyntactic pattern and to the syllable which receives the nuclear accent.

1. INTRODUCTION

Current trends of research in linguistics centre their attention on the relation between intonation and communicative intentions or pragmatic functions (see, among other works, [1] [2]). In this frame, several works have recently dealt with Italian and its regional varieties; they usually deal with the opposition in the modality questions/statements and the interplay between *focus* and intonation. Most of these studies follow the autosegmental-metrical approach or similar phonological models of prosody and provide an inventory of tones and tunes of some Italian varieties (see, for an overview, [3] [4] [5] [6]).

Here we present the preliminary results of the prosodic analysis of *instruct* and *explain* moves in Italian, selected from spontaneous speech. Our attempt was to compare a "phonetic" prosodic transcription to a "phonological" one, in order to investigate two main points of the debate about intonation. The first is to evaluate the actual difference in the intonational pattern between *instruct* and *explain* moves; this implies two questions: is there one tune for *instruct* and one for *explain* and what prosodic cues are relevant to this difference? Do intonation marks distinguish all pragmatic classes or do other elements of different linguistic levels play a more important role in characterizing them? The second point is to test the prosodic domain of the tune; can this domain be always represented as a Tone-Unit or also as a wider unit?

In making such an analysis, we think it is important to refer to the semantic-logic modality by which pragmatic functions are expressed. *Instruct* moves mainly convey jussive or deontic values, while *explain* moves refer to epistemic value; both these modalities have morphological or/and lexical markers in most languages and, as is well known, in Italian. The case evidently diverges from the well-studied opposition question/statements; Italian lacks morphosyntactic means which distinguish questions from statements, and prosody marks each modality. This case, therefore, seems to offer a good opportunity to test the interplay prosody/pragmatics/syntax, by evaluating, in particular, if intonational markers of modality lessen in the presence of morphosyntactic markers.

2. *CORPUS* AND METHODOLOGY

The AVIP-API *corpus* [7] collects map-task dialogues of three varieties of Italian; we selected the turns corresponding to *instruct* and *explain* moves of A01N dialogue, Neapolitan variety. This dialogue has been variously analysed by Italian scholars in AVIP and API research projects; to our aims, pragmatic, syntactic and intonative annotations are relevant. Pragmatic analysis follows the classical Map-Task model [8]. On the syntactic level, constituents of the sentences are identified; the analysis is limited to the *clause* level and shows parataxis and hypotaxis relations among these constituents [9]. Prosodic labelling has been carried out on two different levels, named TON and AUT, using an INTSINT-like transcription system for the first [10] [11] and a ToBI-like transcription system for the second [10] [12]. Each turn has been divided in Tone-Units (TU); the TON level gives the stylisation of the F0 contour, while the AUT level registers pitch accents, phrase accents and boundary tones; annotation and *criteria* of description used in the latter level are those provided for the Neapolitan variety of Italian [3] [5] [6]. Furthermore, the TON level points out

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[1] The authors largely cooperated in this work. Anyway, R. Giordano wrote the article and attended to analyses, results and interpretation of data as referred to in paragraphs 1, 4 and 5. This work started from the plan of study exposed in paragraphs 2 and 3, which is the outcome of a close collaboration between R. Savy and R. Giordano.

with a numeric index the perceptual degree of each accentual event, whether lexical stress or pitch accent; annotation does not take into account phonetic or phonological kinds of *phrasing* and ignores positional *criteria* or other constraints. On this scale, 0 corresponds to a rhythmic deaccentuation, 1 to rhythmic stress and/or melodic prominence, 2 to rhythmic and melodic prominence, corresponding to the main pitch accents of the TU, 3 to emphatic prominence.

Based on the INTSINT labelling we classify the global contour of F0 of the Tone-Unit in four types: two simple contours, the raising and the falling, and two complex contours, the raising-falling and falling-raising. The *criterion* to analyse the melodic trend of the TU refers to the relative position of T (=top) and B (=bottom) labels in the prosodic unit.

Our *corpus* consists of: 11 *explain* moves which contains 22 clauses and 23 Tone-Units; 34 *instruct* moves containing 96 clauses and 87 Tone-Units. It results from the selection of all the occurrences, in the whole A01 map-task dialogue, of the two pragmatic classes we were interested in. There are main and dependent clauses, as well as coordination links among clauses. It clearly emerges that Tone-Unit and clause, respectively as prosodic and syntactic domains, do not necessarily coincide.

3. RESULTS

In the following section we expose data about F0 contours and pitch accents of the Tone-Units for both moves. We would like remark that the same *corpus* has been studied, with slightly different aims, in previous works valuable to us [13] [14]. If pragmatic moves could really have a direct expression in the prosodic pattern, regardless their semantic-syntactic composition, we would expect specific global contour and specific accent to characterize *instruct* versus *explain*.

3.1 PITCH ACCENTS AND F0 CONTOURS

The analysis of the F0 contours of the Tone-Units reveals a large majority of the falling and the raising-falling classes in association with *instruct* moves; *explain* moves mainly consist of falling Tone-Units. Percentages are shown below.

Contour	Instruct	Explain
Falling	62,5	91,4
Raising-falling	40	-
Falling-raising	7,5	-
Raising	-	8,6

Table 1: Percentages of classes of F0 contour in *instruct* and *explain*.

As far as pitch accents are concerned, we will report data emerged from their classification according to the ToBI-like method; we will add some details about their phonetic realization, by making a comparison with the INTSINT labels. Table 2 and 3 show percentages of each kind of accent registered.

Dg	Pitch accent							
	HL*	!HL*	L*	L*H	H*	LH*	%H	n.c.
2	14,1	3,3	38	1,1	27,2	14,1	1,1	1,1
3	21	5,3	42,1	-	21	5,3	-	5,3

Table 2: Percentages of ToBI-like pitch accents in *instruct* moves.

Dg	Pitch accent							
	HL*	!HL*	L*	L*H	H*	LH*	H*L	n.c.
2	41,6	-	25	-	16,6	8,3	4,1	4,1
3	66,6	-	-	-	-	33,3	-	

Table 3: Percentages of ToBI-like pitch accents in *explain* moves.

Both moves show high percentages of monotonal or bitonal accents with L target; *instruct* moves have more L* tones than H+L* tones, while *explain* moves show an inverted trend. Considering the phonetic realization of these accents, we notice that H targets (mono- or bitonal) widely correspond to T points and L* targets to B points; moreover, *instruct* moves have much more H* targets realized on an H or U point and L* realized with a D or L point than *explain* moves. With respect to bitonal accents, we find a significant difference in the alignment of the F0 movement to the syllabic *nucleus*: in the *explain* moves both raising and falling movements centre their extreme points on the vowel of the syllable which receives the pitch accent. On the contrary, *instruct* moves present the opposite case: bitonal accents are never fully aligned to the accented syllable; the target point is aligned while the start (or the end) of the movement is on the neighbouring syllables.

These data on their own do not reveal any correspondence between TU profile and pragmatic move or between one kind of accent and move; it clearly emerges that falling F0 contour and L* targets are mainly associated with both *explain* and *instruct* moves, but no prosodic element seems to distinguish clearly the two moves. In our opinion, it depends on the semantic and syntactic complexity of the structure of these turns; as we said before, the extension of a move does not always coincide with a single Tone-Unit or with one single clause.

3.2 A DIFFERENT UNIT OF ANALYSIS?

We then decided to take into account the syntactic-semantic core of the two classes of moves and to check its prosodic pattern. On the syntactic level, *explain* moves are referable to two kinds of main constructs: "*ci presentativo*" and predicative clause, both with the verb at the indicative mood; there is only one case of nominal construction. *Instruct* moves, otherwise, generally present the main clause with the verb at the imperative mood. In both cases valences of the main verb can be expressed as phrases or also as subordinate clauses; sometimes, of

course, these might not be expressed and saturated. In some cases, we find coordination among main clauses. We can claim that Tone-Units belonging to one of these structures reveal, perceptually, more prosodic cohesion than other Tone-Units.

4. PROSODIC PATTERN OF THE MAIN UNIT

We will report here data about the general prosodic realization of the 'nuclear part' of the moves resulting from the investigation of prosodic indices we pointed out before. In our attempt to identify a global prosodic pattern, we consider the profile of the Tone-Unit and the sequence of tones of the pitch accents associated to the stressed syllables, with particular attention to nuclear accents. Prosodic pattern and morphosyntactic analysis are then matched.

The whole contour of the Tone-Units, which in sequence cover the extension of a move, always presents a falling pattern, both in *instruct* and *explain* moves. In particular, the last Tone-Unit always has a falling contour. The exceptional cases of raising profiles always correspond to turn interruption, which implies prosodic incompleteness.

Nuclear pitch accents we examined are mainly L* and H+L* tones. There is a slight difference in the distribution of these accents between the two moves: *instruct* moves mainly register L* tones (about 70%) while *explain* moves present a more balanced percentage between H+L* (about 60%) and L* (about 50%). These accents are usually set on the final zone of a Tone-Unit. Anyway, various kinds of tones can be realized at the end of a TU, including H targets; in fact, if the move is made up of more than one TU, as it often occurs, we notice that both syntactic relations and positional factors seem to influence the accent realization. Finally, as far as tones are concerned, we would remark here the clear-cut difference between *instruct* and *explain* moves in the alignment of the bitonal accents (see §2).

Nevertheless, a further step in the analysis is possible. We point out a widespread configuration in the sequence of accents in the Tone-Unit when related to morphosyntactic constituents of the move. This tone succession, together with the F0 contour, can be probably considered the actual prosodic mark of these moves. We started from the case in which the move consists of a main clause with a verb that is not followed by lexically stressed complements; then we began to consider more branching constructions. *Instruct* moves[2] usually present, in the first case, a complex tone H+L* with the target aligned to the lexical stressed syllable and the starting tone on the preceding syllables;

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[2] An interesting analysis of the relation between accent and verbal elements in these moves, for the same dialogue, is also in [14]. A first basic work which dealt with the position of verb in the melodic pattern of the sentence in Italian is that of Marotta [15].

that is, the movement is not completely aligned. In the following examples, round brackets in the accent mean the part of the tone not aligned to the accented *nucleus*; the symbol + means that the word is interrupted.

Ex.: [ign**o**ralo]$_{TU1}$

   (H)L*

Iɢɴᴏʀᴇ ɪᴛ!

When other phrases or subordinate clauses follow the verbal element, the tone HL seems to spread out. The main verb receives an H* tone or, at least, a 1 degree stress; it generally lies in a zone of high F0 values, whether in the initial part of the Tone-Unit or not. L* tone is located on one (or more) of the elements following the verb. If other lexical elements need melodic mark, H* or other tones may be inserted between these targets of the tune. It also happens when the sentence consists of more than one TU.

Ex.: [desc**ri**vigli un ce+]$_{TU1}$ [un m**e**zzo c**e**rchio]$_{TU2}$

       H*   H* (!H)L*

Dʀᴀᴡ ᴀʀᴏᴜɴᴅ ɪᴛ ᴀ ᴄɪʀ+ / ʜᴀʟF ᴀ ᴄɪʀᴄʟᴇ

Explain moves usually present two main patterns. Clauses with *ci presentativo* construction also present the beginning of the Tone-Unit with high F0 values: this area includes the verbal element, even if it is not rhythmically stressed. The nominal element carries the bitonal accent H+L* completely aligned to the stressed syllable.

Ex.: [ce ne sono d**u**e]$_{TU1}$

       HL*

Tʜᴇʀᴇ ᴀʀᴇ ᴛᴡᴏ ᴏF ᴛʜᴇᴍ

In our corpus the verb carries an L* accent only in those cases in which no complement follows the verb. The global contour is falling, so that the higher F0 zone precedes the accent.

Ex.: [sei arriv**a**ta]$_{TU1}$

      L*

Yᴏᴜ ʜᴀᴠᴇ ᴀʀʀɪᴠᴇᴅ

Several syntactic and positional factors still have to be investigated in order to discern the actual interplay between the prosodic pattern and the semantic-syntactic constituency. Here we pass over the cases of dislocation and we are still evaluating the interaction with *focus*. We are not going to discuss the case of continuation rises and high targets at the end of the Tone-Unit; we just mention that it may occur when a relation of coordination, or of subordination, links clauses consisting of two or more Tone-Units.

5. CONCLUSIONS

The analysis of the prosodic pattern of *instruct* and *explain*

moves in spontaneous speech can bring to the following conclusions, which are to be considered provisional:

a) both moves show a downtrend in the global F0 contour;

b) both moves are marked by a tone sequence H+L, ending with a L(low) nuclear tone.

Hereby we can make an outline of some characteristics of this prosodic pattern, which, when considered over the morphosyntactic material, seem someway to differentiate the two moves. The H component can be a pitch accent, or part of a complex pitch accent, or a *plateau* zone at the beginning of the main TU. This melodic zone includes the main verb in the *instruct* moves; in these moves the imperative forms of the verb always bear stress and/or accent. *Explain* moves do not reveal a clear trend in this case: the verbal element is sometimes in the plateau zone and is not stressed; in other cases, on the contrary, it is not in that zone and receives a L* target. The L component can be realized as L* accent or a complex accent H+L*: *explain* moves always present bitonal accents fully aligned to the stressed syllable, while *instruct* moves mostly present bitonal accents not completely aligned. L target seems to be linked to dependent phrases or clauses which saturate the verbal valence; but in *explain* moves we found it also in association with the verb.

This pattern seems to spread on the lexical sequence and over the prosodic domain of the Tone-Unit. So, probably, these data could provide a first evidence of a unit larger than the Tone-Unit in the prosodic domain.

ACKNOWLEDGMENTS

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