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IL PARLATO NEL CONTESTO NATURALE

SPEECH IN THE NATURAL CONTEXT

a cura di

Alessandro Vietti, Lorenzo Spreafico, Daniela Mereu, Vincenzo Galatà

AISV
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c/o LUSI Lab - Dip. di Scienze Fisiche
Complesso Universitario di Monte S. Angelo
via Cynthia snc
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email: presidente@aisv.it
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BARBARA GILI FIVELA, FRANCESCA NICORA

Intonation in Liguria and Tuscany: checking for similarities across a traditional isogloss boundary

The present work investigates the intonation systems of two varieties of Italian spoken in Liguria, namely in La Spezia and Imperia, with the aims of 1) extending the existing knowledge on the intonation systems of varieties of Italian, and 2) checking if it is possible to detect similarities/differences in systems found in relatively close areas which belong to either the same (e.g., in Liguria itself) or different isoglosses (e.g., in Tuscany). The second goal, in particular, corresponds to a different perspective in comparison to the more frequent attempt to identify patterns that characterise specific areas. The analysis of La Spezia and Imperia Italian and the comparison of their intonation systems with those of the varieties of Italian spoken in Genova, Pisa and Florence allow us to extend the geographical reach of phonological analyses of Italian intonation; furthermore, as for the second goal, results show that, at least as far as yes/no questions are concerned, even though varieties show different "preferred" melodic contours, it is possible to identify similar patterns that occur with different frequency in towns across different isoglosses.

Keywords: Intonation, La Spezia Italian, Imperia Italian, variation, isoglosses.

1. *Introduction*

As shown by Pellegrini's (1977) cartographic representation of the distribution and differentiation of vernaculars (*dialetti*) spoken in Italy, a distinction is traditionally made between the Romance vernaculars spoken on either side of an imaginary line connecting La Spezia and Rimini. Nevertheless, more recent studies on the intonation of Italian varieties have shown that it is not possible to identify homogeneous macro-areas similar to those found when investigating vernaculars as for, e.g., segmental characteristics (Gili Fivela, Avesani, Barone, Bacci, Crocco, D'Imperio, Giordano, Marotta, Savino, Sorianello, 2015; Savino, 2012)[1].

Besides showing the amount of phonetic variability (e.g., Magno-Caldognetto, Ferreno, Lavagnoli & Vagges 1978; Endo, Bertinetto, 1997; Romano, 2003; for an overview, Gili Fivela, 2008), investigations adopting a phonological perspective offer a very interesting insight into the topic of variation, given the effort in identifying the units of a grammar of intonation and to relate them to func-

[1] The varieties described in Gili Fivela et al. (2015), and first analysed and discussed during the Romance Tones and Break Indices (ToBI) workshop, in June 2011 in Tarragona (Spain), are those spoken in Turin, Milan, Florence, Siena, Pisa, Lucca, Rome, Pescara, Naples, Salerno, Bari, Cosenza and Lecce, while Iraci, Gili Fivela (2017) add Palermo Italian to the set of analysed varieties. Savino (2012) focusses on yes-no questions only, as produced in Turin, Bergamo/Brescia, Milan, Venice, Genoa, Parma, Florence, Perugia, Rome, Cagliari, Naples, Bari, Lecce, Catanzaro, and Palermo.

tional categories. A phonological approach, such as that followed within the Autosegmental-Metrical framework (Bruce, 1977; Pierrehumbert, 1980, for an overview, see Ladd, 1996; for an outline on Italian, see Grice, D'Imperio, Savino & Avesani, 2005 and Gili Fivela et al., 2015) is characterized by the effort in finding linguistic categories out of the phonetic continuum, keeping in mind linguistically-induced variation such as that related to sociolinguistic factors. To briefly sum up, in Autosegmental-Metrical analyses high and low tones are phonological events corresponding to target tone levels, belonging to units called pitch accents and edge tones. The former may be monotonal or bitonal accents, which participate in realizing sentence level prominence and are associated to stressed syllables (e.g., H*, L+H*, where the '*' indicate association to the tone bearing unit); the latter are phrase accents and boundary tones (e.g., H-, H%, LH%), which represent relevant cues to prosodic boundaries of different levels and are associated to the edge of prosodic constituents.

The analysis of phonological patterns found in a number of varieties of Italian and in various sentence types produced in different communicative contexts (that is, statements, exclamations, yes/no questions, wh questions, imperatives and vocatives; see Gili Fivela et al. 2015 and Gili Fivela, Iraci 2017) showed that variation through Italian varieties regards the phonological inventory available to speakers, as well as the association of phonological events and functions (besides the expected phonetic variation). Thus, even though in some cases it is possible to find one intonation pattern that can be used by speakers of different varieties of Italian (e.g., in broad-focus statements, lists, wh questions, counterexpectational wh questions, disjunctive questions, and vocatives), in other cases, a high variation is found in relation to both the intonation inventory selected within a variety (e.g., L+H* vs. H*+L to express narrow-correction focus in Florence and Pisa Italian, respectively) and in relation to the specific functions associated with nuclear configurations (e.g., L+H* L% that signals yes-no questions in Cosenza and contrastive correction focus in Florence Italian). Importantly, Gili Fivela et al. (2015) showed that such variation is not bound to isoglosses traditionally identified on the basis of the analysis of Italian *dialetti*. Along similar line, but for yes/no questions only, Savino (2012) highlighted that "the contour type is not geographically related".

Phonological analyses have warrantied the identification of systemic, rather than phonetic, differences or similarities. Consistently, the main goal of previous investigations on variation in Italian intonation was characterising specific varieties, by finding their attested patterns, but with specific attention to their characterizing ones. Nevertheless, a slightly different perspective may be interesting, that is observing if, besides the main features of phonological systems, it is possible to highlight influences due to (internal) contact situations. The idea behind this work is that, by comparing systems found in different varieties and by considering frequency of occurrence of single patterns, it may be possible to

observe influences due to the geographical position of towns in which varieties are spoken, within homogenous or even heterogeneous linguistic areas.

2. *Goals and hypotheses*

Goals of the investigation described here are 1) achieving a better and wider knowledge of intonation variation in Italian, by adding the analysis of two extra varieties, i.e. that spoken in La Spezia and Imperia, and 2) verifying if it is possible to detect similarities/differences between such varieties, and between them and those found in nearby towns which belong to either the same, e.g., in Liguria itself[2], or different isoglosses, e.g., in Tuscany. Importantly, focus of attention is the transition area surrounding La Spezia. Thus, rather than trying to identify, or differentiate, patterns which characterise specific areas, we aim to find out whether the geographical position within a relatively small area, may affect the presence or the frequency of occurrence of attested patterns.

As for the first goal, our view is that a better knowledge on intonation may be reached by focusing on a wide set of communicative contexts and by considering various speech styles; moreover, cross variety variation may be better pointed out by adopting the very same methods used to investigate other varieties. As for the second goal, our hypothesis is that, besides the identity of single varieties, there are reciprocal influences due, for instance, to the amount of contact induced by the geographical position. In particular, we hypothesize that, at least when more than one pattern is available for a specific function, it may be possible to identify similar patterns in different towns, though such patterns may occur with variable frequency.

To verify the hypotheses and reach the intended goals, we collected and analysed speech material for the varieties spoken in La Spezia and Imperia, by adopting the same methods and transcription conventions that have been used to realize the widest investigation available so far on intonation in Italian varieties and other Romance languages too (Gili Fivela et al., 2015; Frota, Prieto, 2015). Moreover, we explicitly compared the intonation systems of the abovementioned varieties with those of the varieties of Italian spoken in Genova, Pisa and Florence. As for the former, we referred to analyses reported in the scientific literature on the topic; as for the others, we looked at analyses of comparable data sets (see references above).

[2] Reference is made to Pellegrini's (1977) proposal of Liguria as part of the northern isoglosses. However, at least four areas can be singled out with reference to the Ligurian dialects (Forner, 1975, 1988, 1995; Loporcaro, 2009, 2015; Benincà et al., 2016). By taking into account La Spezia, Imperia and, as discussed in the next sections, Genoa, we focus on quite distinct dialectal areas within the Liguria region. Therefore, apart from the clear specificity of La Spezia, a deep comparison of intonational features in Genoa and Imperia would also be interesting. This is, though, out of the scope of this paper and will be a goal of future investigations.

3. *La Spezia and Imperia Italian*

3.1 Methods

Along the lines of Gili Fivela et al. (2015), data were collected by audio recording 5 La Spezia and 6[3] Imperia (San Bartolomeo al mare - IM) Italian speakers (respectively, 3F, 2M, aged 20-30 years and 2F, 4M, aged 20-50). All speakers had been continuously exposed to their native variety of Italian, used it for everyday conversation, and had a similar educational level, that is high-school to university degree. Speakers were asked to perform a Discourse Completion Task (Blum-Kulka et al., 1989), including 60[4] situations/contexts presented in pseudo-randomized order. The analysis reported below regards 33 of the 60 contexts. The situation/context favored the speaker immersion in the intended pragmatic condition and induced to produce specific lexical words. Speakers had to spontaneously react to the given context/situation first and, later, to read aloud a sample sentence, in which both lexical entries and sentence structure were controlled and kept unvaried.

On a general basis, two target sentences/contexts were included for each sentence type, mainly to facilitate the collection of patterns realized in the case of nuclear words showing different stress positions; however, in few cases only one situation was included in the corpus. Examples of the former situations are *Mangia i mandarini* 's/he eats tangerins' and *Beve una bibita* 's/he drinks a soft drink', that were included to elicit broad focus statements (by showing someone eating a tangerine/drinking a soft drink and asking the subjects to state what s/he is doing); an example of the latter situation is the counter-expectation polar question *Loredana un ingegnere?!* 'Loredana an engineer?!', elicited by means of a context asking subjects to think to be informed that a friend became an engineer, even though she has never been good at math; the subject is induced to ask for confirmation while explicitly communicating s/he disbelieves it.

In particular, each time a situation/context and an example of response were proposed, speakers were asked to:

1) read carefully and understand a written text describing a context/situation, presented over the PC screen;
2) produce a spontaneous utterance which would fit with the situational context presented;
3) read as spontaneously as possible the target sentence proposed by the experimenters as suitable for the same context.

[3] One extra speaker was added in order to reach the total amount of instances per sentence type, as one of the other speakers produced only one repetition of the corpus.

[4] In comparison to the questionnaire used by Gili Fivela et al. (2015), three contexts/target were added, in order to get data on yes-no questions in which the nuclear pattern is realized on both oxitone and proparoxitone words in final position, and in which the contrastive-corrective focus is realized on nuclear proparoxitone words.

The whole set of target utterances was presented twice, that is we collected 4 target utterances for each situation/context. Interviews were carried out by both the first and the second author[5].

The analysis was carried out within the Autosegmental-Metrical framework (Bruce, 1977; Pierrehumbert, 1980; Ladd, 1996). Auditory analysis and inspection of fundamental frequency tracks were performed by devoting specific attention to spontaneous renditions, though alignment characteristics were confirmed by means of read speech productions. Importantly, if not specified, the analyses are considered not to depend on speech style. In line with annotation convention established by Gili Fivela et al. (2015: 149), "combinations of equal tones are collapsed and represented by one symbol only (e.g., L-L% becomes L%) and sequences of different edge tones are reported with no intermediate hyphen".

3.2 Results

3.2.1 Statements

In both La Spezia and Imperia varieties, broad focus statements are realized by means of a H+L* L% pattern, in line with what reported in the literature on other varieties of Italian. A high variability in H+ scaling is found, due, for instance, to inter-subject or stylistic variability, as well as to differences in illocutionary force (e.g. Gili Fivela, 2006, Gili Fivela et al., 2015; Gili Fivela, Iraci, 2017). This seems to be the case of La Spezia Italian, where most of the time the H+L* pitch accent is implemented as a fall from a gradually falling stretch (66,6%), while 1/3 of cases is characterized by a fall from a plateau (33,3%) – see Fig.1; in Imperia, the abovementioned implementations are found in about 50% of cases each one.

In line with other varieties, lists in La Spezia and Imperia Italian are usually characterized by either H+L* or L+H* on all the items but the penultimate and the last one: the penultimate usually bears a L+H*, and the last one carries a H+L*. In some cases, a delayed peak for the L+H* accent seems to be realized and even possible L*+Hs seem to be realized (but mainly by one speaker). Intermediate edge tones may be high or low, while the final edge tone is low.

[5] The latter is a mother tongue speaker of the variety spoken in La Spezia; the former has been spending in Imperia (San Bartolomeo al mare - IM) about one month a year since the childhood.

Figure 1 - *Broad focus statements* Maria mangia il mandarino *'Maria has a mandarin' by La Spezia speakers (left, spk. 1) and* Maria beve una limonata *'Maria is drinking a lemonade' (right, spk. 2)*

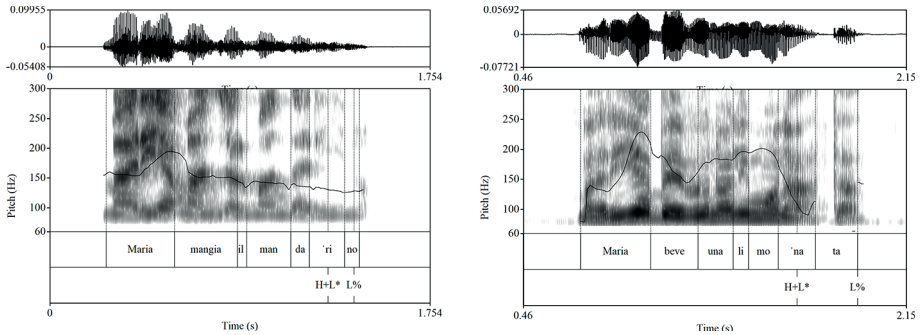
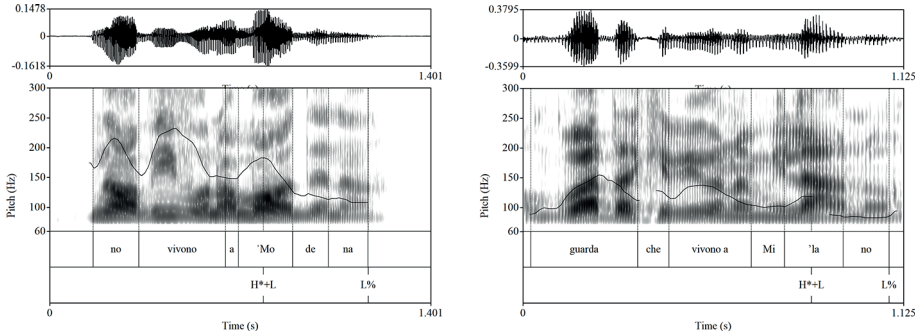
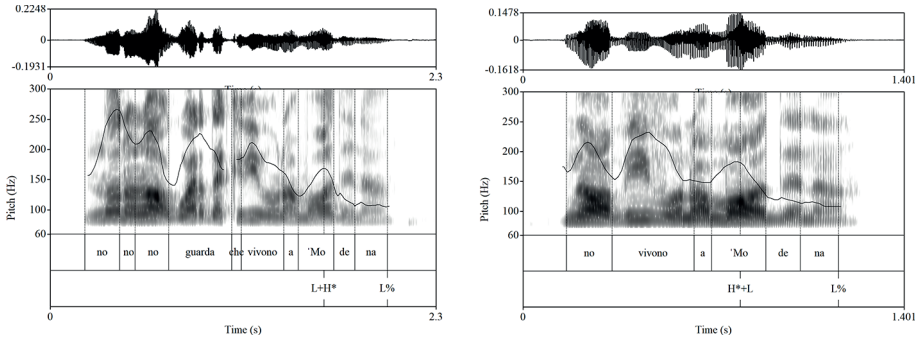


Figure 2 - *Narrow contrastive-correction focus* No vivono a Modena *'No, they live in Modena' and* Guarda che vivono a Milano *'They live in Milan': use of H*+L L% pattern (speaker from La Spezia – left - and Imperia - right)*



In both La Spezia and Imperia Italian, narrow contrastive-corrective focus is realized with an H*+L pitch accent (La Spezia: 62%; Imperia: 70%) – see Fig. 2. Thus, given the two main pitch accents used to express corrective focus in Italian varieties, La Spezia and Imperia Italian show the same phonological categories found in Rome, Pisa, Pescara, Cosenza, Bari, Lecce and Palermo (and different from the L+H* found in Milan, Turin, Florence, Siena, Lucca, Naples and Salerno).

Figure 3 - *Narrow contrastive-correction focus* Guarda che vivono a Modena
'They live in Modena': example of L+H and H*+L pitch accent by La Spezia Speaker 2*



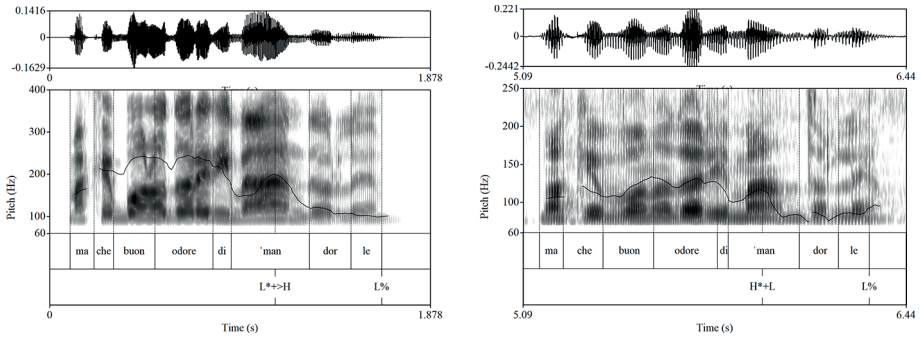
However, as already observed for other varieties, more than one pitch accent may be found in the expression of focus. In particular, in La Spezia Italian a L+H* accent – showing a rise, rather than a rise-fall, through the nuclear syllable – is found (30% of cases) – see Fig. 3, left vs. right. The presence of both H*+L and L+H* was already observed in Palermo Italian, where the choice between patterns appeared to be related to a reduced novelty of the context (as it was observed always in the second repetitions of the task) or to variation in politeness (Gili Fivela, Iraci, 2017). However, in La Spezia Italian the difference between these two patterns seems more clearly related to the speakers' intention to suggest an option, almost with an interlocutory nuance, rather than to correct in a peremptory manner (as in the case of H*+L). In both La Spezia and Imperia Italian, the H+L* pattern often represents a less-peremptory alternative (La Spezia: 8%; Imperia: 30%).

3.2.2 Exclamatives

In both La Spezia and Imperia Italian, in line with other varieties (Gili Fivela et al., 2015), exclamatives are expressed by means of a L*+>H pitch accent (La Spezia: 80%[6] – see Fig. 4, left; Imperia: 60%), followed by a L% boundary tone. Such pitch accent has shown to be characterized by a peak which is aligned earlier than that found in L*+H, independently of the structure and segmental make-up of the target syllable (see also Gili Fivela et al., 2015b).

[6] In some cases (15%), speakers produce shorter nuclear syllables (and seem to speak faster), realizing a steeper rise which could be consistent with a L+H* analysis. However, the difference is taken to be a phonetic one and not to be due to nuances in meaning, eventually requiring a different category.

Figure 4 - *Exclamatives* Ma che buon odore di mandorle! *'What a good smell of almonds!': examples of L*+>H L% by a La Spezia (left) and of H*+L L% by an Imperia speaker (right)*



In both La Spezia and Imperia Italian, alternative patterns are H*+L L% (La Spezia 20%, Imperia 30% – see Fig. 4, right). Moreover, Imperia Italian also shows the nuclear combination H+L* L% (10%). Both H*+L L% and H+L* L% configurations are usually preceded by high F0 values, which are due to a (sequence of) L+H*, especially in the case of H*+L L%, and a wide range in general.

3.2.3 Yes/no questions

3.2.3.1 Information seeking yes/no questions

In both La Spezia and Imperia Italian a pattern used to express information seeking yes/no questions is found to be H*+L LH% (La Spezia: 38.5%, but mainly in two out of the five speakers: 32% in proparoxitone and 45% in paroxitone; Imperia: 81% in both stress positions) – see Fig. 5. Such pattern alternates with L*+H L% in La Spezia (54%: 58% in proparoxitone and 50% in paroxitone). Even though a high variability is observed in the peak alignment (e.g., the peak is aligned before the end of the nuclear syllable by speaker 1 and at the beginning of the post-nucler syllable by speaker 2), the high target does not seem to move far in the post-nuclear syllable and is therefore taken as part of the pitch accent. In La Spezia, the other patterns attested seem sort of idiosyncratic realizations by one speaker[7], while in Imperia the other contour attested in the corpus is H+L* LH% (19%), where the leading high tone is characterized by very high scaling.

[7] However, in case a phonological analysis will turn out to be needed, it could be L*+H H% in 10% of proparoxitone and 5% of paroxitone words.

Figure 5 - *Information seeking yes/no questions* Avete delle mandorle?
'Do you have almonds?' (La Spezia speaker, left), and Avete dei mandarini?
'Do you have tangerins?' (Imperia speaker, right)

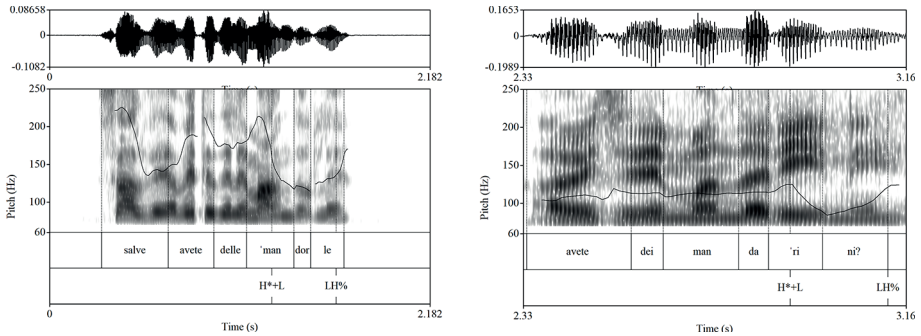
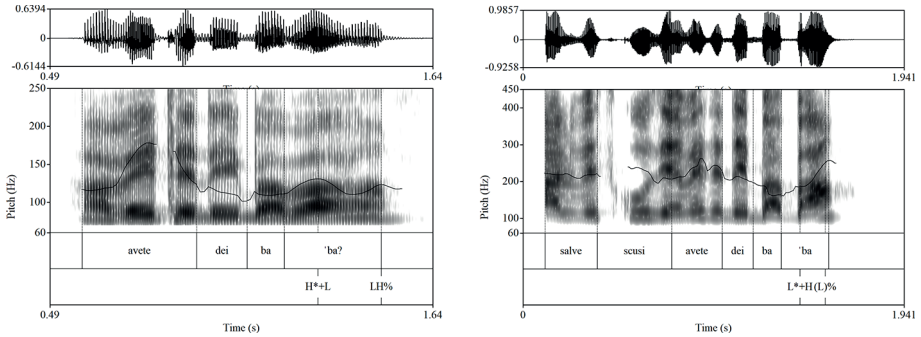


Figure 6 - *Information seeking yes/no questions* Avete dei Babà?
'Do you have Babà?' by La Spezia Italian speakers: no truncation (left panel) and truncation of the final tone (right panel)



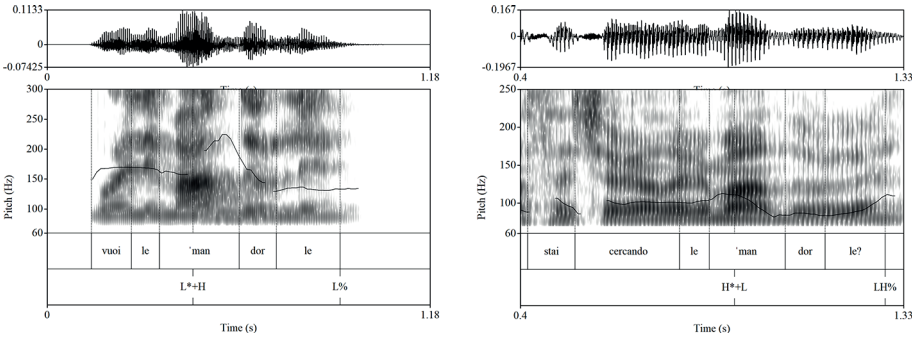
Truncation in oxitone target words is optional in both La Spezia and Imperia. In the former, the H*+L LH% pattern is observed in 55,5% of cases, and only in 38,8% of them truncation of the final H% tone takes place (no truncation in 16,7% – Fig. 6, left). The other option is L*+H L% pattern with truncation of the final L% tone (44,5% of cases, see Fig. 6, right). In Imperia Italian, a quite different situation is observed, in that the H*+L LH% pattern is observed in 20% of cases, while truncation is the most frequent strategy, with total truncation of the H% tone in 40% of cases and a sort of partial truncation, involving a very reduced final rising, in the remaining 40% of items.

3.2.3.2 Echo, counterexpectational and confirmation seeking yes/no questions

In both varieties, confirmation seeking yes/no question may be expressed by means of the H*+L LH% pattern (La Spezia: 33,3%; Imperia: 91%, with a quite early peak). However, in La Spezia the most common pattern is L*+H L% (44,5%), while in Imperia a H+L* LH% may also be found (33.3) – see Fig. 7. In both La Spezia and Imperia, a number of 'statement-like' realizations are also found, in

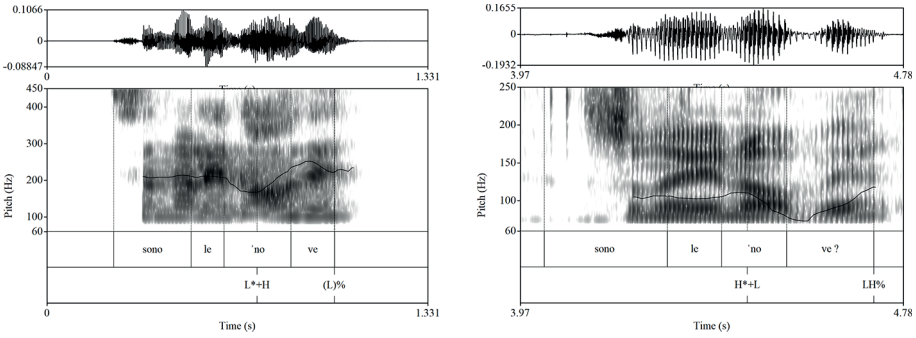
line with the option reported as for other varieties (Gili Fivela et al. 2015), which consists in asking for confirmation by means of the contrastive-corrective focus pattern H*+L L% (La Spezia: 22,2%, by 2 out of the 5 speakers; Imperia: 9%, by one speaker; in any case, speakers are clearly confident that the information is owned by the interlocutor).

Figure 7 - *Information seeking yes/no questions* Vuoi/stai cercando le mandorle? *'Do you want/do you look for almonds?' in La Spezia (left) and Imperia (right)*



Echoes in La Spezia are realized by means of a L*+H L% pattern (65%), though in some cases with partial truncation (38% of the L*+H L%, which are realized on paroxitone words only; see Fig. 8). The H*+L LH% pattern is used to express echos too (mainly by two speakers, 35%). In Imperia Italian, both the H*+L LH% and the H+L* LH% pattern are found (67% and 33% of cases, respectively; the latter shows a possibly upstepped leading tone) – Fig. 8.

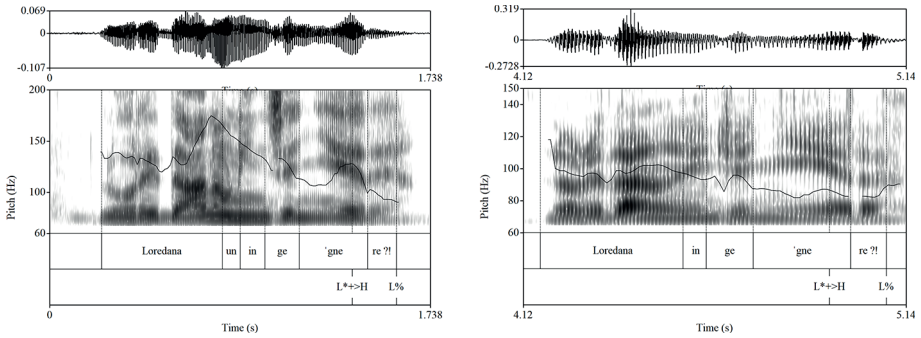
Figure 8 - *Echo yes/no questions* Sono le nove? *'Is It nine o'clock?' in La Spezia (L*+H L% with partial truncation, left) and Imperia (right)*



As in other varieties, counterexpectational yes/no questions may be expressed by means of the same phonological pattern found in echo yes/no questions, although the phonetic implementation may imply differences in syllable lengthening, tonal alignment, and scaling. Thus, such questions are realized by means of an H*+L pitch accent followed by a low and rising pitch track (La Spezia: 6%; Imperia: 30%)

or just a final low (La Spezia: 27%; Imperia: 20%). However, in Imperia Italian the edge tone label seems to correspond a L!H%, as the final rise usually does not reach a very high frequency value.

Figure 9 - *Counterexpectational yes/no questions* Loredana un ingegnere!?
'Loredana an engineer!?' by a La Spezia (left) and Imperia (right) speaker



Rather, counterexpectational yes/no questions may also be expressed by means of a L*+>H pitch accent followed by a L% boundary tone (La Spezia: 47%; Imperia: 50% of cases) – see Fig. 9, or by a L*+>H LH% (rather L!H% usually characterized by a very slight final rise; La Spezia: 20%). Interestingly, the L*+>H L% pattern is the same found in exclamatives. However, by listening to the audio examples and inspecting their F0 tracks, we observed that the pitch range is often more compressed in counterexpectational questions than in exclamatives. This seems to be enough to conveying the question function within a dialogic exchange, while, if the question function has to be explicitly communicated, a final rise is realized (i.e., a final LH% or L!H% edge tone combination which shows a generally compressed, but quite variable scaling is found). Of course these observations need to be confirmed by extensive acoustic measurements[8] and, ideally, by perceptual tests.

Thus, data on La Spezia and Imperia Italian confirm what has been observed for other varieties of Italian, that is one pattern may be common to many (sub) functions (e.g. information seeking, confirmation seeking and echo), though, on the other hand, more than one pattern may play a specific function, possibly conveying different stylistic choices.

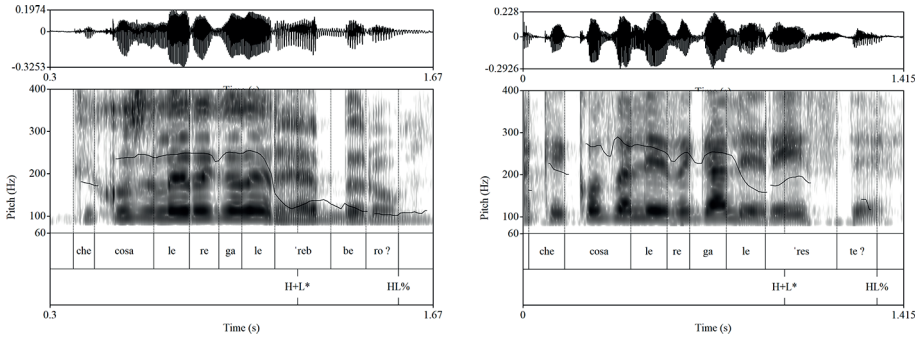
[8] Acoustic measurements performed on contours produced in exclamatives and in counterexpectational questions by the La Spezia speaker who realized higly comparable sentence structures and patterns confirm that, on average, both pitch range (higher prenuclear peak to final low edge tone) and pitch excursion (low to high pitch accent target) are larger in exclamation than in questions.

3.2.4 Wh questions

3.2.4.1 Information seeking wh questions

The most frequent pattern found in the corpus to express information seeking wh questions in la Spezia Italian is H+L* HL% (La Spezia 86% – Fig. 10, left). A very typical feature of La Spezia, but of other Ligurian varieties too, is the rising in the final part of the nuclear syllable. In La Spezia it is a very slight rising, while instances of a more clear rising are found in Imperia Italian, where, though, the pattern is less frequently attested (Imperia 18% – Fig. 10, right)[9]. The analysis proposed, accounting for the different realizations (risings) in the two varieties analysed here and the common nature we hypothesize, is H+L* HL%, where the high edge tone is secondarily associated to the nuclear syllable. Few instances involving the H+L* L% pattern, attested in many varieties of Italian, are also found in both La Spezia and Imperia Italian (La Spezia: 7% Imperia: 27%). In Imperia, the H+L* LH% is the most frequent pattern (55%)[10].

Figure 10 - *Information seeking wh questions* cosa le regalerebbero? *'What would they gift her?' (La Spezia, left) and* cosa le regalereste? *'What would you gift her?' (Imperia, right)*



3.2.4.2 Echo, disjunctive and counterexpectational wh questions

In line with other varieties of Italian, echo questions are realized by means of the same pattern found in information seeking yes/no questions, that is H*+L LH% (La Spezia: 84.2%; Imperia: 91%)[11], and disjunctive questions are realized by means of a L+H* pitch accent on the first item (eventually followed by either a high or a

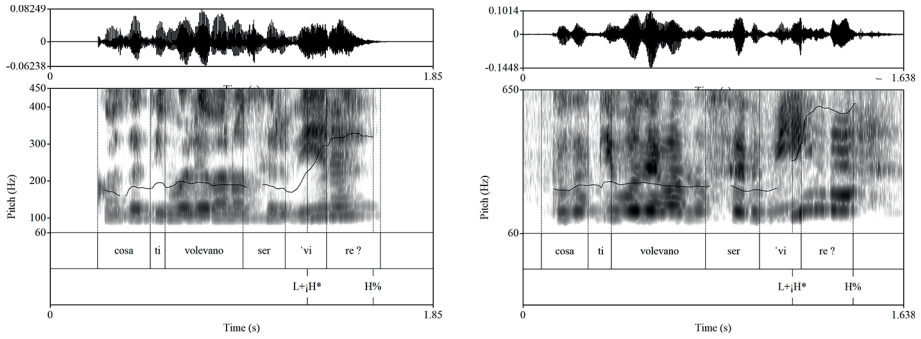
[9] Actually the phonetic shape of the patter in Imperia Italian corresponds to a rising in the nuclear syllable, suggesting even an analysis involving a L+H* L%, preceded though by a high target two syllables before the nuclear one, on an unstressed syllable, where a H+ or even an H* would be needed. Informants suggest that this pattern may be due to the influence of the variety spoken in Genoa.

[10] In the La Spezia corpus, the finally rising pattern attested in many varieties in wh questions is very rare (7%, by one female speaker). Rather, in one case only (spk5, 32 L1) the usual rising by the end of the nuclear syllable is followed by a slight falling and a reduced final rising (no phonological analysis is proposed, but interestingly, from a theoretical point of view, an H+L* HLH% would be needed to account for the pattern).

[11] In La Spezia, one speaker produces a L+H* L% nuclear combination, showing a quite wide pitch range excursion and resembling a L+¡H* L% pattern (15,8% of cases); in Imperia, 9% of contours correspond to H+L* LH%, which is also attested in information seeking yes/no questions.

low phrase accent) and a H+L* on the final item followed by either a low or a high boundary tone (in the Imperia corpus, the final H% is attested in 64% of cases). However, La Spezia Italian speakers also use a L*+H H% pattern (15% of cases)

Figure 11 - *Counterexpectational wh questions* cosa ti volevano servire?
'What did they want to serve you?': La Spezia (left) and Imperia (right)



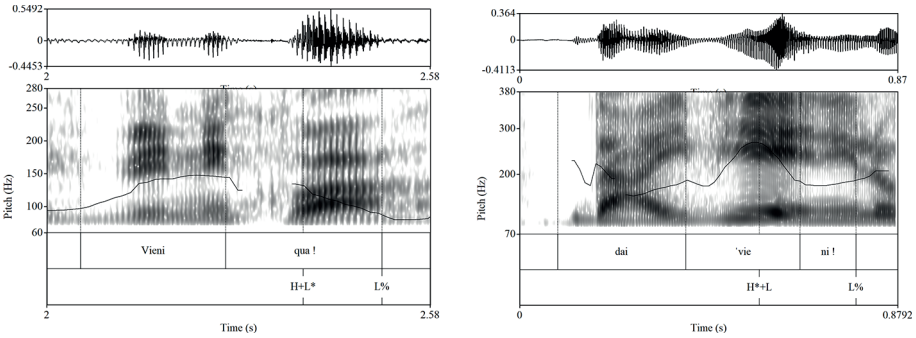
As already observed for many other varieties of Italian, in both the varieties considered here counterexpectational wh questions are expressed by means of a rising pitch accent which is characterised by a wide pitch excursion and is therefore labelled as L+¡H*, followed by a H% boundary tone (La Spezia: 100%; Imperia: 75%) – Fig. 11. In Imperia Italian, in 25% of occurrences an H+L* L% pattern, characterized by a very high leading tone target is also found.

3.2.5 Imperatives: commands and requests

In La Spezia and Imperia Italian commands are usually realized by an H*+L L% (La Spezia: 25%; Imperia: 67%) or H+L* L% (La Spezia: 50%; Imperia: 16.5%)[12] – see Fig. 12. Moreover, in Imperia H+L* LH% may be found (16.5%), and in La Spezia L+H* L% is attested (25% of cases).

[12] Some of the productions which are analysed here as H+L* L% are actually good examples of child directed speech, given the context used in the DCT to elicit the target utterance. In these examples, the L% tone is not really realized as such, but rather as a level sustained tone in the lower portion of the pitch range, and the voice volume is usually raised, with clear changes in the pattern phonetic shape.

Figure 12 - *Imperative command* Vieni qua! *'Come here', left panel, and imperative request* Dai, vieni! *'come on, join us', right panel, by Imperia Italian speakers*



As far as requests are concerned, in both varieties they are realized by means of an H*+L L% (La Spezia: 80%; Imperia; 45%) – see Fig. 12. Further, in Imperia, an H*+L H% pattern is often found (33% of cases, while often the H% is not very high)[13], while in La Spezia Italian they are often realized by a L+H* L% (20% of cases). However, in La Spezia the L+H* L% is especially, but not exclusively, found in non-final position (e.g., *e dai vieni che finisci dopo* 'come on, come here and you'll finish later', by speaker 2 in a spontaneous rendition).

3.2.6 Vocatives

3.2.6.1 Initial call

The pattern found in vocative initial calls is mainly L+H* H!H% (La Spezia: 60%; Imperia 64%), that is the same found in the other varieties investigated so far (i.e., Milan, Turin, Pisa, Lucca, Rome, Pescara, Naples, Salerno, Cosenza, Lecce, Palermo, Florence, Siena) – Fig. 13 (left panel). The L+H* pitch accent may also be followed by a low edge tone L% (La Spezia: 10%; Imperia: 27%[14]) – Fig. 14, left panel. In La Spezia, the H*+L L% pattern is also found (9%).

3.2.6.2 Insistent call

The insistent call may be realized by repeating the same phonological pattern used for the initial call, that is L+H* H!H%, though usually produced with a wider pitch range and H targets on a higher fundamental frequency (La Spezia: 45%; Imperia 36%) – see Fig. 13. However, in la Spezia insistent calls the H*+L L% pattern is even more frequent (55%) – Fig. 14, while in Imperia it is less frequently attested (28%), as L+H* L% – or rather HL%, see n. 14 – is quite often found (36%). Basically, low boundary tones seem to be more often found in insistent calls.

[13] Other attested, though rare, patterns are H+L* H% and H*+L HL%, in 11% of cases each one.

[14] In Imperia Italian, in most cases, an analysis such as HL% would also be appropriate (moreover, such analysis is supported by some extra productions involving a truncated form, i.e. *Seba* instead of *Sebastiano* 'Sebastian', in which an HL% final sequence seems to be realized).

Figure 13 - *Vocative initial and insistent call* Domenico!
'Domenico': example for Imperia Italian

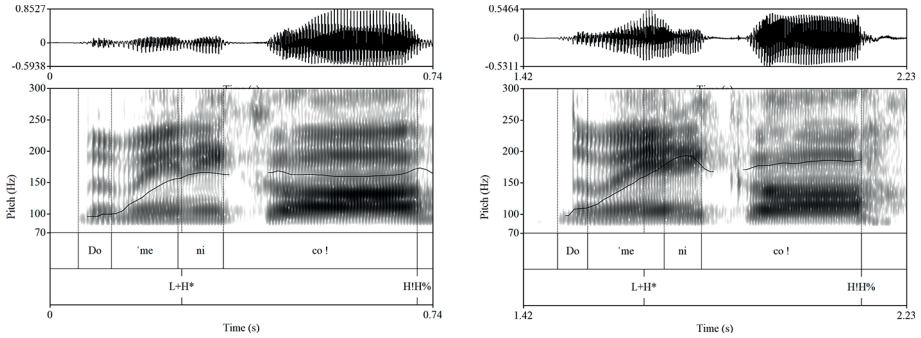
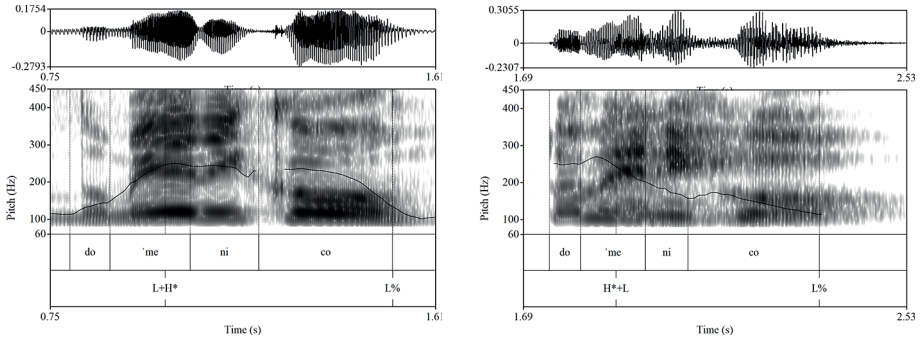


Figure 14 - *Vocative initial and insistent call* Domenico! *'Domenico': alternative patterns produced by a La Spezia speaker*



4. *La Spezia at the «boundary» or within a continuum?*

As already mentioned, our second research goal was to verify if it is possible to detect similarities/differences between systems found in nearby towns which belong to either the same, e.g., Imperia and Genoa (but see n. 2), or different isoglosses, e.g., Genoa vs. Pisa. In order investigate the issue, attention was focussed on information seeking yes/no. Such questions are, in fact, those usually showing the highest cross-variety differences as well as a number of possible intra-variety intonation patterns (though some patterns may also be used for various sub-functions, e.g., the same pattern may express information seeking and confirmation seeking questions).

Table 1 shows patterns attested in the area under investigation, as well as the percentage of occurrence of the attested patterns in the corpora considered, if available. As the table shows, in the area under investigation the patterns used for expressing information seeking yes/no include H*+L LH%, described in this paper for the varieties spoken in La Spezia and Imperia (§3.2.4.1). The same pattern was described for Pisa in Gili Fivela et al. (2015), where the only pattern reported for Florence

was H* LH%[15]. As for Genoa, analyses described in the literature are reported, in particular with reference to Savino (2012) and Crocco (2011), who respectively proposed a L+H* LH% and a (L+)H* LH% analysis[16]. Pitch tracks of yes-no questions by Pisa, Florence and Genoa speakers are given in Fig. 15. The table shows that all analyses include a H* tone in the (monotonal or bitonal) pitch accent, and a following low-high edge tone sequence; moreover, as Fig. 15 shows, independently of the phonological analysis, the phonetic shape of the contours is very similar. This suggests a possible common origin of the pattern, independently of the phonologization (or on the phonological analysis given) in the considered varieties. Apart from this "shared pattern", other contours are usually associated to the function of information seeking yes/no.

Table 1 - *Patterns attested in information seeking yes/no in the varieties considered*

	Pitch accents	*Edge tones*	*Occurrences*
Imperia	**H*+L**	**LH%**	**81%**
	H+L*	LH%	19%
Genoa	**L+H*[18]**	**LH%** LL%	**32.7%** 46.4%
	H+L*	LH%	20.9%
La Spezia[17]	L*+H	L%	54%
	H*+L	**LH%**	**38.5%**
Pisa	H+L*	HL%	86.7%
	H*+L	**LH%**	**13.3%**
Florence	**H***	**LH%**	**–**

Even though data regard only few towns in the area, they show an interesting trend concerning the pattern under investigation, that is the one resembling the H*+L LH% found in La Spezia and Imperia. In fact, patterns corresponding to similar phonetic shape and similar phonological analyses are reported to occur more or less frequently in the corpora related to the places considered in this investigations. Even though the "picture" is surely more complex than it seems, percentages show a gradual change in the frequency of occurrence of the pattern when moving from western Ligurian varieties to Tuscan ones.

[15] In the case of Florence, there is only one pattern attested in the literature. However, we cannot exclude that others can be found, given that no percentages of occurrence had ever been published as for this variety and that the usual goal pursued so far was identifying the prototypical pattern (more than focussing on intra-variety variation). Analyses concern corpora collected within and along the lines of the Atlas of Romance Intonation (DCT for Pisa, Firenze, Imperia, La Spezia).

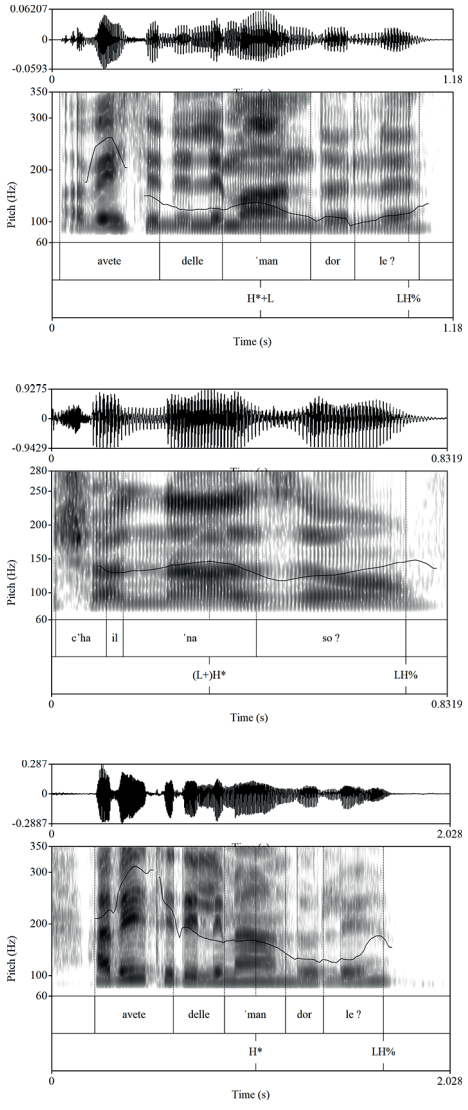
[16] Analyses on Genoa Italian were performed on yes-no information seeking questions collected in the corpus CLIPS (Corpora e Lessici di Italiano Parlato e Scritto – Corpora and Lexicons of Spoken and Written Italian – www.clips.unina.it).

[17] See footnote 7.

[18] The pitch accent is labelled as (L+)H* by Crocco (2011).

Our interpretation of these data is that, when considering the whole set of patterns attested within a variety, it is possible to observe differences in the frequency of occurrence of each pattern and those differences may give hints on the reciprocal influence of intonation systems of varieties spoken in nearby towns.

Figure 15 - *Example of yes-no information seeking questions by Pisa (top), Florence (middle) and Genoa speakers (bottom panel); the former are taken from the corpus collected for the Atlas of Romance Intonation, the latter from the CLIPS corpus and referred to by Crocco (2011)*



5. *Discussion*

The analysis of the intonation systems of varieties spoken in Imperia and La Spezia allowed us to point out peculiar, local features as well as shared ones – see Table 2 for an overview – and to reach our first goal, that is, extending the geographical reach of phonological analyses of Italian intonation.

Details on the patterns were given in section 2, while here it may be worth to highlight the most characterizing aspects of the two varieties. As for Imperia Italian, the H*+L pitch accent is very frequent, in both statements and questions, and it really characterizes the language variety. On the other hand,one of the patterns found in Imperia wh questions is quite typical of the intonation of the investigated area, and some informants consider it to be influenced by the pattern found in Genoa Italian. In particular, wh questions in both Imperia and La Spezia may be characterized by a falling nuclear pattern, ending with a rising pitch (which in Imperia may also be aligned to most part of the nuclear syllable) and being followed by a very final fall (H+L* HL%). In such cases, a fall originates from a prenuclear high on an unstressed syllable which is one or even two syllables away from the nucleus; after the low target, the F0 in the nucleus rises by the end of the nuclear syllable or even through the whole syllable (e.g., in the examples found in Imperia Italian). The analysis proposed, accounting for the different realizations (risings) in the two varieties considered here and the common nature we hypothesize, is H+L* HL%, where the high edge tone is secondarily associated to the nuclear syllable.

Another peculiar characteristic highlighted by the analysis is that in both Imperia and La Spezia Italian counterexpectational yes/no questions may be expressed by means of a L*+>H pitch accent followed by a L% boundary tone. It is a matter of further investigation understating if the difference between such questions and exclamatives, which may be expressed by L*+>H L% too, is related, for instance, to the higher f0 values or the wider range observed in the case of exclamatives.

Besides the abovementioned specific characteristics, data on La Spezia and Imperia Italian confirm that it is not possible to draw clear isogloss boundaries on the basis of intonation, and definitely no isogloss boundaries in the positions proposed by means of the analysis of Italian vernaculars (see Table 3 and 4 for patterns observed through Italy in, respectively, yes/no and wh information seeking questions).

In order to focus on the second goal of the paper, that is to verify if it is possible to detect similarities/differences in systems attested in nearby towns across traditional isogloss boundaries – e.g., Genoa, La Spezia and Pisa –, we focused attention on information seeking yes/no. They usually show the highest cross-variety differences as well as a number of possible intra-variety intonation patterns. A comparison of the main patterns attested in information seeking yes/no in the area under investigation showed that the patterns attested include a H* tone in the (monotonal or bitonal) pitch accent and a following LH% tone sequence. In particular, the patterns are H*+L LH% and H* LH% (the former, in La Spezia and Imperia, see §3.2.3.1 and Pisa, see Gili Fivela et al., 2015; the latter in Florence, see Gili Fivela et al., 2015 again), as well as L+H* or (L+)H* LH% (in Genoa, see Savino, 2012 and Crocco, 2011). Moreover, the phonetic similarity also suggests a possible common origin of the pattern, independently of phonologization processes.

Even though data regard only few towns in the area, they show the presence of highly similar patterns in the area under investigation; moreover, percentages show a gradual change in the frequency of occurrence the H*+L LH% pattern found in La Spezia and Imperia when moving from western Ligurian varieties to Tuscan ones. Thus, even though few locales have been considered in the area, data analysed so far allows us to give a positive answer to the second research question of this paper. In fact, besides expected cross-variety differences, a transition area such as the one considered here may be characterized by the presence of similar patterns that are though used with a different frequency (at least if we take the frequency in the collected corpora as representative of frequency of occurrence in real, complex communication). Further analyses will hopefully confirm these first observations.

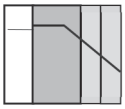
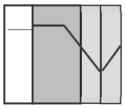
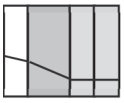
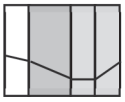
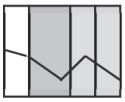
6. *Conclusions*

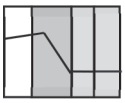
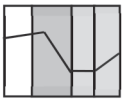
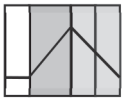
The paper describes an investigation on the intonation system of the varieties of Italian spoken in La Spezia and Imperia, with the aim of extending the existing knowledge on the intonation of varieties of Italian. Another goal instantiates a different perceptive in comparison to the more frequent attempt to identify patterns which characterise specific varieties. A second goal is indeed to detect similarities/differences between the varieties spoken in relatively closed towns, which belong to either the same or different isoglosses.

To reach the intended goals, we collected and analysed speech material for the varieties spoken in La Spezia and Imperia, following the same methods adopted for investigating other varieties of Italian, and other Romance languages too (within the Autosegmental-Metrical framework). Finally, we compared the intonation systems of the abovementioned varieties with those of the varieties of Italian spoken in Genoa, Pisa and Florence, by referring to analyses reported in the scientific literature on the topic.

Results allow to extend the geographical reach of phonological analyses of Italian intonation and to show that, at least as far as yes/no questions are concerned, it is possible to identify similar patterns even in towns across different isoglosses, though the patterns occur with a different frequency.

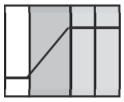
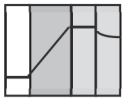
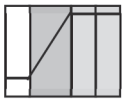
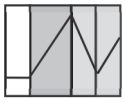
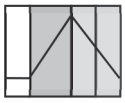
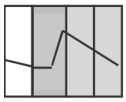
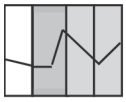
Table 2 - *Inventory of nuclear configurations found in sixteen varieties of Italian, their schematic representations and their use in main sentence types (adapted from Gili Fivela* et al. *2015 and Gili Fivela, Iraci, 2017: updates regarding La Spezia and Imperia Italian data are underlined)*

Nuclear Configuration		*Sentence types where it is used*
	H* L%	Exclamatives (Cosenza).
	H* LH%	Yes/no questions (Florence and Siena).
	H+L* L%	Broad focus statements, intermediate and final item in lists, narrow informational focus (e.g., Firenze and Siena); contrastive-corrective narrow focus statements (in Pescara Italian, when realized as a high pretonic pitch accent that in long constituents corresponds to a high plateau, described as L+H* H+L*; as a second option in some varieties); exclamatives (Milan, Imperia, Lucca, Salerno, Lecce); wh questions (Imperia, La Spezia, Milan, Turin, Pisa, Lucca, Rome, Pescara, Siena, Naples, Cosenza, Salerno, Bari, Lecce, Palermo); final item in disjuctive questions, commands (Imperia, La Spezia, Milan, Turin, Florence, Siena, Lucca, Pisa, Rome, Salerno, Pescara, Lecce, Palermo); imperative requests (Lucca, Rome, Naples, Pescara; in the latter two, the high pretonic pitch accent is found); vocative initial call (Naples and Pescara, where the high pretonic pitch accent is found).
	H+L* LH%	Yes/no questions (Imperia, Milan, Turin, Lucca, Salerno, Cosenza, Lecce); wh questions (Milan, Turin, Rome, Florence, Siena, Lucca, Salerno, Bari, Cosenza, Palermo); possibile in lists.
	H+L* HL%	Yes/no questions (Pisa and Lucca): wh questions in Imperia and La Spezia (with secondary association of H-).

	H*+L L%[19]	Contrastive-corrective narrow focus statements (Imperia, La Spezia, Pisa, Rome, Pescara, Bari, Cosenza, Lecce, Palermo); yes/no questions (Milan, Pisa, Rome, Pescara, Salerno, Lecce); counterexpectational yes/no questions, exclamatives (Imperia, La Spezia, Pisa, Lucca, Rome, Pescara, Salerno, Lecce); commands (La Spezia, Imperia, Cosenza, Lecce, Pescara); imperative requests (La Spezia, Imperia, Pisa, Cosenza, Pescara where the high pretonic variance is found, and Palermo), vocative initial call (La Spezia), vocative insistent call (Imperia, La Spezia, Pisa, Pescara, Lecce).
	H*+L LH%	Yes/no questions (Imperia, La Spezia, Milan, Pisa, Rome, Pescara, Salerno, Lecce)[20], wh echo questions (Imperia, La Spezia).
	L+H* L%	Not final item in lists, early narrow focus (Pisa, Lecce); wh questions (Cosenza);
	L+H* L%	Contrastive-corrective narrow focus statements (Milan, Turin, Florence, Siena, Lucca, Naples, Salerno); exclamatives (La Spezia, Turin, Florence, Siena, Palermo); yes/no questions (Salerno, Cosenza, Bari); counterexpectational yes/no questions; commands (Turin, La Spezia); imperative requests (Milan, Turin, La Spezia, Florence, Siena, Salerno); vocative initial call (Imperia, La Spezia, Pisa, Lucca, Salerno, Cosenza); vocative insistent call (Milan, Turin, Florence, Pisa, Siena, Cosenza, Palermo). Alternative pattern for narrow (non-peremptory) correction-focus (Palermo, La Spezia).
	L+H* LH%	Yes/no questions (Turin, Salerno, Cosenza, Bari).
	L+H* L!H%	Counterexpectational yes/no questions (Lecce).

[19] See Gili Fivela et al. (2015) for a possible analysis in terms of H* secondary association of the shared feature of the early peak alignment in both L+H* L% and H*+L L% as found in contrastive-correction focus.

[20] Possible L!H% in counterexpectational yes/no questions in Imperia.

	L+H* H%	Wh questions (Rome, Cosenza), possible on intermediate item in lists.
	L+H* H!H%	Vocative initial call ((Imperia, La Spezia, Milan, Turin, Florence, Siena, Pisa, Lucca, Rome, Pescara, Naples, Salerno, Cosenza, Lecce, Palermo) and insistent call (e.g., (Imperia, La Spezia, Pisa, Pescara, Salerno, Cosenza, Palermo).
	L+¡H* H%	Counterexpectational wh questions (Imperia, La Spezia, Milan, Turin, Florence, Siena, Pisa, Lucca, Rome, Salerno, Pescara, Cosenza, Palermo).
	L+¡H* LH%	Echo yes/no questions (Lucca).
	L+¡H* L%	Counterexpectational yes/no questions (Bari)[21]; counterexpectational wh questions (Lecce, Salerno, Pescara, Palermo).
	L*+H L%	wh questions in Pescara; yes/no questions, confirmation-seeking and echo yes/no questions in Palermo (where the peak seems to be slightly delayed in comparison to the schema offered to the left); information seking yes-no questions in La Spezia; couterexpectational yes/no questions in Palermo and La Spezia (though the peak is as anticipated to resemble a L*+>H L% pitch accent).
	L*+H LH%	Alternative patterm in couterexpectational yes/no questions (Palermo, Imperia)

[21] On the basis of Savino and Grice (2007, 2011).

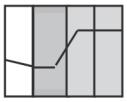
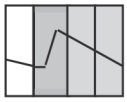
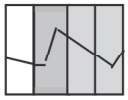
	L*+H H%	wh questions in Pescara and Salerno; disjunctive questions in La Spezia.
	L*+H HL% L*+H HL-L%	Yes/no questions (Turin and Naples, although in the latter the low target in the pitch accent is aligned earlier and a bitonal phrase accent is found; see discussion in Gili Fivela et al. 2015).
	L*+>H L%	Exclamatives (La Spezia, Imperia, Turin. Milan, Lucca, Rome, Lecce, Palermo), Counterexpectational yes/no question (La Spezia, Imperia).
	L*+>H LH%	Counterexpectational yes/no question (La Spezia, Imperia).

Table 3 - *Information-seeking yes/no-questions: transcription of nuclear patterns found in the varieties of Italian (left table) and their stylization (right schemes); motives indicate possible groupings on the basis of nuclear tones; varieties are represented by abbreviations: Milan (MI), Turin (TO), Imperia (IM), La Spezia (SP), Florence (FI), Siena (SI), Pisa (PI), Lucca (LU), Rome (RO), Pescara (PE), Neaples (NA), Salerno (SA), Cosenza (CS), Bari (BA), Lecce (LE) and Palermo (PA) – adapted and updated from Gili Fivela* et al. *(2015)*

	LH%	H%	HL%	L%
H+L*	IM MI TO LU SA CS LE		PI LU	
H*+L	IM SP MI PI RO PE SA LE			
L+H*	TO SA CS BA			SA CS BA
H*	SI FI			
L*+H			TO NA	SP PA

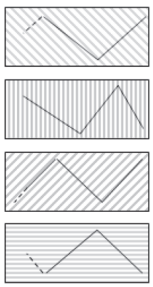
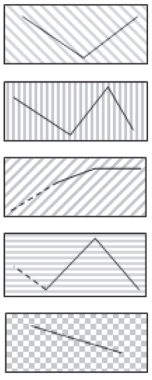


Table 4 - *Information-seeking wh questions: transcription of nuclear patterns found in the varieties of Italian (left table) and their stylization (right schemes); motives represent possible groupings on the basis of nuclear tones; varieties are represented by abbreviations: Milan (MI), Turin (TO), Imperia (IM), La Spezia (SP), Florence (FI), Siena (SI), Pisa (PI), Lucca (LU), Rome (RO), Pescara (PE), Neaples (NA), Cosenza (CS), Salerno (SA), Bari (BA), Lecce (LE) and Palermo (PA) – adapted and updated from Gili Fivela* et al. *(2015)*

	LH%	H%	HL%	L%
H+L*	MI TO IM LU FI SI RO SA BA CS PA		IM SP	IM MI TO SP PI LU SI RO NA PE CS SA BA LE PA
H*+L				
L+H*		RO CS		CS
H*				
L*+H		PE SA		SP PE



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