



UNIVERSITÀ DEGLI
STUDI DI SALERNO

DIPARTIMENTO DI STUDI
UMANISTICI



GHENT UNIVERSITY

DEPARTMENT OF
LINGUISTICS

Corso di Dottorato in Studi Linguistici

**The intonation of closely related varieties.
The case of Campania Italian.**

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ANNO ACCADEMICO 2020/2021

Il progetto di ricerca riguarda lo studio della variazione intonativa tra varietà di italiano geograficamente vicine parlate in Campania: a Napoli, a Salerno e in Cilento.

La letteratura sull'intonazione dell'italiano dimostra un alto grado di variabilità tra le varietà e l'impossibilità di raggrupparle geograficamente sulla base di caratteristiche prosodiche. La tesi si propone di affrontare questo tema esplorando la relazione tra varietà vicine parlate all'interno dei medesimi confini regionali, cioè varietà locali dell'italiano regionale campano. La scelta dell'area e delle località da esaminare parte da un approccio e una prospettiva dialettologici. Com'è noto, la Campania è a livello linguistico un'area caratterizzata da un forte polimorfismo, che emerge, tra l'altro, dalla presenza di più gruppi dialettali. Le località selezionate hanno come sostrato dialetti propriamente “campani” (Napoli e Salerno) e dialetti “lucani” (Cilento), separati nell'area a sud di Salerno da un fascio di isoglosse principalmente fonetiche. Lo studio mira all'identificazione della natura e del grado della variazione intra-regionale campana e del ruolo svolto dal tale linea di discontinuità dialettale nel marcare la variazione diatopica tra le varietà locali di italiano.

Per l'analisi delle varietà sono stati condotti tre esperimenti di produzione per elicitare materiale di parlato letto e semi-spontaneo di compiti di lettura (Discourse Completion Task) ed esperimenti controllati. La mappatura tra le località è stata portata avanti combinando un'analisi degli enunciati sia di tipo fonetico-acustico sia fonologico all'interno del quadro autosegmentale metrico. In questo modo è stato possibile evidenziare la dimensione qualitativa della variazione diatopica, prendendo in considerazione caratteristiche fonetiche e fonologiche da una parte, e frequenza e distribuzione di tali caratteristiche dall'altra.

I risultati del lavoro mostrano che le tre varietà condividono ampiamente l'inventario fonologico, presentando una codifica fonologica dei tipi prosodici e dei contrasti tonali presi in esame simile. Le principali differenze riguardano l'implementazione fonetica e la frequenza di occorrenza degli eventi tonali. Tale quadro permette di caratterizzare la Campania come un'area di transizione per quanto riguarda le varietà locali di italiano regionale, in cui la variazione diatopica e la transizione intonativa mostrano continuità anche all'altezza del fascio di isoglosse identificato per i rispettivi dialetti di sostrato.

The present dissertation is concerned with the study of the intonational variation characterizing neighboring varieties of Italian spoken in Campania: in Naples, Salerno and Cilento.

Literature on Italian intonation points to a high degree of inter-variety variability and the impossibility to geographically group them according to prosodic features. This thesis aims at addressing the issue by exploring the relationship between close varieties spoken within the same regional borders, namely local varieties of regional Campanian Italian. The choice of the area and the relative locales to be examined comes from a dialectological approach. Campania is characterized by a strong linguistic polymorphism as a result of the presence of different dialectal groups. The selected locales have as substratum “Campanian” (Naples and Salerno) and “Lucanian” (Cilento) dialects. Such dialects are separated in the area south of Salerno by a bundle of, mainly phonetic, isoglosses, running in the area south of Salerno. The study has the goal of identifying the nature and the degree of intra-regional variation and the role of played by the line of dialectal discontinuity in marking diatopic variation across local varieties of Italian.

Results show that the three varieties widely share the phonological inventory, the phonological encoding of prosodic types and tonal contrasts under consideration. Main differences concern the phonetic implementation and the frequency of occurrence of tonal events. Such a picture allows to characterize Campania as a transitional area as far as local varieties of regional Italian are concerned, in which diatopic variation and intonational transition show continuity even at the height of the bundle of isoglosses identified for the relative substratum dialects.

Dit proefschrift bestudeert de intonatievariatie in drie nabijgelegen variëteiten van het Italiaans die in de regio Campanië worden gesproken: de variëteiten van Napels, Salerno en Cilento.

De wetenschappelijke literatuur over Italiaanse intonatie wijst op een aanzienlijke differentiëring tussen de verschillende variëteiten. Het lijkt bovendien niet mogelijk om de Italiaanse variëteiten geografisch te groeperen volgens prosodische kenmerken. Deze dissertatie benadert dit probleem door de intonatie te onderzoeken van drie nabijgelegen variëteiten die binnen dezelfde regionale grenzen worden gesproken, namelijk lokale variëteiten van het regionale Italiaans uit Campanië. De keuze van het te onderzoeken gebied en de relatieve locaties is gebaseerd op dialectologische overwegingen. Campanië wordt gekenmerkt door een sterk linguïstisch polymorfisme als gevolg van de aanwezigheid van verschillende dialectgroepen. De variëteiten gekozen voor dit onderzoek hebben als substraat verschillende types dialecten, met name “Campanië dialecten” (in het geval van Napels en Salerno) en “Lucanië dialecten” (in het geval van Cilento). Campanië en Lucanië dialecten worden gescheiden door een bundel hoofdzakelijk fonetische isoglossen. Het doel van de studie is het afbakenen van de aard en de mate van intonatievariatie binnen de onderzochte regio. Daarnaast wordt in het proefschrift de rol onderzocht die de dialectologische discontinuïteit speelt bij de diatopische variatie tussen de onderzochte variëteiten.

Uit de resultaten blijkt dat de drie variëteiten de fonologische inventaris en codering van prosodische types en tonale contrasten in ruime mate delen. De belangrijkste verschillen betreffen de fonetische implementatie en de frequentie van toonhoogteaccenten en grenstonen. Campanië komt daardoor naar voren als een overgangsgebied waarin diatopische variatie en intonationale overgang continuïteit vertonen, zelfs ter hoogte van de bundel isoglossen die de verschillende dialectologische area's van elkaar scheidt.

Il percorso di questo dottorato di ricerca è stato lungo e complesso, tanto amaro quanto felice. Guardando indietro, in ogni momento, ho avuto la fortuna di avere qualcuno al mio fianco con cui condividere gioie e dolori di questi ultimi anni.

Seppur posticipato quanto più ho potuto, il primo dei ringraziamenti va alla mia prof, Renata Savy. Negli ultimi anni sono stati detti e scritti per lei fiumi e fiumi di parole e, nonostante avrei tanto da dire e ricordare anch'io, è difficile oggi aggiungere qualcosa. Mi limito ad alcuni dei tanti motivi per cui la ringrazio: per avermi capita con dolcezza e spronata con violenza, per avermi capita quando le è stato più difficile, per avermi dato occasioni che non sapevo ancora di desiderare, per aver creduto in me, per avermi sostenuta e frenata con la stessa cura fino alla fine, fino a quando, con ancora più cura, mi ha affidata alle mani più sicure.

A Claudia Crocco spetta un ringraziamento infinito. Per la pazienza e la forza con le quali ha affrontato la supervisione di una tesi di dottorato che le circostanze hanno travolto completamente, e l'attenzione e la guida costante con le quali mi ha aiutata a rimettere in piedi il progetto di ricerca e la mia determinazione. Sono stati anni di molte riunioni online e pochissimi incontri che hanno avuto, e hanno, per me un valore immenso.

Grazie a Miriam Voghera, per essere subentrata nel progetto in un momento delicato ed essere diventata un nuovo punto di riferimento all'università. Grazie per la presenza, i consigli, la disponibilità, la fiducia per le piccole e grandi responsabilità che mi ha affidato.

A turno ci siamo ringraziati a vicenda, finalmente tocca a me: grazie ai ragazzi del Lab.L.A. A Riccardo, Loredana e Iolanda, i miei colleghi del cuore. Abbiamo condiviso con lo stesso spirito “viocate”, soddisfazioni, traguardi e preoccupazioni, delusioni e dolore, diventando la squadra che la prof voleva diventassimo. Anche se intraprenderemo strade diverse, la nostra lavagna testimonia che il Lab sarà sempre dove tutto è iniziato (Not today!).

Ci tengo a ringraziare i colleghi del laboratorio PAROLE, i colleghi dottorandi di Salerno e di Gent. Ogni caffè condiviso è stata un'occasione di discussione, e ogni scambio di idee e consigli è stato prezioso!

Grazie ai revisori della tesi, per le loro letture attente, i commenti e i suggerimenti che hanno certamente migliorato il mio lavoro e aperto interessanti prospettive per lavori futuri.

L'ultimo e più grande grazie va alla mia famiglia. A mia mamma, per l'amore con il quale mi ha ascoltata, aiutata, tifata, consolata durante tutto questo percorso, per aver avuto un 'vai, Violy!' per ogni momento importante. A Vincenzo, per la leggerezza d'animo con la quale ha saputo spegnere ogni mia preoccupazione e l'eterno entusiasmo contagioso con il quale mi ha insegnato ad affrontare la nostra vita insieme. Ai miei figli, Vittoria e Leone, per ogni volta in cui, stando con loro, pensavo al lavoro, per ogni volta in cui, stando a lavoro, pensavo a loro. Grazie per aver meravigliosamente complicato, arricchito, addolcito dottorato e vita.

Questi ringraziamenti non potevano non essere in italiano, così la mia prof e mio nonno li avrebbero capiti meglio, così i miei figli li capiranno prima.

THE INTONATION OF CLOSELY RELATED VARIETIES. THE CASE OF CAMPANIA ITALIAN

Table of contents

Riassunto	iii
Abstract	iv
Samenvatting	v
Ringraziamenti	vi
Table of contents	viii
List of figures	xi
List of tables	xvi
Introduction	1
1. LINGUISTIC SITUATION OF CAMPANIA	4
1.1. Campanian historical background	4
1.2. Dialects of Campania.	8
1.2.1. The role of Naples and Neapolitan	11
1.2.2. “Campanian linguistic type”	12
1.2.3. Campanian linguistic discontinuity	14
1.3. Dialects and regional variety of Italian in Campania	17
1.3.1. The emergence of Italian as a national language	17
1.3.2. Regional varieties of Italian	20
1.3.3. Campania regional Italian	23
1.3.4. Linguistic repertoire in Campania	25
1.4. Case study	31
2. INTONATION AND PROSODIC VARIATION	36
2.1. Intonational phonology	36
2.1.1. ToBI annotation	39
2.2. Prosodic variation	40

2.2.1. Sources of variability	40
2.2.2. Prosodic variation between language varieties	43
2.3. Variation in Romance	50
2.3.1. Cross-variety variation in Romance	50
2.3.2. Variation across Italian varieties	57
2.4. Prosodic transition between language varieties	63
2.4.1. Transitional areas	63
2.4.2. Insights into prosodic variation and transition	68
3. INTONATION IN CAMPANIA ITALIAN	70
3.1. Previous studies on Campania Italian varieties	71
3.1.1. Prosodic types in Neapolitan and Salerno Italian	72
3.2. Methods	79
3.2.1. Data collection	79
3.2.2. Speakers	81
3.2.3. Analysis	82
3.3. Intonational phonology of Cilento Italian	84
3.3.1. Statements	84
3.3.2. Yes-no questions	90
3.3.3. Wh-questions	98
3.3.4. Alternative questions	105
3.4. Cross-varietal comparison of question intonation in Campania Italian . . .	108
3.4.1. Yes-no questions	108
3.4.2. Wh-questions	111
3.4.3. Alternative questions	113
3.4.4. Boundary selection	114
3.5. Discussion	116
4. PHONETIC DETAIL IN TOPIC AND FOCUS ACCENTS IN CAMPANIA ITALIAN VARIETIES	121
4.1. Introduction and research questions	121
4.2. Methods	130
4.2.1. Data collection procedure	130
4.2.2. Analysis	132

4.3. Results	133
4.4. Discussion	142
5. PHONETIC DETAIL IN BROAD AND NARROW FOCUS STATEMENTS IN CAMPANIA ITALIAN	147
5.1. Introduction and research questions	147
5.2. Methods	152
5.2.1. Data collection procedure	152
5.2.2. Analysis	153
5.3. Results	154
5.4. Discussion	163
6. GENERAL DISCUSSION	169
6.1. Main findings	170
6.2. Dimensions of variation across Campania Italian varieties	174
6.3. Intonational and geographic transition across neighboring varieties	177
6.4. Additional issues and future directions.	182
6.4.1. Social variation	182
6.4.2. Production data and speech type	183
References	185

- 1.1: *Map of Italy and its regions.*
- 1.2: *Map of ancient Lucania.*
- 1.3: *Map of Campania and its provinces.*
- 1.4: *Dialects of Italy (from Pellegrini 1977).*
- 1.5: *Phonetic isoglosses forming the Eboli-Lucera line (from Avolio 1989:19).*
- 1.6: *Diaglossic repertoire (from Auer 2005).*
- 1.7: *Italian continuum and dialect continuum (from Cerruti & Regis 2015).*
- 1.8: *Locales of Naples, Salerno and upper-Cilento and the Eboli-Lucera line.*
- 1.9: *Dialectal groups of Campania (from Avolio 2000:24).*
- 2.1: *Distribution of tunes for polar questions across the 15 Italian varieties of the CLIPS corpus (from Savino 2012).*
- 2.2: *Information-seeking yes-no question tunes in 16 Italian varieties (from Gili Fivela & Nicora 2018:154).*
- 2.3: *Information-seeking wh-question tunes in 16 Italian varieties (from Gili Fivela & Nicora 2018:154).*
- 2.4: *Recording locations in the Netherlands (from Hannsen 2017).*
- 3.1: *Information-seeking yes-no question Avete dei mandarini? ‘Do you have mandarins?’ uttered by a Neapolitan Italian speaker (Gili Fivela et al. 2015:172).*
- 3.2: *Nuclear tunes of information-seeking yes-no questions in Salerno Italian (adapted from Orrico 2020:150).*
- Figure 3.3: *Nuclear tunes of information-seeking wh-questions in Salerno Italian (adapted from Orrico 2020:150).*
- Figure 3.4: *Nuclear tunes of alternative questions in Salerno Italian (adapted from Orrico 2020:150).*
- 3.5: *Example of situational context and target sentence in the ppt presentation for DCT data collection.*
- 3.6: *F₀ contour for broad focus statement Maria mangia il mandaRIno ‘Maria eats the tangerine’ uttered with a H+L* L-L% tune.*
- 3.7: *F₀ contour for broad focus statement with contrastive topic in initial position Milena lo prende amaro ‘Milena takes it black’.*
- 3.8: *F₀ contour for broad focus statement showing an early f₀ peak Maria mangia il mandaRIno ‘Maria eats the tangerine’.*

- 3.9: F_0 contour for narrow focus statement *Vorrei dei LIMONI 'I wanted lemons' uttered with a $H+L^* L-L\%$ tune.*
- 3.10: F_0 contours for narrow focus statements *Guarda che vivono a MILANO 'Actually they live in Milan' uttered with a $L+H^* HL-L\%$ tune.*
- 3.11: Occurrences of narrow focus statement tunes according to speech type.
- 3.12: F_0 contour for narrow focus statement showing an early f_0 peak *No, loro vivono a MILANO 'No, they live in Milan'.*
- 3.13: F_0 contour for declarative list *Fragoline, angurie, mandarini, banane, mandorle, amarene e limoni 'Strawberries, watermelons, tangerines, bananas, almonds, black cherries and lemons'.*
- 3.14: F_0 contour for yes-no question *Alla fine l'ha trovato Davide? 'Did she found Davide at the end?' uttered with a $L+H^* H(*)L-L\%$ tune.*
- 3.15: F_0 contour for yes-no question *È tornata Barbara? 'Is Barbara back?' uttered with a $L+H^* H(*)L-H\%$ tune.*
- 3.16: F_0 contour for yes-no question *Per caso avete mandarini? 'Do you have tangerines?' uttered with a $L+H^* HL-H\%$ tune.*
- 3.17: Occurrences of information-seeking yes-no question tunes according speech type.
- 3.18: F_0 contour for yes-no question showing an early f_0 peak *Avete delle mandorle? 'Do you have almonds?' uttered with a $L+H^* HL-H\%$ tune.*
- 3.19: F_0 contour for yes-no question *Vuoi le mandorle? 'Do you want the almonds?' uttered with a $L+H^* HL-L\%$.*
- 3.20: F_0 contour for yes-no question *Viene anche Loredana no? 'Is Loredana coming too, isn't she?' uttered with a $L^*+H H(*)L-H\%$ tune.*
- 3.21: F_0 contour for yes-no question *Loredana un ingegnere!? 'Loredana an engineer!?' uttered with a $L^*+H H(*)L-L\%$ tune.*
- 3.22: F_0 contour for yes-no question *Sono le nove? 'Is it nine o' clock?' uttered with a $L+H^* HL-H\%$ tune.*
- 3.23: Frequency of occurrence of yes-no tunes according to yes-no pragmatic functions.
- 3.24: Frequency of occurrences of high and low boundary tones in yes-no questions according to speech type.
- 3.25: F_0 contour for wh-question *Chi le vendeva? 'Who sold them?' uttered with a $H+L^* L-L\%$ tune.*
- 3.26: F_0 contour for wh-question *Che cosa le regalerebbero? 'What would they gift her?' uttered with a $H+L^* L-H\%$ tune.*
- 3.27: F_0 contour for wh-question *Chi le vendeva? 'Who sold them?' uttered with a $L^*+H H-H\%$ tune.*
- 3.27: F_0 contour for wh-question *Chi le vendeva? 'Who sold them?' uttered with a $L^*+H H-H\%$ tune.*

- 3.29: F_0 contour for *wh*-question Cosa ti volevano servire? 'What did they want to serve you?' uttered with a L^*+H HL-L% tune.
- 3.30: F_0 contour for *wh*-question Cosa ti volevano servire? 'What did they want to serve you?' uttered with a L^*+H H-H% tune.
- 3.31: F_0 contour for *wh*-question Dove voglio andare? 'Where do I want to go?' uttered with a L^*+H H(*)L-H% tune
- 3.32: F_0 contour for *wh*-question Dove voglio andare? 'Where do I want to go?' uttered with a L^*+H H(*)L-L% tune.
- 3.33: Frequency of occurrence of *wh*-tunes according to *wh*-pragmatic functions.
- 3.34: Frequency of occurrence of high and low boundary tones in *wh*-questions according to speech type.
- 3.35: F_0 contour for interrogative list Anguria, mandarino, banana, mandorla, amarena o limone? 'Watermelon, tangerine, banana, almond, black cherry or lemon?' uttered with a L^*+H H-H% tune.
- 3.36: F_0 contour for alternative question Vuoi il gelato alla vaniglia o alla banana? 'Do you want vanilla or banana ice cream?' uttered with a $H+L^*$ L-L% tune.
- 3.37: F_0 contour for alternative question Gelato alla vaniglia o latte di mandorle? 'Vanilla Ice cream or almond milk?' uttered with a $H+L^*$ L-H% tune.
- 3.38: F_0 contour for alternative question Vuoi il gelato alla vaniglia o alla banana? 'Do you want vanilla or banana ice cream?' uttered with a L^*+H H-H% tune
- 3.39: Occurrences of tune types in alternative question according to speech type.
- 3.40: Frequency of occurrence of high and low boundary tones in alternative questions according to speech type.
- 3.41: Frequency of occurrence of yes-no question tunes according to the variety.
- 3.42: Frequency of occurrence of pitch accent in yes-no question tunes according to the variety.
- 3.43: Frequency of occurrence of boundary tone in yes-no question tunes according to the variety.
- 3.44: Frequency of occurrence of *wh*-question tunes according to the variety.
- 3.45: Frequency of occurrence of pitch accent in *wh*-question tunes according to the variety.
- 3.46: Frequency of occurrence of boundary tone in *wh*-question tunes according to the variety.
- 3.47: Frequency of occurrence of alternative question tunes according to the variety.
- 3.48: Frequency of occurrence of pitch accent in alternative question tunes according to the variety.
- 3.49: Frequency of occurrence of boundary tone in alternative question tunes according to the variety.
- 3.50: Posterior distribution of high boundaries (H%) in NI.
- 4.1: Milena lo vuole amaro 'Milena wants it (the coffee) black' uttered as a Regular Topic in Neapolitan Italian (from D'Imperio & Cangemi, 2011).

- 4.2: *Milena lo vuole amaro* ‘Milena wants it (the coffee) black’ uttered as a Partial Topic in Neapolitan Italian (from D’Imperio & Cangemi, 2011).
- 4.3: *Mamma andava a ballare da Lalla* ‘Mom used to go dancing at Lalla’s’ uttered as a Narrow Focus on the final word in Neapolitan Italian (from Face & D’Imperio 2005).
- 4.4: *A Momo gliel’ho dato io* ‘I gave it to Momo’ uttered as a Regular Topic (left panel) and as a Partial Topic (right panel) in Neapolitan Italian (from Brunetti et al. 2010).
- 4.5: *Maria sta sbucciando un’arancia* ‘Maria is peeling an orange’ uttered as a broad focus statement with a regular topic in Salerno Italian (from Orrico, 2020).
- 4.6: *Milena lo vuole amaro* ‘Milena takes it [the coffee] black’ uttered as a broad focus statement with a contrastive topic in Salerno Italian (from Orrico, 2020).
- 4.7: *Milena lo vuole amaro* ‘Milena takes it [the coffee] black’ uttered as a narrow focus statement with sentence-initial focus in Salerno Italian (from Orrico, 2020).
- 4.8: F_0 contour of RT condition *MiLEna lo vuole aMAro* ‘Milena takes it black’ in SI.
- 4.9: F_0 contour of PT condition *MiLEna lo vuole aMAro* ‘Milena takes it black’ in SI.
- 4.10: F_0 contour of CF condition *MiLEna lo vuole aMAro* ‘Milena takes it black’ in SI.
- 4.11: F_0 contour of RT condition *MiLEna lo vuole aMAro* ‘Milena takes it black’ in CI.
- 4.12: F_0 contour of PT condition *MiLEna lo vuole aMAro* ‘Milena takes it black’ in CI.
- 4.13: F_0 contour of CF condition *MiLEna lo vuole aMAro* ‘Milena takes it black’ in CI.
- 4.14: F_0 curves of the NPs according to the three information conditions of RT (red line), PT (green line), CF (blue line) in CI (left panel) and SI (right panel).
- 4.15: Span (ST) of the accentual rise according to the condition (RT, PT, CF) and the variety (SI, CI).
- 4.16: Slope of the accentual rise according to the condition (RT, PT, CF) and the variety (SI, CI).
- 4.17: Time in ms of accentual peak alignment according to the condition (RT, PT, CF) and the variety (SI, CI).
- 4.18: Duration in ms of pre-boundary syllable according to the condition (RT, PT, CF) and the variety (SI, CI).
- 4.19: Height of H1 (Hz) according to the condition (RT, PT, CF) and the variety (SI, CI).
- 5.1: F_0 contour for SI statements: *Volevo dei mandaRIni* ‘I wanted tangerines’ uttered as a BF statement.
- 5.2: F_0 contour for SI statements: *Volevo dei mandaRIni* ‘I wanted tangerines’ uttered as a CF statement.
- 5.3: F_0 contours for CI statements: *Volevo dei mandaRIni* ‘I wanted tangerines’ uttered as BF statement.
- 5.4: F_0 contours for CI statements: *Volevo dei mandaRIni* ‘I wanted tangerines’ uttered as CF statement.
- 5.5: F_0 contours for BF (left) and CF (right) statements in CI (red line) and SI (blue line).

- 5.6: Latency of *H* target in the two focus conditions (*BF*, *CF*) and varieties (*CI*, *SI*).
- 5.7: F_0 contours for *CF* statements uttered by a *CI* (red line), *SI* (blue line) and southern *SI* (green line) speaker.
- 5.8: Pitch span (in *ST*) within *Syll* in the two focus conditions (*BF*, *CF*) and varieties (*CI*, *SI*).
- 5.9: Pitch span (in *ST*) within *Syl3* in the two focus conditions (*BF*, *CF*) and varieties (*CI*, *SI*).
- 5.10: Pitch span (in *ST*) within *V3* in the two focus conditions (*BF*, *CF*) and varieties (*CI*, *SI*).
- 5.11: Slope within *Syll* in the two focus conditions (*BF*, *CF*) and varieties (*CI*, *SI*).
- 5.12: Slope within *Syl3* in the two focus conditions (*BF*, *CF*) and varieties (*CI*, *SI*).

3.1: *Nuclear configuration of Cilento Italian tunes, their schematic f_0 representation (white area corresponds to the region preceding the nuclear accent, dark grey to the pitch accent, light grey area to edge tones) and sentence types and pragmatic functions in which are used.*

4.1: *Summary of pairwise comparisons among the three levels of experimental condition according to span (ST).*

4.2: *Summary of pairwise comparisons among the three levels of experimental condition according to slope.*

4.3: *Summary of pairwise comparisons among the three levels of experimental condition according to peak latency (ms).*

4.4: *Summary of pairwise comparisons among the two variety conditions according to peak latency (ms).*

4.5: *Categorical assessment of peak location: productions divided according to the condition (RT, PT, CF) and the variety (SI, CI).*

4.6: *Summary of pairwise comparisons among the three levels of experimental condition according to the duration of NP-final syllable (ms).*

4.7: *Summary of pairwise comparisons among the three levels of experimental condition according to f_0 height of H1 (Hz).*

4.8: *Summary of peak alignment properties and annotations of RT and PT accents in NI, SI and CI.*

5.1: *Summary of the tunes employed for contrastive focus statements with prenuclear f_0 movement in Romance varieties.*

5.2: *Significant results yielded by the LMMs having peak latency (ms) as dependent variable, variety and focus condition as independent variable.*

5.3: *Significant results yielded by the LMMs having span (ST) within Syll, Syl3 and V3 as dependent variable and variety as independent variable.*

5.4: *Significant results yielded by the LMMs having slope within Syll and Syl3 as dependent variable and variety as independent variable.*

INTRODUCTION

This research project deals with intra-regional intonational variation by taking into account three closely related varieties of Italian spoken in Campania.

Contemporary spoken Italian is strongly influenced by high levels of variability along the diatopic dimension. Literature on Italian intonation provides evidence for both intra- and inter-variety variation and unveils the impossibility of geographically clustering varieties according to prosodic criteria. Despite such a picture, studies mainly focus on city-based varieties, namely regional standards and no great deal of attention is paid on variation in intonation in limited geographic areas to account for intonational transition from one variety to a neighbouring one. The present thesis tackles this under-investigated issue, by exploring the relationship among geographically close varieties spoken within the same regional border, namely Neapolitan, Salerno and Cilento Italian.

However, Campania is a heterogeneous area characterized by a strong linguistic polymorphism concerning both substratum dialects and the relationship between dialects and the respective local varieties of Italian. The varieties selected for investigating variation across Campania Italian have different dialectal groups separated by a bundle of isoglosses as substratum. The study has the overarching goal of identifying the nature and the degree of cross-variety variation and the role possibly played by the line of discontinuity represented by the dialectal isogloss in marking diatopic variation across local varieties of Italian.

The thesis is divided in six chapters and structured as follows.

Chapter 1 provides an overview of the current linguistic scenario of Campania. It reports problematic issues in classifying the dialects present in the region on the ground of both features on different linguistic levels that Campanian dialects have in common with other

non-Campanian ones and linguistic polymorphism and discontinuities within the regional borders revealing specificities of the different dialectal groups. Since regional Italian varieties are assumed to be influenced by their substratum dialects, features of regional Italian spoken in Campania are reported, and both are then framed within the Campanian linguistic repertoire. Finally, the case study of the thesis is illustrated, highlighting the criteria for the selection of locales and the relevance of the investigation

In Chapter 2 the theories and research field pertinent to the research project are reported. In particular, the chapter reviews the tenets of the Autosegmental-Metrical framework for intonational phonology within which the thesis is couched. Then, it reviews different accounts on the nature and type of prosodic variation and transition occurring between different languages and language varieties, with a closer look at the Romance and Italian framework. On the basis of the state of the art, dimensions of variation and approaches to study intonational transition are highlighted for the application to the thesis.

Chapter 3 is dedicated to the description of the variety of Italian spoken in (upper-)Cilento. It provides the intonational phonology of Cilento Italian as an original variety based on a production experiment involving both read and semi-spontaneous speech. Then, a first cross-varietal comparison among Campania Italian varieties is presented, providing a picture of intra-regional variation in question intonation along different dimensions of variations and intonational transition across neighbouring varieties.

Chapter 4 reports the results of the first experiment designed to investigate phonetic details in Campania Italian varieties. Specifically, it aims at verifying the status of Campania as a transitional area from the intonational point of view. By means of a replication study, the phonetic transition is explored by enlarging previous descriptions on Neapolitan Italian to the neighbouring varieties of Salerno and Cilento Italian to unveil differences across the varieties concerning the phonetic implementation of tonal contrast

In Chapter 5 cross-variety phonetic differences are deepened by carrying out a further production experiment having the goal of exploring the phonological encoding and the phonetic implementation of statements under different focus conditions and unveiling variety-specific features featuring diatopic variation.

Finally, Chapter 6 reports the general discussion on the findings of the study. Results are summarized and discussed, outlining the different dimensions at stake in intonational

variation and advantages and limits of isogloss-based approaches in studying varietal transition.

CHAPTER 1

LINGUISTIC SITUATION OF CAMPANIA

The linguistic situation of Italy provides a complex picture of endogenous linguistic richness which today involves the standard national language, a considerable number of Italo-Romance vernaculars and the regional varieties of Italian. These codes intertwine with each other in various ways, greatly depending on the geographic areas in which they are used, producing also very different scenarios. For the purposes of the present work, closer attention is devoted to such linguistic twine in the Italian region of Campania, in order to provide an outline of the current Campanian linguistic framework.

The chapter is divided as follows. The brief historical background of the region (§ 1.1) serves as a starting point for the overview of Campanian dialects (§ 1.2) and Campanian regional variety of Italian (§ 1.3) and their position within Campanian speakers' linguistic repertoire. Finally, the case study of the thesis is reported (§ 1.4).

1.1. Campanian historical background

Campania is a coastal, south-western region of Italy (Figure 1.1).

The linguistic landscape of Campania is the outcome of a rich history made of different local populations, foreign conquerors and political annexations. Each period with its relative historical, political and social changes has had its own linguistic contribution in shaping Campania as a rich and heterogeneous linguistic landscape.

Figure 1.1: Map of Italy and its regions.



Etruscan population was present in Capua and Pontecagnano from the ninth century B.C. The very name of the region shows an Etruscan origin and was related to the inhabitants of Capua, initially defined *Cappani* and then *Campani* ‘Campanian’. The city of Cuma was founded by the Greeks in the seventh century B.C., whose linguistic influence is still present in the Greek origin toponyms of the cities of Agropoli, Procida and even Naples (*neà polis*, ‘new city’; cf. Fanciullo 1991). In that period, the southern area of the current region, namely Cilento, was not part of the ancient Campania: from the fifth century B.C., Cilento was under the Lucanian people, who controlled an area encompassing the central-southern Campania, the north-eastern Calabria and the whole Basilicata, as shown in Figure 1.2. It emerged a separation according to both territorial and linguistic criteria: on the one side the most mountainous area belonged to Oscan-speaking Lucania, while the norther and more coastal area between Naples and Capua was under the Greek influence and more properly “Campanian” (De Blasi & Fanciullo 2002).

Figure 1.2: Map of ancient Lucania.



Such an internal separation continued also after the Romans entered the region in 326 B.C. Actually, a territorial tripartition took place (Avolio 2000): in addition to the southern area of Cilento and the Vesuvian and northern area, at the time defined *Terra del Lavoro* ‘Land of work’ and annexed in Lazio, the hilly internal Sannio area, currently corresponding to the provinces of Avellino and Benevento, was occupied by the Samnite and Oscan peoples (De Blasi 2006a). Lucanian and Samnite people revolted against the Roman rule but were defeated. The Roman control lasted for centuries and left a series of Latin toponyms in different areas of Campania, such as Marzano ‘land of Martius’ and Sicignano ‘land of Sicinius’. At the time, Latin was not homogeneously spoken in all the areas of the Roman Empire, or even in close geographic areas; in Italy, such a variation has been ascribed to a differentiation that already characterized the Italic substratum (Loporcaro 2009), namely Greek and Oscan substratum in northern and southern Campania, respectively.

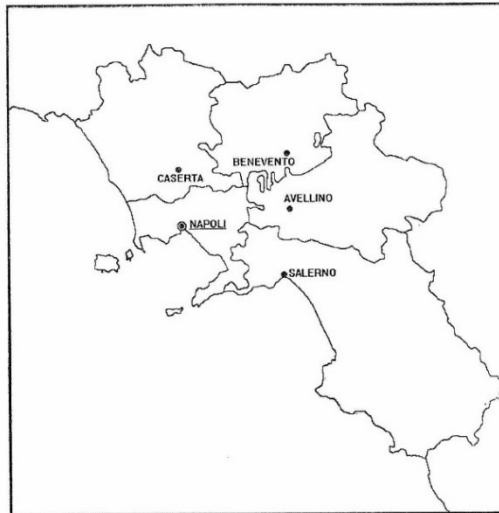
The Germanic populations of the Goths and the Lombards arrived in the region in the fifth and sixth century A.D., respectively. They most occupied the internal areas, such as Benevento that became the capital of the Lombard dukedom, which still presents words and toponyms of Lombard origin (among others, Sabatini 1963), and Lucania. Then, after the fall of the Western Roman Empire, Byzantine Greeks controlled the coastal and the

southern area of Campania, including Cilento, indeed presenting a stronger persistence of Greek words, such as *càccavo* ‘big pot’ and *trupéa* ‘sudden storm’ (De Blasi 2006a).

During the XI century, it started the unification of southern regions as Kingdom of Naples at the hands of the Normans; accordingly, Campania underwent the insertion of a number of Gallicisms (among others, Alessio 1980). After the death of the Norman emperor Federico II, the Kingdom went to the Angevin dynasty, whose king Carlo made Naples the capital of the Kingdom. At the time, Naples was strongly influenced by the French and lived a period of an impressive growth of population and, as a consequence, the discrepancy between the capital and the rest of the Kingdom intensified (De Blasi 2006a). The Aragon dominion started in 1442 with the Catalan king Alfonso of Aragon. The king continued to contribute to the civil and economic development of the city of Naples; he was surrounded by artists and scholars who helped to the growth of Naples as an international and multilingual metropolis. In 1503 Naples became Spanish viceroyalty and experienced a noticeable linguistic contribution by the Spanish and Catalan lexicon (cf. D’Ascoli [1972] 2004), e.g. the verb *ammuinare* ‘shake, upset’ and the relative noun *ammuina* ‘agitation’ (De Blasi 2006a:18).

After the war of succession of Spain at the beginning of the eighteenth century, the Kingdom of Naples was included into the Austrian dominion until 1734 when Carlo III of Bourbon, son of Filippo V, ascended the throne of Naples that became again capital. It started a prosperous period of innovations, cultural renewal, growth of an intellectual middle class (De Blasi 2006a). Even more than before, Naples played an important linguistic and cultural role, becoming the cultural and linguistic center of the whole Campanian area. Besides the local dialect, the new intellectual middle class also used the Italian language that began to spread out from the bureaucratic and religious institutions and be spoken by students coming to Naples for their university studies. The period increased the gap separating the ancient and advanced capital of Naples from the rest of the region.

Figure 1.3: Map of Campania and its provinces.



In 1861 the Campanian territories became a region of the Kingdom of Italy as a result of the unification of Italy, ending to include also territories with partially different linguistic and cultural features, e.g. ancient Lucania. Current administrative Campania includes the five provinces of Naples, Caserta, Avellino, Benevento and Salerno (Figure 1.3).

1.2 Dialects of Campania

From a linguistic perspective, local vernaculars of the Italo-Romance are to be considered varieties belonging to a dialectal neo-Latin continuum: genetically, they are linguistic systems that are the local linguistic outcomes (diatopic varieties) of spoken Latin (Ledgeway & Maiden 2016), and, accordingly, sister languages of other Italo-Romance varieties (Loporcaro 2009). Among these, the Florentine of the fourteenth century is included, whose continuation represented the basis for present-day standard Italian. Indeed, all (almost regional) Italo-Romance dialects or vernaculars, such as Piedmontese and Sicilian, are Italian “primary dialects” (Coseriu 1980) and can be considered, as suggested by Berruto (2018), as “collateral languages” of Italian, thanks to their structural closeness and the shared historical development.

The classification of the dialects of Italy is a thorny issue which has been long debated in the literature (Grassi, Telmon & Sobrero 1997). A traditional classification of dialects along the Italian peninsula is provided by Pellegrini (1977), who suggests a division in five main groups, shown in Figure 1.4.

- i. Northern dialects, including Gallo-Italic ones, e.g. Piedmontese and Venetian dialects (yellow area);
- ii. Friulian dialects (orange area);
- iii. Dolomite Ladin dialects (northeast green area);
- iv. Tuscan dialects (green area);
- v. Central-southern dialects (pink and violet areas).

According to such a classification, dialects of southern Italy are those spoken south of the Roma-Ancona isogloss. Ledgeway (2009) defines this area as characterized by a remarkable degree of linguistic compactness. Indeed, dialects of southern Italy show considerable structural unity and general mutual intelligibility (Avolio 1995:29), though they do not form an entirely homogeneous linguistic group.

Figure 1.4: Dialects of Italy (from Pellegrini 1977).



According to Pellegrini (1977) and subsequent studies adopting this classification (e.g. Loporcaro 2009, 2016; Ledgeway 2016), a further subdivision of Central-southern dialects can be made, including three subgroups. The main criterion for this classification appears to be the different outcomes of Latin final unstressed vocalism:

- i. Upper south. Dialects spoken in southern Lazio, south of the Circeo-Cepraro-Sora line and Abruzzo (light pink in Figure I.4), that keep the Latin distinction between -*ō* > -o and -*ū* > -u;
- ii. Median area. Dialects of Molise, Campania, Basilicata, northern Apulia, northern Calabria (pink area), with a highly reduced final vowel systems, in that they tend to reduce all final (unstressed) vowels to indistinct schwa [ə];
- iii. Extreme south. Dialects of the areas of Salento, central-southern Calabria and Sicily (violet area), that tend to merge word-final *ī*, *ĩ*, *ē* with -i and *ū*, *ũ* and *ō* with -u.

Focusing in particular on Campania, a series of studies provided intraregional classifications and descriptions of the Campanian dialectal variation (among others, Pellegrini 1977; Radtke 1988, 1997; Avolio 1989, 2001). Given the historical and political events summarized in § 1.1, a key point highlighted in these studies is that dialectal areas do not coincide with neither administrative nor modern regional boundaries (Avolio 1995, 2000; Radtke 1997; Del Puente & Fanciullo 2004; De Blasi 2006a). Specifically, linguistic varieties very close to western Campanian ones are currently spoken outside the regional borders, i.e. southern Lazio, the area between Monte S.Biagio, Cassino and Minturno (Avolio 2000:6). On the other hand, the administrative region includes dialectal groups which, although being structurally related to the Campanian dialects, cannot be classified as “Campanian”, namely the Lucanian varieties in the southeastern territory of the province of Salerno.

The lack of coincidence between regional and linguistic boundaries on the one hand and the situations of internal discontinuity testified by two bundles of isoglosses (Eboli-Lucera line and Cassino-Gargano line, see § 1.2.3) unveil high levels of variability and plurilingualism which discredit the idea of a Campanian dialectal uniformity. Actually, such uniformity only concerns west Campania, namely areas of the Terra del Lavoro, the gulfs of Naples and Salerno up to the mouth of the Sele river. A broad tripartition, mainly historically and geographically motivated, appears to better reflect the actual linguistic groupings:

- a. the coastal area that corresponds to proper Campania, subjected to the centripetal force of Naples, which still is a heterogeneous dialectal area;
- b. the internal zone of the Samnite area making up the actual Irpinia;
- c. the southern part of the region, once belonging to ancient Lucania and then divided from Basilicata.

1.2.1. The role of Naples and Neapolitan

As a consequence of this internal geographical and linguistic tripartition, speaking of a Campanian dialectal compactness seems not to be sufficiently accurate.

Despite the role that the city of Naples played for centuries during the Norman, Angevin and Aragon Kingdoms, Neapolitan never became the regional dialect of whole Campania (De Blasi 2006a:20). Unlike Ledgeway (2009) who ascribes the Campania linguistic uniformity to the role played by the city of Naples in the economic and political life of the region across the centuries, actually, it lacked a linguistic homogenization based on the model represented by the Neapolitan dialect of Naples, leading to a strong linguistic polymorphism in Campania (Radtke 1997), even when Naples was the capital of the Kingdom.

In fact, it is not the case that the other dialects were subjected to a Neapolitan-centric influence. Neapolitan has never been politically imposed on the region, quite the contrary, Naples worked as cosmopolitan capital also on the linguistic level, hence becoming a multilingual center (De Blasi 2006b). As a matter of fact, even when Naples was the capital of the Kingdom and despite the literary production from at least the sixteenth century, Neapolitan never became the official language of the Kingdom neither the language of the court, where French, Catalan, Castilian and Italian took turns or the regional dialect (De Blasi 2006a). Crucially, the official language of capital Naples was firstly Latin, then a vulgar which tried to level out typical local features and then Italian (De Blasi & Fanciullo 2002). The multilingualism of the city also included the plurality of other dialects spoken by all the people arrived in Naples from other areas of Campania. Crucially, these people never had the need to abandon their own dialect in favor of the Neapolitan one. Moreover, Naples has long been a center of *italofonia*, i.e. center of use and diffusion of the Italian language (De Blasi 2006b). Indeed, having been capital of a Kingdom for six centuries and always one of the most densely populated Italian cities and the seat of the only university of the southern regions of Italy until the unification, students

from all the region and beyond its borders came to Naples to learn Italian. Accordingly, Naples received different peoples and their ways of speaking.

In conclusion, the linguistic influence of Naples did not result in an outwards diffusion of its dialect, but rather it worked as regional seat of Latin and then as a center of irradiation of Italian and, at the same time, as a point of confluence for different non-Neapolitan dialects (De Blasi 2006a, 2006b).

Remarkably, despite not having represented a linguistic model over other linguistic systems present within the region, there is extensive evidence relating to the vitality and good health of Neapolitan dialect.

From the fourteenth century the local variety spoken in Naples has had a prolonged contact with the Tuscan one, that later would become Italian, that never threatened the survival of Neapolitan. Indeed, nowadays it is largely spoken by the local population (data from ISTAT 1996 – 2015). Furthermore, Neapolitan has known a second life after the unification of Italy in 1861. Thanks to new mainly oral prestige in different artistic forms, it became a strong means of expression in the field of music, theatre and cinema (De Mauro 2014). Crucially, this updated prestige and the most consistent moment of diffusion of Italian resulted to be concurrent. Concrete evidence of the vitality of Neapolitan dialect can be found in the increase of nouns of neutral gender, e.g. *'o ccafè* ‘the coffee’ (De Blasi 2006a:34), and in the stability of the morphological role performed by the typical characteristics of Campania dialects, such as indistinct final [ə], *rafforzamento sintattico* and metaphonetic outcomes (see § 1.2.2).

1.2.2. “Campanian linguistic type”

Even not modelled on Neapolitan, the presence of a series of linguistic phenomena leads to the identification of a Campanian linguistic area (De Blasi 2006a:21). What is worth mentioning, is that it is despite the internal differences and the plurilingualism which characterize Campania that it appears possible to outline a “Campanian linguistic type”, so that it is somewhat distinguishable, or, in other words, circumscribable on both a geographical and linguistic level (Avolio 2000:14). Listed and exemplified here are the common linguistic features among Campania dialects (Sornicola 1997; Radtke 1997; De Blasi & Fanciullo 2002; De Blasi 2006a; Ledgeway 2009).

- a. Metaphonetic outcomes, which refer to peculiar evolutions of stressed vowels of spoken Latin. Latin had a vowel system constituted by ten vowels distinguished according to the quantity, namely five short vowels and five long vowels. In spoken Latin the distinctive feature was the degree of opening, so that short vowels were pronounced as open and long vowels as close. The vowel system was then reduced to seven vowels representing the origin of the vowel system of most Romance languages (Loporcaro 2015). Hence, are the seven vowels at the base of Campania dialects:

i é è a ò ó u

When in the following or last syllable there is an etymological -I or -U, which becomes -O, in Campanian dialects it occurs a metaphonetic diphthongization, so that stressed -è- and -ò- diphthong in -ie- and -uo- (De Blasi & Faciullo 2002). Accordingly, we will have *cento* > *ciento* ‘one hundred’, *morto* > *muorto* ‘dead’, respectively. In the same conditions, stressed -é- and -ó- undergo metaphonetic closure so that they become respectively -i-, *freddo* > *friddo* ‘cold’, and -u-, *colori* > *culure* ‘colours’ (De Blasi 2006a).

- b. *Raddoppiamento sintattico* is a phenomenon which is present also in Italian and other central-southern Italian dialects. The consonant in word-initial position is realized as a geminate as a result of specific preceding words. Crucially, in Campania dialects it plays an important grammatical role (Loporcaro 1997). Since Campanian dialects tend to weaken word-final vowels, morphological information generally carried by final vowels, such as gender and number, are transferred to the initial part of the word, i.e., to the article and the initial consonant. Accordingly, the presence vs the absence of *raddoppiamento* allows to distinguish, for example, feminine (*'e ffiglie* ‘the daughters’) from masculine (*'e figlie* ‘the sons’) plural forms, respectively (De Blasi 2006a).
- c. Consonantal variation. It refers to how consonants change and are pronounced according to different positions in the phonetic sequence. In strong position, namely when *raddoppiamento sintattico* occurs, consonants are geminate, while in weak position, namely without *raddoppiamento*, they are short (Fanciullo 1997). Consonantal variation carries morphological information: for example, in case of betacism, /b/ in weak position is realized as [v] (*'a vocca* ‘the mouth’), while in strong position it becomes a geminate bilabial [bb] (*'e bbocche* ‘the mouths’; Sornicola 1997), hence differentiating singular from plural forms.

- d. The existence of gender neutral (Avolio 1996), which involves both words that were neutral in Latin and neologisms. Neutral is the morphological gender of nouns of materials (*'o ffierro* ‘the iron’), foodstuffs and drinks (*'o ccafè* ‘the coffee’), colours (*'o rrusso* ‘the red’), infinitives used as nouns (*'o ppenzà* ‘to think’), abstract nouns (*'o bbene* ‘the right’). Interestingly, words of neutral gender only have the singular form and, when preceded by the definite article, the *rafforzamento* of the initial consonant occurs. Indeed, *'o russo* with no *raddoppiamento* does not refer to the colour (red), but to a red-haired male person instead (De Blasi & Fanciullo 2002).
- e. Indistinct schwa as the outcome of final-word vowel weakening. The resulting sound is the indistinct centralized vowel [ə], e.g. *rimanə* ‘tomorrow’. However, Campanian dialects present a tendency to centralization (> [ə]) for both pretonic and posttonic unstressed vowels (Sornicola 1997).

In addition, despite a common ancient heritage shared by the whole Campania region and other southern areas on the lexical level (e.g., southern dialectal *accattà* vs Italian *comprare* ‘to buy’, southern dialectal *scarparo* vs Italian *calzolaio* ‘cobbler’), part of the lexicon seems to be more typically Campanian, e.g., *nzerrà* ‘to close’ and *semmana* ‘week’ (De Blasi 2006a).

1.2.3. Campanian linguistic discontinuity

Beyond the abovementioned features, which allow for a broad homogeneity and uniformity between the dialects spoken in Campania, a series of intra-regional dialectal specificities can be observed. Specifically, as highlighted by De Blasi (2006a), such peculiar features represent non-Neapolitan local characteristics, whose endurance makes it necessary to consider Campania dialects separately.

Indeed, proper Neapolitan dialect is characterized by a weakened pronunciation that affects not only word-final vowels but the entire unstressed word-final syllables (Russo & Barry 2008; Crocco, Gili Fivela & D’Imperio 2022), possibly as an effect of a generally higher speech rate as perceived by non-Neapolitans or of the stronger intensity characterizing the pronunciation of stressed syllable compared to unstressed ones (Radtke 1997). Another specific feature not shared by other Campania dialects is the strengthening of intervocalic -*m*- (e.g. *camera* > *cammera* ‘room’).

On the other hand, dialects spoken in the Salerno area are very different from each other since it is a geographically polymorphous area that includes about 200 kilometers of mountains and coast, featuring both geographical and linguistic diversity. In the area of

Salerno, definite article is more frequently 'u 'the' than the Neapolitan 'o (De Blasi 2006a).

Crucially, the southernmost area of the Salerno province corresponds to the core of Cilento. In this area, vowels in final positions are only -a, -i and -u (e.g. *mano* > *manu* 'hand') and tend to be more preserved with respect to the Neapolitan dialect and the area more properly close to Salerno city, where all vowels become indistinct (De Blasi 2006a). Other features of the southern Campania area are the LL > dd evolution (*castiello* > *castieddu* 'castle') and the outcome of FL- > [j] while in other dialects is FL- > [ʃ], e.g. FLOREM > *jore* (Cilento) vs *scióre* (Naples and Salerno) 'flower'; De Blasi & Fanciullo 2002).

Furthermore, Cilento area exhibits different outcomes of final vowels (Cangemi et al. 2010). In common with all the dialects of the macro group of the dialectal Halfway area, it presents the convergence of all final unstressed vowels in [ə]. A second option is the persistent binary opposition [ə] vs [a] in the upper area of Cilento and also present in Benevento province. Lastly, the maintenance of a three-way unstressed vowel system, corresponding to the Sicilian type of vowel system, i.e. /i/, /a/, /o/, typical of the southern Cilento area. Since final unstressed vocalism represents the distinguishing feature between dialects of central-southern Italy, the different outcomes of final unstressed vowels in Cilento unveil the crucial position of Cilento dialects at the turn of the Halfway area and Extreme south dialectal groups. Specifically, the northern part of Cilento, closer to Salerno, presents the typical Neapolitan indistinct final schwa, while moving south the final vowel system moves away from the proper Campanian type approximating the one of southern Italian regions, i.e. Sicily.

Geographically, the area encompassing the southern part of Salerno province includes the Valle del Sele, which have divided Roman *Campania felix* and ancient Lucania for centuries. The endurance of this geographical and historical border helps to understand the linguistic limit between the two dialectal groups separated by the line of discontinuity of the Eboli-Lucera line (Avolio 1989)¹.

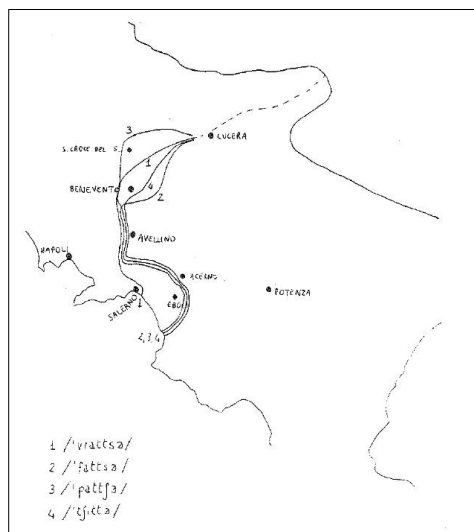
The Eboli-Lucera line is a bundle of mainly phonetic isoglosses that runs from the west coast (immediately south of Salerno city) to Lucera (in the northern area of Apulia). It marks the transition from the Latin nexus –CJ– to /-tts-/ below the line and /-ttʃ-/ above the

¹ In addition to the Eboli-Lucera line, the Halfway area of southern dialects also includes the Cassino-Gargano line (Avolio 1990).

line. Accordingly, Latin *brachium* ‘arm’, has two different outcomes: Lucanian /’vrattsə/ *vrazzo* and Campanian /’vrattʃə/ *vraccio*.

The Eboli-Lucera line shows features in common with other important lines dividing Italy in its main dialectal groups. i.e. La Spezia-Rimini and Roma-Ancona lines, in that it is solid in its isoglosses only in specific points, while it is significantly frayed in others². For example, Avolio (1989) points out that while the Lucanian outcome /’fattsə/ ‘I do’ is attested up to Eboli, which hence represents the last city whose dialect is unequivocally “Campanian”, the Lucanian outcome /’vrattsə/ ‘arm’, as well as /’pattʃə/ ‘crazy’ and /’tʃittə/ ‘silent’, are attested also in points belonging to the Campanian dialectal area, namely above the line, e.g. the surroundings of Salerno and precisely until Pontecagnano, Baronissi, Cava de’ Tirreni. These outcomes are shown in Figure 1.5 below.

Figure 1.5: Phonetic isoglosses forming the Eboli-Lucera line (from Avolio 1989:19).



The area pertinent to the Eboli-Lucera line appears to include also other isoglosses concerning a number of linguistic traits which help to better characterize the dialects generally grouped together as belonging to the Halfway area. Indeed, the line marks the eastern limit of the Campanian dialects, namely, the western limit of the Lucanian ones, or,

² The line has a remarkable solidity in its first trait (–CJ– > /-tts-/ vs /-ttʃ-/) and indeed represents an important and ancient linguistic border, including at least ten isoglosses (summarized in Avolio 1989:11); actually, four of these isoglosses appear to be in movement, namely they are currently moving forward or going backwards at the height of the limit. Hence, the linguistic border is in constant transformation.

in other words, it represents the eastern boundary of a series of phenomena at different linguistic levels (Avolio 1989).

On the phonetic level, the Lucanian area preserves the nexus /- ndʒ -/ following palatal vowel, while in the Campanian area it becomes a geminate nasal palatal /- ɲɲ -/ (/ˈkʲandʒə/ and /ˈkʲaɲɲə/ for *piange* ‘s/he cries’, respectively). On the morpho-syntactic level, it marks the limit between the Lucanian use of the suffix /-ia/ for the first and third singular person in the imperfect tense of verbs of the second and third conjugation. Accordingly, /riˈtʃia/ and /senˈtia/ are used in the place of Campanian /riˈtʃevə/ and /senˈtevə/ for *diceva* ‘I said’ and *sentiva* ‘I felt’. Moreover, below the line the third singular person personal pronoun is *illo* or *iddu* ‘he’, while in Neapolitan dialect is *isso*. As regards the lexicon, it does still exist an eastern use of /ˈkraʒə/ from the Latin *cras* ‘tomorrow’ *contra* the western Campanian /riˈmanə/ (Avolio 1989; De Blasi 2006a). Furthermore, there are other traces of the existence of a local lexicon, namely words in use only in the city of Naples and its surroundings, e.g. *pàccaro* ‘slap’, or only in the Cilento area, e.g. *chiatro* ‘cold’, *òì* ‘today’.

What is worth noticing is that all the phenomena at issue, as already mentioned on final unstressed vocalism, regard not only the south-eastern area of the Campania region, but the whole extreme south of Italy. Consequently, the Eboli-Lucera line does not only mark the passage from Campanian to Lucanian dialects, but represents a first, significant sign of the passage between the upper south and the extreme southern area of central-southern dialects (Avolio 1989).

Despite a certain degree of uniformity of the dialectal “Campanian type” on the one hand, and the internal polymorphism (Radtke 1997) and discontinuity represented by two bundles of isoglosses (Avolio 1989) at the same time, a possible classification of linguistic Campania is provided by Avolio (2000) who highlights the presence of three main dialectal groups, namely Campanian varieties, Lucanian varieties and mixed varieties, i.e. Campanian-Abruzzese dialects.

1.3 Dialects and regional variety of Italian in Campania

1.3.1 The emergence of Italian as a national language

Between the end of the fifteenth and the beginning of the sixteenth century, the Florentine vernacular established itself as the most prestigious among the other varieties present in the

peninsula, mainly because of its rich literary tradition started in the fourteenth century with Dante, Petrarch, Boccaccio. Florentine first established as the literary language and then became Italian as a national language, extended to the entire Italian peninsula after the unification.

Up to the unification, the linguistic and cultural situation of Italy showed an ancient structure, based on the strong polycentrism of the big urban centers (such as Milan, Florence, Rome), low levels of schooling (80% of illiteracy in 1861; De Mauro 2014) and active use of local dialects, which led to a high index of linguistic diversity across the peninsula. The unification of Italy represented the beginning of a period of great transformation in institutions, social and cultural life for Italy, Italian people and Italian language.

Prior to then, the use of spoken Italian was restricted to a few contexts, while the population spoke, or was able to speak, almost only their own local dialect. The number of active speakers of Italian ranged from the 2,5% (De Mauro 1963, 2014:28) to the 10% (Castellani 1982) of the population in the years of the unification. Such a situation draws a picture of nearly generalized dialect monolingualism (among others, Dal Negro & Vietti 2011) and a dialect-Italian diglottic situation which concerned only small élites; in particular, the active use of Italian was common only among who met at least one of the two conditions of being born in a Tuscan area (Florence or Rome) or having a high education level.

From the second half of the nineteenth century, it started a process of Italianization. Thanks to a series of demographic and social processes such as the military service, the increase of social mobility, migratory flows toward the big cities, the establishment of the primary school, and then the influence of radio and television, situations and opportunities of contact among Italian people coming from different regions and speaking different dialects intensified (De Mauro 1963).

Italian language expanded in all linguistic domains, and crucially, in domains in which for long time speakers had used the dialect, for instance in informal situations; in other words, Italian became the language for everyday spoken communication. As a way of example, during the 50s, the active use of Italian had risen to the 36% of population, even if the exclusive use of a dialect was still around the 64% of the population (De Mauro 2014:34).

The increase of the italophone population was a slow process that lasted about a century (1861-1950). In those years there were new circumstances of contacts, such as intra-provincial migration, i.e. people moved from the countryside or isolated areas to the closest

urban centers, which encouraged the use of Italian as a common linguistic means, leading to a broad convergence to Italian. Accordingly, about a century after the unification, the diglottic repertoire of the pre-unification period gave away to a condition of widespread *dilalia* (Berruto 1989, 1995). This refers to the type of standard-dialect coexistence that, unlike diglossia, allows for the use of the two codes in the same social and relational situations, in both informal and semiformal contexts with a non-planned alternation (cf. also Auer 2005). Indeed, speakers switch from one code to another during the same conversation (code switching) or mix both the codes in the same discourse (code mixing). Hence, Italian and dialect were no longer alternative codes, rather two codes that began to have overlapped functions and domains (Berruto [1987] 2012).

Italian became the mother tongue of the majority of Italian, or, in other words, Italian language started to have native speakers. De Mauro (2014) reports the trend of the actual use of Italian and Italo-Romance dialects from 1861 to 2006: exclusive speakers of Italian increased from 1,6% (the marginal *èlites*) to the 45,5% of population although, as highlighted by Berruto (2018), in the early years people spoke a markedly substandard form of Italian. In a similar fashion, speakers of both Italian and dialect achieved the 44,1%. On the contrary, the exclusive use of a dialect decreased from almost the totality of the population (97,5%) to a linguistic minority (5,4%). This trend allows to notice that the emergence of the national language and the first generation of native speakers of Italian did not affect the competence of dialects. Quite the opposite, the exclusive dialect monolingualism has been replaced by an active use of both Italian and dialect (see also data from ISTAT 1974 – 2017).

However, such a coexistence does not homogeneously concern all the regions of Italian, rather marked regional differentiations can be noticed. In the years between 2000 and 2006, while in Tuscany the 83% of speakers used Italian, the 14% Italian and dialect and just 1% only dialect, Campania featured a different picture: only 25% of people used always Italian, while 60% spoke Italian and dialect and 10% always and only dialect. Quantitatively speaking, the number of active speakers of dialect (speakers of only local dialect and both Italian and local dialect) in Campania is 4.200.000 people, corresponding to the 72,2% of the population (Berruto 2018).

Clearly, Italian and Italo-Romance dialects have a special relationship, based on limited structural distance, mutual intelligibility and lack of ethnic conflicts with regard to other Romance standard-dialect pairs (Dal Negro & Vietti 2011). Despite such a relationship, De Mauro (2014: 120) points out that in the last decades the coexistence of Italian and local

dialects, and the shift from a mainly dialect-speaking to a mainly Italian-speaking community, led to three key phenomena within the Italian linguistic scenario. Firstly, the Italianization of dialects, which involves the convergence toward Italian models, mainly on the lexical, but also phonological, morphological and syntactic levels, especially in the main urban centers and the tendency to abandon dialectal words to be substituted with Italian ones. Secondly, the introduction of dialectal elements in common Italian or dialectization of Italian (Berruto 1989). Finally, the emergence of regional varieties of Italian.

1.3.2. Regional varieties of Italian

Italian linguistic system is strongly characterized by high levels of variability affecting all the linguistic levels of analysis. According to Berruto (2012), among the dimensions of sociolinguistic variation, such variability is mainly related to the diatopic dimension. Indeed, diatopic dimension cuts across all the other dimensions, namely the diastratic (social) and diaphasic (situational) ones. Furthermore, unlike the other ones, the diatopic dimension cannot be thought as a polarized and oriented continuum, i.e. an axis from one pole to the other, rather it needs to be represented as a horizontal and linear continuum (Berruto 1998). Each geographic locale has its variety of Italian which exhibits differences with regard to the neighboring locale, mainly because such varieties can be considered the outcomes of the relationship between spoken Italian and underlying local dialects. In this light, these intermediate varieties have also been regarded as “clearing houses” between Italian and dialects by De Mauro.

Nevertheless, these varieties are primarily diatopic varieties which are referred to under the notion of *italiano regionale* ‘regional Italian’ (Cerruti 2011; Regis 2017; Cerruti & Regis 2014, 2015)³. This term involves the entire range of phenomena included in the linguistic continuum envisaging the two extremes of local dialects and standard Italian based on the literary tradition, because of the prolonged contact situation to which dialect and Italian underwent after the unification of Italy (Telmon 2016; Cerruti, Crocco & Marzo 2017). As a consequence, linguistic features of the local dialects people used to speak until then, flowed into and influenced “their” Italian. During the learning process of Italian, the

³ As already highlighted for dialects, there is a lack of coincidence between linguistic and administrative borders also as regards the varieties of Italian. Accordingly, “regional” needs to be considered in a broad sense, referring to a specific area which can coincide with either a geographic large area, e.g. a region, or a single city (Telmon 2016).

Italian community has transferred a number of substratum elements from all the linguistic levels of dialects, e.g. phonetic, lexical, morpho-syntactic. Therefore, the characteristic traits of a given Italian regional variety often coincide with the traits of its dialectal substratum. In this sense, this contact situation gave rise to regional varieties of Italian, which can be considered as diatopically differentiated varieties of Italian. Furthermore, such varieties are the Italian variety Italian people normally speak, their everyday spontaneous spoken variety. In fact, it is worth noticing within the Italian linguistic situation, that standard Italian, which is the language described in grammars whose pronunciation is used for courses of diction, is neither diatopically nor socially bound to a group of speakers, according to e.g. Auer (2011) and Ammon (2004). In other words, Standard Italian spoken with a standard accent is a variety which is acquired through professional training by only small and specific groups of speakers, e.g. groups of professionals such as theatre actors and radio or TV speakers. Hence, standard Italian is not the variety of Italian which is learnt in speakers' primary socialization (since it is not taught in school) and, accordingly, there are no actual native speakers of standard Italian (Berruto 2012).

To complete the picture, after the 60s, neo-standard Italian has emerged as a consequence of the development of standard Italian (Berruto 2012, Cerruti, Crocco & Marzo 2017). It is structurally easier as it is closer to spoken rather than to written Italian; indeed, it conveys the pressure exerted by the regional linguistic uses. One of the defining features of neo-standard Italian is the regionalization of pronunciation, at the segmental as well as prosodic level (Berruto 2012; Canepari 1980; Crocco 2017; Telmon 1993). Spoken standard, accordingly, is characterized by a relative fragmentation into regional standards (Auer 2005; Berruto 2012; Regis 2017, 2018), resulting from a trend of downwards convergence leading to the acceptance of local pronunciation features in cultivated speakers' speech.

Therefore, (untrained) Italians are native speakers of a regional variety, exhibiting a more or less marked regional accent (Crocco 2017). It is worth underlining that the degree of regional markedness is affected by a number of sociolinguistic factors: linguistic structural distance between standard Italian and local dialects being speakers' substratum, discourse' register, speakers' age, cultural level, linguistic awareness and individual speaking style (Crocco 2017). Nevertheless, socially high regional varieties at present-day have established themselves as regional standards, standing in as accepted norm in the respective region.

To sum up, regional differences in contemporary Italian caused the emergence of regional varieties, whose main features are: i) mutual intelligibility, thanks to several channels of diffusion, such as public administration, public education, television; ii) diatopic (geographically driven) variability; iii) absence of regional administrative boundaries for areal classification; iv) spoken varieties of Italian, unlike written Italian which appears to be more unified).

Regional varieties of Italian seem to be above all identified or, at least, identifiable, on the basis of intonational features. The regional “accent” appears to allow recognizing the speakers’ place of origin, or, at least, to evoke a generic geographic area (Telmon 2016).

As it happens for segmental features, also prosodic features in regional varieties of Italian are influenced by those of their substratum dialects (De Mauro 1970; Canepari 1980; Crocco 2017; Barone *in prep.*, Crocco, Gili Fivela & D’Imperio 2022). Studies on prosody of Italian varieties have focused on specific regional varieties, or, specifically, on given cities, hence providing city-based descriptions. Nevertheless, high levels of regional variation across the varieties and the impossibility of attributing specific prosodic, or, at least, intonational features to specific geographic areas have been unveiled (cf. Chapter 2). Crucially, even if it is commonly stated that substratum dialects influence Italian regional intonation, studies on the nature and the extend of such influence are rather sporadic. Indeed, little work has been carried out on the prosody of Italo-Romance dialects and even lesser on the prosodic relationship between regional varieties of Italian and Italo-Romance substratum dialects of the same area. Barone’s thesis results to be the first investigation aimed at systematically comparing the prosodic patterns of a regional variety of Italian with its substratum language, i.e. Pescara Italian and Pescara dialect (Barone *in prep.*).

Instead, dialectal studies provide some insights on the intonational features of dialects of Italy. For example, Romano & De Iacovo (2019) propose a prosodic classification of dialects spoken in the south of Italy by comparing Sicilian dialects to other Southern dialects. As far as production of statements is concerned, results show that it is possible to cluster Sicilian and other dialects of the extreme south and separate other dialectal groups such as Apulian and Campanian (from the upper-south). On the other hand, interrogative intonation allows for a different grouping, e.g. Apulian dialects clustered with Campanian. Hence, even according to prosodic features, homogeneity in the dialects of the south is hard to find, mirroring the difficulty in grouping Italian varieties spoken in the same area (e.g. Savino 2012). Dialectal variation on the intonational level has also been observed within the borders of the same region as shown by Magistro & Crocco (2022) who

investigated three Veneto dialects in order to explore the realization of final rise in declaratives.

1.3.3. Campania regional Italian

Zooming in on the regional variety of Italian spoken in Campania, it is generally assumed to be easily recognizable also by non-Campanian Italians. Its peculiarities include segmental phonetic as well as morphosyntactic and lexical features (De Blasi 2006a; Telmon 2016; Crocco 2017).

As for vowels, stressed vowels in diphthongs that in Italian are open-mid vowels, are pronounced as close-mid, e.g. [ˈskwola] *scuola* ‘school’, [ˈjeri] *ieri* ‘yesterday’. In Campanian Italian, unlike Italian, orthographic -i- following a voiceless palatal consonant is pronounced, e.g. [ˈtʃiɛlo] *cielo* ‘sky’. Moreover, just like in Campanian dialects, there is a tendency to reduce the word-final vowel to indistinct schwa (De Blasi & Fanciullo 2002).

As for consonants, it can be observed the strengthening of intervocalic [b] and [dʒ], e.g. [ˈabbile] *abile* ‘skillful’ and [imˈmaddʒine] *immagine* ‘image’, respectively; intervocalic palatal affricate normally pronounced as a palatal fricative, e.g. [ˈpaʃe] *pace* ‘peace’; absence of phonological opposition between voiced [z] and voiceless [s] dental fricative in intervocalic position (De Blasi & Fanciullo 2002).

Certain features appear to frequently occur in more informal contexts, in which the diatopic dimension is marked by the social dimension as well, namely in Campania popular Italian (De Blasi 2006a). Among these, it is possible to include the voicing of voiceless consonants following nasals, e.g. [dende] *dente* ‘tooth’, the tendency to ease some difficult pronunciations by means of vocalic insertions, e.g. [pissikolodˈdʒia] *psicologia* ‘psychology’, and the weakening of the entire word-final syllable. In Campania, and in the Neapolitan area in particular, the placement of the lexical stress on the last syllable of plurisyllables ending with consonant is registered, e.g. [autobˈbus] *autobus* ‘bus’.

A number of other segmental phenomena characterize Campania as well as other southern varieties of Italian, namely varieties belonging to the central-southern dialectological area (Pellegrini 1977), such as a generalized presence of *raddoppiamento fonosintattico* and the palatalization of alveolar sibilants preceding consonant, e.g. [ʃkaˈvare] *scavare* ‘to dig’ (Telmon 2016).

In addition to segmental features, a series of morphosyntactic phenomena can be identified as typical of Campania Italian. Imperfect subjunctive often substitutes the conditional, e.g. *chi l'avesse detto* for *chi l'avrebbe detto* 'who would have said that' (De Blasi & Fanciullo 2002). Differential Object Marking, namely the phenomenon for which one direct object is morpho-syntactically marked differently from another according to given features such as animacy (Ledgeway, Schifano & Silvestri 2019); Neapolitan dialect selects the unmarked form of the accusative for inanimate objects (*'o verette 'o libro* 'I saw the book') and the marked accusative introduced by the preposition *a* 'to' (*'o verette a Mario* 'I saw Mario'). Intransitive Italian verbs can be used in transitive constructions, following the transitive use of such verbs in Campania dialects, e.g. *scendere* 'to take downstairs', *salire* 'to take upstairs', *entrare* 'to take inside' (Sornicola 1997).

As concerns prosody, Campania Italian has received scholarly attention especially with regard to the variety spoken in Naples, which has been the object of a considerable number of studies; recently, also Salerno Italian has been studied (see Chapter 3). Although local Italian prosody is assumed to be subjected to the influence of the dialects, still little is known about such possible influence exercised by Campanian dialects upon Campania Italian Varieties on the prosodic level.

Indeed, only few studies have dealt with Campanian dialectal intonation, among which Maturi (1996), who investigated the intonation of the Neapolitan dialect, and Avolio & Romano (2006), in which the dialect variety spoken in Ravello (peripheral southern Neapolitan) was included in the analysis of other non-Campania dialects spoken in the south of Abruzzo and in Basilicata. In these studies, both Neapolitan and Ravello dialects are described as realizing polar questions with a rise presenting a peak on the stressed syllable followed by a steep fall and a final movement that can be more or less rising. Statements nevertheless present falling trend with a fall on the stressed syllable shallower compared to question intonation. As a result, it seems that geographically close dialects share some intonational features.

A unique insight on the relationship between Campanian dialect and Campania Italian prosodies is offered by Crocco, Gili Fivela & D'Imperio (2022; *forthcoming*). They recently carried out a pilot study providing a explorative comparison between the intonational systems of the Neapolitan variety of Italian and the Neapolitan dialect. The two varieties share commonalities in the realization of some sentence types, e.g. they both employ a rising-falling pattern for information-seeking polar questions, but differences in the association of intonational contours and pragmatic functions, e.g. in statements and

information-seeking partial questions are observed. Crucially, some dialect-specific phenomena, such as the syllabification as hiatus of diphthongs and final syllable weakening or deletion, are likely to affect the metrical and tonal organization of Neapolitan dialect vs Neapolitan Italian. Moreover, Neapolitan dialect seems to enhance prominence by means of both phonetic cues, such as duration and pitch excursion, and phonological means, such as employment of double pitch accents, compared to Neapolitan Italian. Overall, the comparison reveals that Neapolitan dialect and Neapolitan Italian are likely to differ on the basis of more than one dimension of variation.

1.3.4. Linguistic repertoire in Campania

The Italian linguistic repertoire is at present made of (regional) standard Italian, regional varieties of Italian and local dialects. As already mentioned, standard Italian is used as the model for school teaching and writing norm, while regional Italian stands for spoken varieties that are the mother tongues of Italians and that coexist with local dialects exhibiting different degrees of speakers' competence.

Compared to a century ago, the regional Italian-local dialect bilingual modes appear to be today the unmarked choice of speakers, unlike both monolingual Italian, despite some exceptions e.g. in North-western Italy, and monolingual dialects. Crucially, the role of dialects within the linguistic repertoire varies along sociolinguistic dimensions (Dal Negro & Vietti 2011). Firstly, along the diatopic dimension, dialects' role is affected by the geographical configuration of the area, in that marginal, rural and more traditional areas, which were subjected to outward-bound migration waves, present a higher number of dialect speakers and dialect-speaking situations. This picture reflects the sociolinguistic profile of Campania and, more generally, of south Italy. Along the diaphasic dimension, dialects are used in a reduced number of domains and communicative contexts with regard to Italian, such as in familiar and informal situations. As for the diastratic dimension, despite the active linguistic competence in both the codes, the use of one or the other appears to be linked to the education level and social status of the speaker. In particular, the use of Italian is strongly correlated with higher education and higher social status, while a dominant use of dialect in everyday communication is correlated with lower education and unsuccessful Italianization.

A controversial hypothesis concerning the linguistic repertoire in Campania has been proposed by Zarko Muljacic (2011). For Campania, as well as for other few cases

(Genoese, Milanese, Sicilian), Muljagic proposes a further variety within the linguistic repertoire, featuring a situation of triglossia. It refers to a multilingual repertoire in which a third variety is placed between the two poles of the high (Italian) and the low (local dialect) variety of diglossia. The insertion of the third variety is due to the role of some *lingue medie* ‘intermediate languages/varieties’, namely codes that have an intermediate position but, more specifically, share the low pole with the dialect but being higher than it. Such languages are supposed to have had a unifying action as being the language of dominant political as well as linguistic centers until becoming the regional variety of reference. According to Muljagic (2011) Neapolitan dialect is an intermediate language which has played a leading role in Campania working as a linguistic reference point for the surrounding area, namely the regional *koinè*, in a process of diffusion of linguistic features. Accordingly, the type of repertoire of Campania is supposed to be ascribable to a situation of macrodiglossia: there is a dialectal *koinè*⁴ which influences and levels out the other varieties of the area; moreover, it regulates the Italianization process of the other varieties, in this order: Italian > urban dialect (*koinè*) > variety of middle centers > variety of small centers (Regis 2018; Cerruti 2019).

Within a different framework, Auer (2005, 2011) carries out a mapping of different standard/dialect configurations in Europe. The one he considers the most wide-spread and also suitable for the Italian sociolinguistic repertoire is Type C, referring to situations of “diaglossia”. Such a configuration, shown in Figure 1.6, is represented by means of a cone that has the local dialects at the base (within the Italian framework these are the Italo-Romance dialects) and the standard (neo-standard Italian) at the top. Between the base and the top of the cone, there are intermediate and non-discrete forms, which constitute the standard-dialect continuum within a dialect-to-standard convergence⁵.

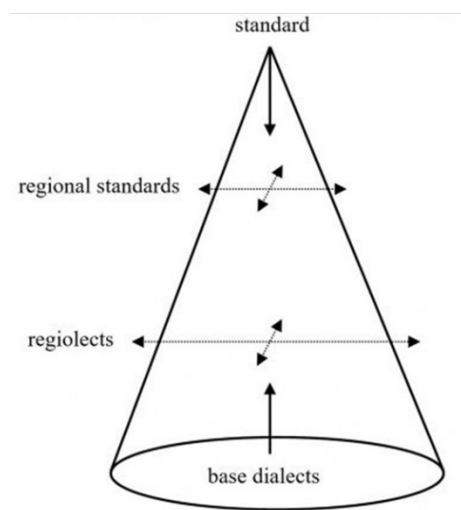
Among the intermediate forms there are the “regiolects”, i.e. regional dialects. In this case too, the formation of these intermediate variants is historically motivated by the role of the larger cities. Linguistically, it caused the levelling of the base dialects under the pressure of urban substandards and their influence on the surrounding cities. The conventionalization

⁴ Focusing on the Italo-Romance dialects, Pellegrini (1975 [1960]) defines a *koiné* as a dialect variety that on the one hand keeps too marked local peculiarities or marginal features out and on the other hand admits linguistic aspects typical of the big regional centers or coming from Italian.

⁵ Actually, regional dialects exhibit forms that cannot be framed (only) within dialect-to-standard convergence, rather also new forms and structures to be considered as innovations and represented by the horizontal arrows in Figure 1.6 (Auer 2011).

of dialectal features that were transferred to Italian by dialect speakers resulted to form accepted regional norms, namely the regional standards.

Figure 1.6: Diaglossic repertoire (from Auer 2005).

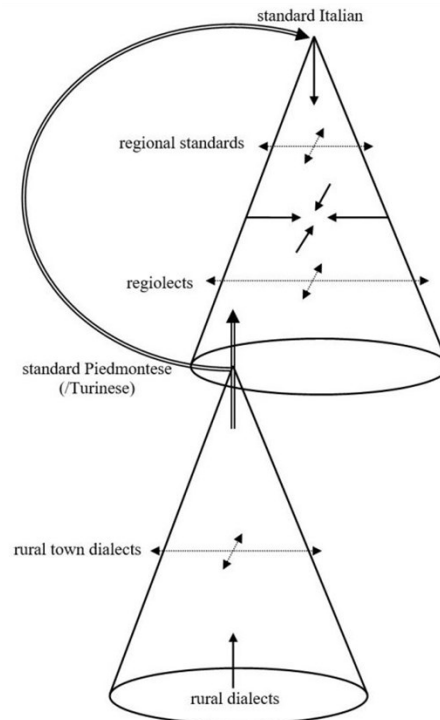


Situations of geographical diffusion, such as the ones characterizing Piedmontese, Genoese, Venetian, Milanese, have been inserted in frameworks other than triglossia. Cerruti & Regis (2015), starting from the relationship between Italian and Piedmontese, suggest some adjustments to Auer’s typology in order to better suit it to the Italian sociolinguistic scenarios, or, at least, to some Italian scenarios. In particular, they propose to integrate the model with a representation of language space that can include a double continuum, namely the Italian continuum and the dialect continuum, underlining that dialect and the standard language are separate systems. The resulting configuration involves a “continuum of continua”, as represented in Figure 1.7.

Berruto (2018:512) adapts his architecture of contemporary Italian (Berruto [1987] 2012) to the double cone. Accordingly, the upper cone includes from top to bottom literary standards Italian, neo-standard Italian, regional Italian, popular (regional) Italian, while the lower cone includes at the top regional dialect, urban dialect, and local rural dialect at the bottom. The three-level configuration of the lower cone is due to the degree of Italian influence upon the dialects as the outcome of the long-term contact between Italian and dialect. Accordingly, (sub-)regional dialect takes the form of a spoken koiné based on the dialect of the region’ main city; regional dialect, together with urban dialect and unlike

rural dialect, has undergone a process of Italianization of the dialects, hence exhibiting a certain degree of Italianization.

Figure I.7: Italian continuum and dialect continuum (from Cerruti & Regis 2015).



Despite the assumption that Neapolitan has had a strong influence on the surrounding Campania area due to the role of *lingua media* (Muljacic 2011), it is not mentioned among the cases for which the revised typology of Cerruti & Regis (2015) would apply. Indeed, the role of Neapolitan dialect also supported by Radke (1997) as a regional koiné and the consequent process of “Neapolitanization of Campanian dialects” have been questioned. As a matter of fact, Neapolitan never played a role of regional dialect (§ 1.2.1), hence Campania situation cannot be framed within the double continua model. Accordingly, Neapolitan needs to be located together with other dialectal groups (Avolio 2000) at the base of Auer’s (2005) cone, as the base dialects underlying the regional standard variety of Italian spoken in Campania.

Zooming in on the actual linguistic uses of Campania speakers, both the cities of Naples and Salerno, and the Cilento area are largely bilingual, since the regional variety of Italian and Italo-Romance base dialects co-exist in the local repertoire. Crucially, Campania multilingualism, unlike other Italian regions, is strongly characterized by widespread

dialectophone uses, as well as in the North-East and in the insular areas of Sicily and Sardinia.

The city of Naples presents a linguistic situation of bilingualism with diglossia (De Mauro 1976; Ledgeway 2009). Indeed, Italian has widespread in all the city, but there is a clear division between the domains of use of Italian and dialect; probably, the actual situation for most of the speakers in everyday communication is characterized by continuous mechanisms of code-switching and code-mixing. More specifically, Bianchi, De Blasi & Maturi (2007) identify a many-sided model for explaining the Campania linguistic situation due to the coexistence of Italian and dialects. On the one hand, they point out a general abandon of active use of the dialect by speakers with medium-high level of instruction and consequent tendency towards more or less regionally marked Italian. On the other hand, there is a widespread *dilalia* especially among lower middle-class speakers and an almost exceptive dialect monolingualism (even if influenced by Italian) among older generations and less educated groups. Hence, it emerges a copresence of dialect and Italian which are alternated and mixed, as both compete for the spaces of use in informal communication with different modalities, according to sociolinguistic dimensions, including speakers' age, level of education and context of use. Clearly, educated and young speakers are more aware of the different prestige and functions between the two codes, so that they are more likely in their bilingualism to converge to Italian, or at least, to a Campanian diatopically marked variety.

As for the prestige, i.e. the regional markedness of regional varieties, the studies of De Pascale and colleagues (De Pascale & Marzo 2016; De Pascale, Marzo & Speelman 2017) offer revealing insights about language attitude toward the regional varieties, including Neapolitan Italian, by native Italian speakers. The results of a direct attitude experiment show that Neapolitan and Roma varieties are correlated with a low sociocultural level, and described with both positive (related to cordiality e.g. cheerful) and negative (related to negative stereotypes, e.g. southerner, and criminality, e.g. mafia) connotations (De Pascale & Marzo 2016). Specifically focusing on Campania Italian speakers' attitude, a change in standard language ideology can be noticed. Neapolitan Italian, with regard to other regional varieties, namely Milan, Florence and Roma Italian, is judged differently according to the participants' age. Indeed, it is regarded the variety that approaches the official norm by the oldest group, it has an intermediate position for middle-aged group, while it is totally rejected by the youngest generation, probably because of a too high

regional markedness and replaced by Milanese as the new regional norm (De Pascale, Marzo & Speelman 2017).

Actually, young Campania speakers can be both native speakers of dialect, as it mainly happens in the city of Naples, or native speakers of Italian with only a passive competence in dialect. However, among these young italophones, dialect can be later acquired, such as at school, since it can be preferred as language of informal communication among peers.

The recovery of dialect as a second language, even if just with partial competence, by young speakers from italophone parents is a significant sign of the spontaneous vitality of dialect. They are likely to use forms such as *intallarsi* ‘to be blocked’, ‘dawdle’ and *sclerare* ‘go crazy’, ‘to be spent’ (De Blasi 2006a). Furthermore, the lexicon of these young generations is not rarely but consciously borrowed by the dialect, so that their lexicon is steeped in dialectal neologisms or new and renewed uses of dialectal elements and locutions. For example, *pezzotto* and *pezzottato* that now mean ‘faked, falsified’, actually belong from the language of the organized crime, where they refer to the activities of substitutions of parts of stolen cars, similarly to the act of placing a *pezzotto* ‘wedge’ under the furniture by the carpenters. Campania results to be an area where the dialect is still largely used, by different types of speakers, including young groups (De Blasi 2006a). This is due to a shift of attitude towards the dialects and their use registered in present-day Italy. Dialect is no more associated to a low educational or socioeconomic level. The stigmatization gives way to a perception of dialect use as a source of linguistic enrichment at both the expressive and the functional level (Berruto 2018).

As concerns the use of the regional variety of Italian, since it is an intermediate variety between Italian and dialect, can be more or less influenced in time by the one of the two codes. Campania speakers, thanks to higher level of literacy and a consequent better competence in Italian, use lesser dialectal lexical elements when speaking in Italian. This fact can be attributed to a greater awareness of speakers of the distance between the two codes, but it can also be read as further evidence of the vitality of the dialect, as speakers insert dialectal lexicon in a conscious way, for functional and emphasis purposes. On the contrary, De Blasi assumes that

Il dialetto potrà dirsi effettivamente in crisi quando i parlanti, credendo di parlare in dialetto, a causa di una interferenza ormai non più controllata, si troveranno invece (inconsapevolmente) a parlare in italiano (De Blasi 2006a:119).

Hence, it could be a linguistic interference between the two codes beyond the control and the conscious mastery of speakers that could cause an actual crisis of dialect; as a consequence, it could be the case that speakers use Italian sounds, words or constructions supposing they are speaking dialect.

1.4 Case study

The present work deals with the intonation of regional Campania Italian spoken in three closely related and geographically contiguous areas. The choice of working on intra-regional variation in Campania Italian, as well as the choice of working closely related varieties and that of selecting three specific varieties for the analysis, need to be justified.

Working on intra-regional variation in Campania

The notion of regional Italian can arise a number of issues concerning diatopic or geographic variation. Sociolinguistic and sociolinguistically-informed literature on regional Italian (e.g. De Mauro 1963, Berruto [1987] 2012, Cerruti 2011) has focused primarily on the spreading of standard Italian as a national language and on the parallel fragmentation process of the common, standard language into regional varieties (§ 1.3.2). However, geographic fragmentation, i.e. diatopic variation, needs to be described not only across regions, but also within the same region, since linguistic differentiation (fragmentation) can be expected also within the same region. Intra-regional differences have indeed been evidenced, for example, by studies on other regions, such as Tuscany. Tuscany cannot be considered a unitary region from the linguistic point view, since the way Italian is spoken differ in an appreciable way according to area considered, e.g. Pisa (Gili Fivela 2008), Florence (Avesani 1995), Siena (Marotta & Sorianello 2001). The available literature (§ 1.2.3; Radtke 1997, Avolio 1989, 2000; De Blasi & Fanciullo 2002; De Blasi 2006a) indicates that also Campania is not a unitary region from the linguistic point of view.

Working on closely related varieties

A possible solution in the choice of the variety to study is that of ‘Local’ Italian; it works when the study of a geographic language refers to a single point of investigation (Marcato 1990:84; 2001:16). This definition applies to diatopic varieties belonging to the same area but presenting considerably different characteristics. Moreover, in the choice of such

locales, also other “sub-dimensions” of diatopic dimension appear to play a role in linguistic variation and therefore need to be considered. Among these, the typology of settlements taken into account, e.g. urban, suburban, provincial, rural as well as socio-historical facts, e.g. industrialization, migration (Dal Negro & Vietti 2011). Moreover, the degree of regional markedness of Italian changes according to different linguistic levels of analysis (Cerruti 2009:36). However, some levels are more likely to be subjected to interference processes from the dialectal system; phonetics, including segmental and prosodic features in particular, is regarded as one of the most marked factors of diatopic variation and one of the most immediately recognizable by speakers themselves. Also as regards dialects, local accent and intonation are regarded as primary distinguishing elements between Campanian dialects (Radtke 1997). Crucially, the extent and the dimensions involved in such dialect-to-Italian transfer process has not been enough deepened, especially on the prosodic level. Nevertheless, research on Italian intonation needs to consider the substratum dialects underlie (local) regional varieties.

Selection of three local, closely related varieties

The present study aims at exploring intonational systems with different vernaculars as substratum. Campania regional variety of Italian crucially rests on different dialectal areas exhibiting commonalities as well as divergences.

Specifically, the study deals with varieties of Italian spoken in the city of Naples and Salerno and in the area of upper-Cilento. The three locales are coastal points equally distant from each other⁶ but separated by the bundle of isoglosses constituting the Eboli-Lucera line (Avolio 1989), as shown in Figure 1.8.

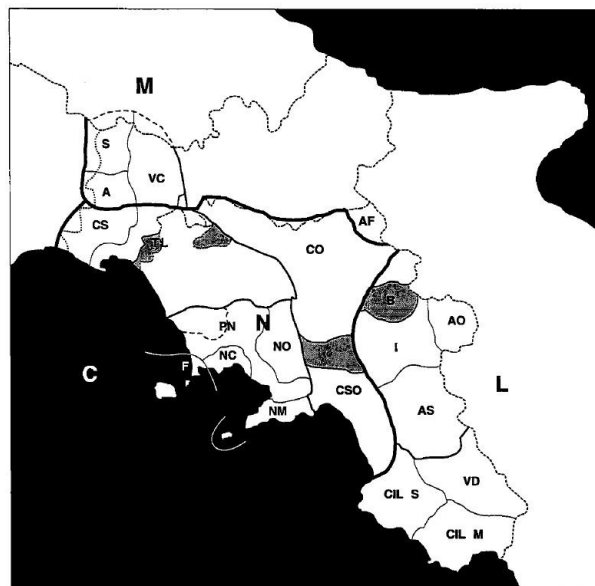
According to Avolio’s (2000) classification, the three locales have different dialectal subgroups as substrate. As shown in Figure 1.9, Naples and Salerno belong to the group of proper Campania dialects (C), while upper-Cilento is part of the Lucanian dialectal group (L).

⁶ Naples-Salerno: 46 km; Salerno-upper Cilento (Agropoli): 42 km.

Figure 1.8: Locales of Naples, Salerno and upper-Cilento and the Eboli-Lucera line.



Figure 1.9: Dialectal groups of Campania (from Avolio 2000:24).



More specifically, the study investigates the following areas (Avolio 2000):

1. Urban Neapolitan (NC), which includes Naples, Portici, Miano, Secondigliano.
2. Southern-east Campanian (CSO), spoken in the gulf of Salerno, hence including Salerno, Fisciano, Pontecagnano, San Cipriano Picentino, up to Eboli in the south.

With regard to other Campanian dialects, this area presents a partial development of

some typical traits of the Lucanian dialects below the Eboli-Lucera line, i.e. -CJ- > /-tts-/ and -NG- > /-ng-/.

3. Upper Cilento (CIL S), namely the area of Agropoli, Omignano, Stio, Laurino, Acciaroli. These dialects, unlike those of southern Cilento, still have a Neapolitan (and not Sicilian) stressed vowel system but already frequent /-i/ and /-o/ in word final position (unlike Neapolitan indistinct final vowel).

According to such a classification, the three substratum dialects display socio-linguistic differences on the basis of different geographic configurations. Neapolitan dialect is an urban dialect spoken in the metropolitan city of Naples that is the regional capital and the third most densely populated Italian city, although never became or worked as a regional koiné. Salerno dialect is an urban dialect spoken one of the five Campanian provincial capitals. Upper-Cilento is a more rural area of the southern part of the Salerno province.

Differences in social, demographic and geographic features of dialects have been proved to affect linguistic uses. On the intonational level, Magistro & Crocco (2022) show that a given feature, i.e. final rise in statements, is more frequent in the most rural of the three Veneto under investigation (Gazzolo). In fact, the other two (Padua and Venice) alternate the final rise with the typical declarative falling contour with no differences in meaning. The split between rural and urban dialects suggests that the phonetic choice of final rise is a linguistic feature possibly working as an identifying trait of speaker also on the geographic and social level. Along this line, the three locales of Campania Italian, being spoken in different areas with different substratum dialects, are likely to reveal intonational differences also relating to the socio-geographic dimension.

By relying on Auer's (2005) typology and representation, we take under investigation specific points of the Auer's cone representing the regional standard variety spoken by educated speakers with a certain degree of regional markedness. Despite Campanian lack of homogeneity in linguistic terms, the differences across the region, more or less perceived by non-Campania speakers as well, have never been investigated on the intonational level. Crucially, variability within the diatopic dimension can affect regional varieties of Italian (e.g. Gili Fivela et al. 2015) as well as dialects (Radtke 1997) also in small areas; cf Chapter 2). Accordingly, we explore such variability, namely intra-regional variation, on the prosodic level in three locales where it is supposed to be spoken the same regional variety of Italian.

In particular, the intonation of Italian variety spoken in Cilento, i.e. Cilento Italian, will be compared with the two neighboring varieties of Neapolitan Italian and Salerno Italian. To the best of my knowledge, no studies have dealt with Cilento Italian on the intonational level. Accordingly, this study will be the first extensive documentation of this variety and the first study to explicitly take into account the intraregional variation and intonational transition across Italian closely related varieties.

CHAPTER 2

INTONATION AND PROSODIC VARIATION

The aim of this chapter is to present the state of the art about the main research fields that are relevant to the present study. Firstly, the Autosegmental-Metric theoretical framework within which the entire study is carried out, namely the intonational phonology theory, is presented (§ 2.1). Then, the literature and the main findings dealing with the field of intonational and, more broadly, prosodic variation are reported (§ 2.2). For the purposes of the thesis, among different sources of linguistic variation, attention is paid to variation related to the diatopic dimension. Accordingly, § 2.3 deals with cross-variety studies within the Romance framework, including Italian. Finally, a closer look at variation across closely related and located varieties is offered, with the aim of shedding light on how to account for the study of transitional areas (§ 2.4).

2.1 Intonational phonology

Phonological approaches to intonation analysis are grounded in the idea that intonation is part of the phonology of a language and hence that it is possible to analyze it using discrete categories (Ladd 1996 [2008]). Pierrehumbert's PhD dissertation (1980) is commonly considered the founding work of the Autosegmental-Metrical (AM) framework of intonational phonology (Pierrehumbert 1980; Beckman & Pierrehumbert 1986; Pierrehumbert & Beckman 1988). However, several of the principal tenets underlying the AM model came from other previous studies. The name of the AM theory derives by the juxtaposition of the names of two other, previously formulated theories: in the first place, the Autosegmental theory of Goldsmith (1976), which assumes that tones cannot be regarded as a property of specific segments, such as articulatory properties assigned to phones in segmental phonology, e.g. [±nasal], but that they are to be considered on a separate tier as autonomous phonological units. Such *autosegments* are then linked to

segments through the phonological mechanism of association. In the second place, AM theory incorporates the fundamental tenets of Liberman (1975) and Liberman and Prince's (1977) theory on the metrical structure of English. Metrical theory states that the organization of stress follows a system of relative prominence of prosodic constituents, for example the alternation of rhythmically strong or weak syllables. By combining autosegmental and metrical phonology, AM theory provides a multilinear representation of prosody, in which tones are associated to specific points of the metrical structure. To complete the picture, the PhD dissertation of Bruce (1977), which represents a profound influence upon Pierrehumbert's work on a more properly intonational perspective. Indeed, Bruce proposes that H and L are two abstract tonal levels mapping onto phonetically realized tonal targets. Additionally, Bruce work introduces the concept of tonal alignment, which is developed to account for the difference between Accent I and Accent II in Stockholm Swedish.

Crucially, the AM model is multilinear since it represents on separate tiers segments, i.e. vowel and consonants, tones, i.e. H and L and prosodic constituency. All tiers are ultimately synchronized on the temporal tier.

The work of Pierrehumbert's (1980) dissertation aimed at studying American English intonation. According to her model, American English intonation can be represented at the phonological level as a string of discrete tonal events. On the basis of their link with metrical structure and their function in the string, such tonal events are identified as pitch accents and edge tones. These can be composed by one or two high (H) and low (L) tones. Tones are realized on the phonetic level as tonal targets (local f_0 maxima and minima). The fact that phonological tones are realized as phonetic targets proves the separation of phonological representation and phonetic implementation that lies at the basis of the AM model (Pierrehumbert 1980; Pierrehumbert & Beckman 1988). The phonetic realization of an phonological intonational pattern requires that the phonologically selected events, once realized, are connected through interpolation.

Tones are associated with prominent syllables, namely syllables which are metrically strong in an utterance, in the case of pitch accents, or with prosodic phrase boundaries, in the case of edge tones. Associated accentual tones can be H or L and are signaled with an asterisk, i.e. H* and L*, hence becoming a "starred tone". As mentioned above, pitch accents and edge tones can also be bitonal, i.e. composed by two rather than one tone. In bitonal pitch accents, the order of appearance of the tones defines the pitch accent as rising

(L+H) or falling (H+L). In this case of bitonal movements, only one of the two tones is phonologically associated to the metrically strong syllable and hence only one receives the star notation, resulting in a larger accentual inventory (e.g.: L*+H, L+H*, H*+L, H+L*). Accordingly, the non-starred tone is called “leading tone” or “trailing tone” according to whether it precedes or follows the starred one respectively.

L and H targets are phonetically defined by melodic as well as temporal properties. On the melodic dimension, pitch accents are specified by their scaling, namely f_0 height, while on the temporal dimension, pitch accents’ alignment specifies the synchronization of tonal targets with the segmental string (Arvaniti & Ladd 1995; Arvaniti et al. 2000, 2006; Ladd et al. 1999, 2000; Ladd 2006). In particular, tonal alignment is usually determined with reference to specific points of the segmental string, e.g. onset or offset of the syllable, although a secondary phonological anchoring of tones have been shown to possibly deal with other metrical edges other than syllable edges, namely higher-level or lower-level constituents, such as those of moras and prosodic words, respectively (Prieto, D’Imperio & Gili Fivela 2005).

Pierrehumbert (1980) proposed for American English an inventory constituted by seven pitch accents: two monotonal accents (H* and L*) and five bitonal ones, namely two rising (L+H* and L*+H), two falling (H+L* and H*+L) and an accent indicating a sustained pitch level following a H* (H*+H).

Differently from the association rule governing pitch accents, edge tones are associated to the (right) edges⁷ of prosodic constituents, so that they occur at the end of phonological units of phrasing (Pierrehumbert & Beckman 1986). Such units are the intermediate phrase (ip), which contains at least one pitch accent, and the Intonational Phrase (IP), which contains the nuclear pitch accent. According to the units of phrasing with which they co-occur, edge tones can be classified as phrase accents, occurring at the right edge of the ip, and boundary tones, occurring at the right edge of the IP. Phrase accents are signaled with a hyphen (hence, L- or H-), while boundary tones are marked with the percentage sign (hence, L% or H%). There are no limits to the possible combination of phrase accents and boundary tones, so that IP edge tones can be L-L%, L-H%, H-H% and H-L%.

IP are right-headed, which means that the metrically prominent syllable corresponds to the rightmost lexical stress within the unit. A well-formed tune includes therefore at least one

⁷ The original model elaborated by Pierrehumbert (1990) involved edge tones associated to both the left and the right edge of the tonal.

pitch accent, i.e. the nuclear accent associated to the rightmost metrical stress, followed by boundary tones of ip and IP (Pierrehumbert 1980). Pitch accents preceding the nuclear one within the IP are called pre-nuclear accents. Italian varieties also allow post-nuclear pitch accents under specific pragmatic conditions triggering the production of marked prosodic-syntactic structures (D’Imperio 2000; Bocci 2013)

The combination of H and L tones in monotonal and bitonal (or even tritonal, see below) pitch accents, phrase accents and boundary tones allows for the identification of the tonal inventory and hence, for the description of the intonational system of languages. These units are identified into an abstract phonological dimension, but are subjected to different implementation, i.e. realization, on a phonetic level (Ladd 2008).

2.1.1 ToBI annotation

The AM Framework was then followed by the proposal of a prosodic labelling system for the English language, namely ToBI, where “To” stands for *Tone* and “BI” stands for *Break Indices* (Silverman et al. 1992; Pitrelli, Beckman & Hirshberg 1994; Ladd [1996] 2008; Gussenhoven 2004; Jun 2005). Basically, it is a multi-tier annotation system where the labelling tiers are aligned with the acoustic signal, so that the transcription is both speech-to-text and time-aligned. Here are listed and explained the tiers.

1. *Orthographic tier*, where the words of the utterance are labelled and aligned to the signal.
2. *Tonal tier*, where the sequence of tones (H and L) composing pitch accents, phrase accents and boundary tones, is reported.
3. *Break index tier*. Here the type, namely the strength, of the juncture between the words is reported. It follows a 5-point notation scale, as the perceived strength of the disjuncture can be judged and therefore labelled from 0 to 4 (weakest or no disjuncture to strongest, respectively). Specifically, 4 is used for the intonational phrase, 3 for the intermediate phrase, 2 for a disjuncture weaker than the intermediate phrase, 1 for the “normal” and most frequent disjuncture between words, 0 when two words are grouped and uttered together as one.
4. *Miscellaneous tier* including a number of different phenomena which do not strictly deal with orthographic, tonal or break index labelling. Examples of such

phenomena are disfluencies within the utterance, or doubts of the annotator in the labelling of phenomena in the upper tiers.

Starting from the first proposal for Mainstream American English, several ToBI-like systems for prosodic annotation of other languages was developed. Since the prerequisite to developing a ToBI system is to propose a phonological tonal inventory of pitch accents and edge tones, such systems need to be language-specific or even language variety-specific. For example, the phrase accent was later included in the intonational systems of some languages, among which Italian (Grice 1995), while for other languages, e.g. Portuguese (Frota 2000), it was not. In a similar fashion, in following studies within the AM model tritonal pitch accents have been proposed; this is the case of the L+H*+L pitch accent occurring in Pisa Italian analyzed by Gili Fivela (2002; 2006), which shows specific features of alignment that make it contrastive with reference to the bitonal one (L+H*).

As far as Romance languages are concerned, some of the systems developed for Romance languages and their varieties are Sp_ToBI system for Spanish (Beckman, et al. 2002), Cat_ToBI system for Catalan (Prieto et al. 2009; Prieto 2014), Portuguese_ToBI system for Portuguese (Frota et al. 2015), F_ToBI system for French (Delais-Roussarie et al. 2015), Oc_ToBI system for Occitan (Sichel-Bazin, Meisenburg & Prieto 2015). As for Italian, the first proposal of ToBI_{It} (Avesani 1995; Grice et al. 2005) was then renamed It_ToBI as a new unified ToBI system for labeling varieties of Italian (Gili Fivela et al. 2015).

2.2 Prosodic variation

2.2.1 Sources of variability

Intonation, and prosody in general, is subjected to high degrees of variability, which affect production and perception on different levels. Variability can be broadly ascribed to two main kinds of sources, that are linguistic and indexical.

As far as linguistic sources are concerned, they mainly deal with the phonological and discourse context of production. As summarized by Arvaniti (2019), intonation, at the discourse level, undergoes “context-related lawful variation”. First of all, the production of tonal events, beyond unavoidable microprosodic perturbations, can be affected by proximity to other events, causing tonal crowding which often may result in tonal elision or undershoot phenomena (among others, Ladd et al. 2000). Indeed, languages make use of

different language-specific strategies in resolving tonal crowding. For example, English and German behave differently in the realization of the same phrase-final falling accents: English adopts compression, so that the pitch accent is entirely produced with a higher speed in order to complete the shape in a shorter time, while German implements truncation, so that the pitch accent shape is not completed (Grabe 1998).

Other within-utterance causes of variation can be identified in the specific position of tonal events within the utterance, e.g. utterance-initial, medial or final position, the segmental context with which the tonal event co-occur, e.g. presence of voiceless obstruents, the speaking rate, resulting in changes of pitch range, deletion of tones, anticipatory coarticulation of tones, and the nature of tones, since L tones are more likely to show a constant alignment with regard to H tones more subjected to variability (Arvaniti 2019).

A critical component in prosodic variation is also represented by the speech type. Intonational studies have relied on different methods to elicit speech material, which are likely to play a role in the different analyses. For example, Face (2003) compares the realization of Castilian Spanish statements in laboratory speech and spontaneous speech, unveiling differences between the two, e.g. occurrence of stressed syllables with no f_0 rises, lack of downstepping and uncommon final lowering in spontaneous speech compared to lab speech. Likewise, as concerns Italian varieties, Savino (2012:24) argues that terminal rises in question intonation are typical of read speech, namely outcomes of a “reading style effect”.

As pointed out by Face (2003), read speech in an experimental setting and spontaneous speech can be thought as two poles of a continuum, between which other elicitation methods can be placed, such as the retelling of a story and map tasks⁸. Clearly, elicitation methods other than read speech increase the naturalness of verbal communication but reduce the experimenter’s control over the material to be elicited, in terms of e.g. sentence type, segmental content, syntactic structure, lexical choices.

Variability also conveys indexical information. A factor playing a decisive role in prosodic variation is indeed attributable to the speaker and its sociolinguistic characteristics, such as age, gender, place of origin. Crucially, speaker-related variability can be found both between different speakers and between productions of the same speaker, namely inter- and intra-speaker variability, respectively.

⁸ In particular, in task-oriented dialogues pairs of participants are asked to try to reconstruct a path by relying on their maps; participants cannot see each other and the maps they received are not identical in order to maximize verbal communication.

Orrico, Savy & D'Imperio (2019a) in their investigation of Salerno Italian intonational phonology, highlight different sources of speaker variation in the use of intonation, since tune choice in polar questions resulted to be mainly ascribable to speaker variability, i.e. speaker-specific intonational choices. Additionally, in Orrico (2020) different variables are shown to have an effect in affecting intonational variability: sociolinguistic variables, namely speakers' age, gender and exposure to non-native phonological systems, and cognitive variable, namely degree of empathy. Interestingly, the variables play a role in variability on different domains, e.g. production and perception of pitch accent or boundary tone, and with different extent.

Furthermore, variation in intonation can be accounted for variability related to the dialect, (§ 2.2.1). A considerable number of studies have compared different languages, unveiling that languages exhibit their own intonational properties.

Phonological differences have been reported for typologically different languages, such as English and Japanese (Beckman & Pierrehumbert 1986), e.g. while English must have at least one pitch accent within an utterance, in Japanese it is possible to have utterances with no pitch accents. Conversely, the same phonological structure can be realized in a different phonetic implementation in different languages, e.g. prenuclear rise (LH*) in Dutch and Greek that are aligned differently with the peak being earlier in Dutch (aligned with the accented syllable; Gussenhoven 1991) than in Greek (aligned with the post-accented vowel; Arvaniti et al. 1998), due to a difference in phonological vowel length of accented syllables in Dutch. Crucially, such cross-linguistic difference is not phonologically contrastive, rather it only involves the phonetic realization of the same phonological tonal element.

Language-specific use of intonation has been also investigated in closely, that is to say, genetically related languages, such as Romance languages. Vanrell et al. (2013) analyze Italian, Catalan and Spanish, with regard to the realization of contrastive and non-contrastive focus accents⁹ in terms of peak alignment, pitch range and duration. The study shows that the three languages make different use of such prosodic cues. For example, Catalan and Spanish display a common alignment of the H target, i.e. at the end of the stressed syllable in contrastive condition and beyond the right edge of the syllable in non-contrastive condition, while in Italian both accents are aligned within the stressed syllable, although contrastive accents are more retracted than non-contrastive ones. As a result, a

⁹ With the focus only marked by means of intonation, that is to say, without changing the syntactic structure of the utterance in declaratives focus initial position.

peak alignment at the end of the stressed syllable is a realization cross-linguistically different (non-contrastive Italian and contrastive Catalan and Spanish). As regards duration, Italian marks contrastive syllables with a longer duration with respect to non-contrastive ones, while in the other two languages such a cue appears to be optional. The role of pitch range also appears to be language-specific, since a systematic difference between the conditions was only found for Italian, while for Catalan and Spanish it possibly does not work as a cue for marking the conditions.

The way prosody is used has been proved to be not only language-specific but also language variety-specific. It is worth clarifying that those cases of inter-variety variation, despite the common terminology, deal with fairly different linguistic and sociolinguistic scenarios. Indeed, for many languages, unlike Italian, “dialect” and “language variety” can be used as synonyms. For example, following the English-America sociolinguistic tradition, English spoken in different part of the world, thus diatopic varieties of English, e.g. American English and Canadian English, are named dialects, as so are social varieties such as African-American English. Instead, for Italy a difference needs to be made between dialects or vernaculars, taken to mean primary or substratum dialects, and local *varieties* of Italian, mainly diatopically marked varieties of the standard language (and “tertiary dialects” according to Coseriu 1980; see Berruto 2005:81-83) (cf. Chapter 1).

2.2.2. Prosodic variation between language varieties

Variability in intonation related to the dialect, namely to the regional variety, has been often neglected in intonation research. As stated by Arvaniti, since “no researcher would discuss the vowels of ‘English’ without specifying the variety being examined” (Arvaniti 2016:9), in the same line language varietal-specific variability needs to be considered.

Literature on cross-dialect differences in intonation started from impressionistic and qualitative observation in the 1970s, gaining growing interest in the last twenty years. These studies have unveiled the nature and the degree of variation across a number of close language varieties. Crucially, differences detected across such varieties are likely to be more substantial than those distinguishing completely unrelated languages (Grabe & Post 2002).

According to Ladd (2008), languages can be distinguished on the basis of different types of potential differences. The “different types of differences” detectable between languages,

can be detected between language varieties as well. Indeed, a large part of the studies exploring the cross-dialectal/cross-varietal variation adopts such a classification in order to better categorize their main findings.

In the first place, *systemic* differences account for the general differences in tonal inventories of languages or language varieties. Such differences are independent of the semantic meanings and apply for tune types. An example is provided by varieties of Portuguese, with all varieties of European Portuguese displaying an H*+L accent, that is not present in Brazilian Portuguese varieties (Frota et al. 2015).

Realizational differences concern the finer phonetic details, which characterize the phonetic implementation of the tonal inventory. Specifically, differences in the phonetic realization of a pitch accent can involve both the temporal dimension, namely the temporal alignment of tonal targets, and the melodic dimension, i.e. scaling of tonal targets. Such phonetic details can indeed distinguish tonal events in closely related varieties sharing the same phonological inventory, hence, assigning the same phonological analysis for given categories. Language-specific variation can involve, among others, pitch span and level (Gilles 2005), pitch accent timing (Kalaldehy, Dorn & Ní_Chasaide 2009), response to time pressure (Grabe et al. 2000).

Distributional or *phonotactic* differences deal with the different way in which languages or language varieties can combine pitch accents and boundary tones or allow certain tune-text association. For example, in Salerno Italian, H* and L*H pitch accents occur in prenuclear position and are never found in nuclear pitch accent position (Orrico 2020:149).

Finally, *semantic* differences arise when phonologically identical tunes are employed to convey different pragmatic meanings, hence concerning possibly language- or variety-specific tune-function mappings. For example, a final rising-falling contour with the peak aligned to the penultimate syllable of the utterance is present in the intonational inventory of both Corsican French and Continental French. While the contour is employed to convey polar questions in Corsican French, it is reported to convey statements in Continental French (Portes & German 2019).

According to the model of prosodic typology proposed by Jun (2012, 2014), languages and language varieties can also differ according to their macro-rhythm. Languages' macro-rhythmicity is evaluated by considering the phrase-medial, global, tonal pattern of the utterance (Jun 2014:521) which is indeed regarded as a tonal rhythm dealing with changes in f_0 . In particular, the strength of macro-rhythmicity is provided by the interplay of f_0 peaks (H) and valleys (L) alternation, similarity and regularity of sub-tonal units (rise-

falls). Crucially, the degree of macro-rhythmicity is gradient, so that both different languages and language varieties can exhibit different degrees of macro-rhythm, as they can differ in the global pattern of phrase-medial intonational contour (i.e. non-nuclear region). A case of inter-varietal difference of this kind has been detected for Romance varieties when compared with their closely related language varieties, namely Northern European Portuguese and Brazilian Portuguese vs Standard European Portuguese, corresponding to the southern variety (Frota & Vigário 2000; Vigário & Frota 2003). The former varieties show the presence of additional tonal events, hence a higher density of pitch accents, while the latter is characterized by a sparseness of tonal events within the intonational phrase. Accordingly, Jun (2014) states that Brazilian Portuguese is expected to be more macro-rhythmic than Standard European Portuguese.

One of the most investigated linguistic situations concerns varieties of British English. Most of the literature comes from the works of Grabe and colleagues (Grabe et al. 2000; Grabe & Post 2002; Grabe 2004) relying on the IViE (*Intonational Variation in English*) corpus and relative project (Grabe, Nolan & Farrar 1998). It concerns nine dialects of English spoken in the British Isles¹⁰ and represents a case of collection specifically designed to allow dialectal comparison and variation in terms of comparable data, controlled speech, speakers' recruitment criteria and annotation system.

Grabe et al. (2000) explored the phonetics and phonology of two pitch accents in four English varieties, namely Southern British English and three other varieties, i.e. English spoken in Leeds, Newcastle and Belfast. The study aimed at verifying Ladd's (1996) claim that English, as well as its varieties, is a compression language. In the realization of H*+L 0%¹¹ and L*+ H H% pitch accents the varieties behaved differently, with Southern British English and Newcastle English speakers showing compression and the other two truncation. Hence, this feature appeared to be crucial in the cross-varietal distinction representing a variety-specific feature. Such differences have been deepened by Grabe and Post (2002). Expanding the varieties under investigation from four to seven, they aimed at seeking inter-dialectal differences not only at the *realizational* level, but also at the *systemic* one (Ladd [1996] 2008). Their analysis of declaratives and inversion questions confirmed the dialect-specificity of truncation and compression phenomena and brought to

¹⁰ English spoken in London, Cambridge, Cardiff, Liverpool, Leeds, Bradford, Newcastle, Dublin, Belfast.

¹¹ H*+L 0% contour is a fall with a boundary with no tonal specification, hence neither rise nor fall (Grabe et al. 2000:162)

light inter-dialectal *systemic* differences as well, i.e. in the selection of nuclear accents. Hence, results highlight both inter- and intra-dialectal variation in English intonation.

Grabe (2004) provides quantitative evidence summarizing the main findings of the IViE project on statements, partial, polar and declarative questions. The level of variation among the dialects varies according to the utterance type, namely, declaratives were found to be more consistently realized (H* L% tune), while a larger number of nuclear accent types was attested for questions. Dialect plays a role both in the phonetic realization of tunes and in the phonological choice of such tunes.

Additional evidence of *realizational* differences across English varieties is provided by Ladd and colleagues (2009), who explored the phonetic realization of prenuclear and nuclear accents in two varieties of English, namely Standard Southern British English (Received Pronunciation, RP) and Scottish Standard English (SSE). As regards dialectal comparison, the main cue acting as distinguishing inter-varietal feature was found in the accentual temporal alignment, since RP aligns peaks earlier than SSE. Cross-linguistically, both English varieties show earlier alignment than Dutch (Ladd, Mennen & Schepman 2000).

The relevance of tonal alignment as a feature capable of unveiling inter-linguistic differences is also confirmed in findings by Kalaldehy, Dorn & Ní Chasaide (2009). Their study deals with three regional varieties of Hiberno-English, i.e. Dublin, Drogheda and Donegal English, focusing on tonal alignment of pre-nuclear and nuclear accents in declarative statements. In both accentual position a cross-dialect difference can be observed among these varieties, since Drogheda English shows an earlier peak relative to Dublin English and overall, in addition to Ladd and colleagues' (2000) varieties, earlier if compared to Dutch.

Observations on the features characterizing different varieties of the same language have been carried out also as concerns Irish in a project entitled *Prosody of Irish Dialects: the use of intonation, rhythm, voice quality for linguistic and paralinguistic signalling* and in a number of relative studies by Dalton & Ní Chasaide (2003, 2005, 2007). These studies show that Irish dialects can be intonationally broadly clustered into two groups according to their geographical arrangement: Gaoth Dobhair dialect vs Mayo, Cois Fharraige and Inis Oirr dialects.

Dalton & Ní Chasaide (2003) in presenting preliminary results arise important questions regarding the relationship among the dialects under investigation and with neighboring varieties of British English in terms of language contact and resulting potential cross-

language influences. The differences among the Irish varieties are deepened in Dalton and Ní Chasaide (2005). Alignment appears to be a cross-dialectal difference in nuclear and less in prenuclear position; in any case, although having taken into account the possibility of a mere temporal alignment difference of the same category between different varieties, the authors conclude that the varieties rely on different underlying categories. Accordingly, Dalton and Ní Chasaide (2007) look at distributional patterns of nuclear accents in statements across the Irish varieties. There is a certain amount of cross-dialect variation differentiating northern from southern varieties in which occurs a majority of low-rise (L^*+H) and fall (H^*+L) nuclear accent respectively.

In the landscape of UK varieties and in the very same years of projects on English and Irish dialects, attention was paid to the dialects spoken in the north of Scotland, namely Orkney and Shetland dialects (van Leyden 2004). Perception experiments reveal that the two dialects are easily identifiable by native speakers via only prosodic, and mainly intonational information, suggesting that the two varieties differ in their intonational features more than in the segmental properties. One more time, internal differences concern pitch-peak alignment, i.e. earlier in Shetland and later in Orcadian productions.

A growing interest for intonational variation among language varieties has been registered also for varieties of American English, defined by Reed (2020) as “a rich tapestry of variation” at the segmental level, which distinguishes speakers from the north, middle and south of the US, although American English is affected also by intra-regional variation at the suprasegmental level.

A first account of such a variation is provided by Arvaniti and Garding (2007). They investigated the realization of pitch accents by Minnesotan and Southern Californian speakers, primarily to assess the three-way accentual contrast, namely the employment the three rising accents (H^* , $L+H^*$, L^*+H), attested by Pierrehumbert (1980) for American English. This focus was motivated by the fact that this contrast is assumed to characterize the tonal inventory of English thought as “a homogeneous language” (Arvaniti and Garding 2007:451), although intonational studies have relied on native speakers of English with no other specification (Pierrehumbert & Steele 1989), including British English (Ladd & Morton 1997) and even Scottish English (Ladd & Schepman 2003). Hence, they wanted to know whether the two varieties have all three accentual categories and whether these are realized differently. Results on test dialogues show that the accentual categories are present in both Minnesotan and Californian English, hence they share the same tonal inventory of

rising accents as claimed by Pierrehumbert for American English, although what have been termed “small but significant differences” in the phonetic realization of the accents were found, specifically a later alignment of the targets (both L and H) by Californian speakers in bitonal pitch accents.

Clopper & Smiljanic (2011) follow the line of deepening the investigation of prosodic variation in American English varieties, examining the role of regional and social factors in a production experiment based on a read speech by speakers of two varieties belonging to the same dialectal area, i.e. Southern and Midland American English. The study reveals that some of the features under investigation do not vary across neither the varieties nor the speakers’ gender, namely speaking rate; this result was particularly unexpected since Southern speakers impressionistically seem to speak slower than speakers of other American varieties. On the other hand, speakers’ social characteristics of variety and gender affect the distribution and frequency of pitch accents, phrase accents and boundary tones.

Further evidence of what has been found on prosodic variation in American English comes from Burding and colleagues (Burdling, Holliday & Reed 2018). They tested the rate of use of the L+H* rising accent and its phonetic realization in Jewish English, African American English and Appalachian English comparing their results with those of the two varieties of Southern and Midland American English previously examined by Clopper & Smiljanic (2011). Differences across the varieties were detected according to both the rate of use on L+H* (more frequently used in Appalachian and Jewish English compared to the other three varieties) and the phonetic shape of this accent (with higher peaks, larger spans of the rise and steeper slopes in Appalachian and Jewish English). These results confirm Clopper & Smiljanic’s (2011) in terms of different inter-varietal distribution and relative frequency of pitch accents in American English varieties and Arvaniti and Garding’s (2007) in terms of variation in the phonetic implementation of the same tonal category across the varieties. Accordingly, differences are detectable both between Standard and non-Standard American English varieties and between non-Standard varieties.

A further step in the exploration of inter-variety variation in the US has been recently taken by Reed (2020). Starting from the studies reported here, and particularly from Burding and colleagues’ results, Reed’s investigation zooms in on the intonational variation possibly distinguishing closely related regional varieties. Indeed, Appalachian and Southern varieties, despite sharing segmental, morphological, syntactic and lexical features, actually are different regional varieties. It should be noted that this study also investigates the role

of socio-indexical factors affecting intonation production, such as age, gender and level of rootedness¹². The analysis of pitch accents production, with particular focus on L+H* pitch accent, unveils regional variation in the relative frequency of the L+H* pitch accent and in its phonetic realization (with respect to the alignment of the H tone), with Appalachian speakers using relatively more L+H* pitch accents and with an earlier temporal alignment than Southern speakers. Both pitch accent distribution and phonetic implementation can indeed differentiate closely related varieties of American English.

The greatest interest in regional variation is probably offered by studies in the German-speaking framework as testified by the research project on German dialect intonation *Studies on the Structure and Function of Regional Intonation Contours in German*; the project focuses on urban varieties from all geographical areas of Germany (Auer et al. 2000), aiming at the phonetic and phonological description of intonation contours.

One of the first observation on regional variation in German intonation comes from Ulbrich (2002). His investigation explores potential prosodic differences among varieties of standard German, namely those spoken in Germany, Austria and Switzerland. The comparison among the varieties involves the analysis of statements uttered by news readers from a corpus of read speech and reveals two main dimensions of variation. On the one hand, differences in the phonetic realization of nuclear tones were found: accents were produced with an early and sharp f_0 and intensity fall by German speakers, with an extremely late f_0 fall and no intensity fall by Swiss speakers, and with similar characteristics to Swiss production by Austrian speakers. On the other hand, cross-varietal variation was observed also in the structure of tones, confirming the distinction between German vs Swiss and Austrian varieties observed for the phonetic realization. Indeed, unlike standard German, declarative productions in the other two standard varieties appeared to involve two boundary tones, the first of which is considered to be stress-seeking, while the second one is associated with the IP-boundary.

A closer look at German comes from Atterer and Ladd's (2004) investigation; in this case the focus is not on standard varieties of this language, but on internal varieties, namely standard German spoken by Northern and Southern speakers. The goal of the study is twofold, since the investigation of the temporal alignment of rising accents (L*+H) in German aims at both comparing German to other already investigated languages, i.e. British English (Ladd et al. 1999), Dutch (Ladd, Mennen & Schepman 2000), Greek

¹² "Rootedness" is the social aspect which displays a sense of speakers' local place-based attachment (Reed 2020:617).

(Arvaniti, Ladd & Mennen 2000) and testing the impressionistic assumption that alignment is the distinguishing feature between the two German varieties taken into account¹³. For doing so, the beginning (L) and the end (H) of the rise were taken as landmarks. Results on the cross-linguistic comparison show that German speakers align accentual rises later than both English and Dutch ones. As far as cross-varietal comparison, the alignment of the beginning of the accentual rise systematically distinguishes the two German varieties, with Southern German rises being aligned later than Northern German ones. On the basis of this and previous studies, the final general pattern, from earlier to latest alignment, appears to be Dutch > English > Northern German > Southern German, and the main conclusion is that cross-linguistically there is only one category of rising prenuclear accent displaying a continuum in its phonetic realization.

Additional research has been conducted aimed at exploring the role of phonetic parameters in distinguishing German varieties. Indeed, f_0 excursion size of falling contours resulted to differentiate west from east varieties of German (Gilles 2005) and f_0 peak alignment was found to be temporally different also between southern Swabian German from eastern Upper Saxon German (Kügler 2007).

2.3 Variation in Romance

2.3.1 Cross-variety variation in Romance

Zooming in on Romance languages, the Portuguese situation presents a number of points of contact with the Italian one. As regards primary dialects of continental European Portuguese, dialectological studies (among others, Cintra 1971) have provided a classification which is basically based on five phonetic-phonological features. The presence vs absence of these features, such as phonological distinction between /v/ and /b/, allows to propose a dichotomy between northern and central-southern dialects. Each broad dialectal group is divided in further (sub)groups of dialects¹⁴ that, nevertheless, all are mutually intelligible.

¹³ The two varieties are located north and south the bundle of isoglosses identified in German dialectology (among others, Besch, Knoop, Putschke, & Wiegand 1983) and dividing German dialectal areas in Northern, Central and Southern dialects (Atterer & Ladd 2004:193).

¹⁴ The Northern group includes the subgroups of 1) Transmontano and Alto-minhoto, 2) Baixo-minhoto, Duriense and Beirão. The Central-Southern groups is subdivided into 3) Littoral Center, 4) Interior Center and South (Frota et al. 2015:236).

Starting from this classification, which basically only accounts for cross-dialectal features on the segmental level, the study conducted by Vigário and Frota (2003) represents one of the first attempts to investigate Portuguese cross-dialectal differences at the intonational level. Specifically, the study deals with intonational variation by exploring Portuguese varieties spoken in the areas corresponding to the two main dialectal groups provided by dialectological studies, namely Northern European Portuguese and Standard European Portuguese spoken in the central-southern dialectal area. Phonetic and phonological descriptions of declaratives, partial and polar questions highlight the presence of a number of cross-varietal differences which can be traced back to the four “types of differences” proposed by Ladd (2008). In fact, the two varieties differ *systematically* as they show different nuclear accents in both declarative and question nuclear contours, i.e. a falling accent (H+L*) in Standard European Portuguese and a low accent (L*) in Northern European Portuguese¹⁵. In the declarative case, low accents exhibit *realizational* differences, as the low target of the nucleus is aligned later in the northern variety, which led to the decision for a monotonal L* accent. *Distributional* (or macro-rhythmic; Jun 2012, 2014) differences deal with the distribution of pitch accents: as expected, Standard European Portuguese is characterized by a sparseness of tonal events within the intonational phrase, so that the stressed syllables between the first and the last ones are not accented. On the contrary, in the northern variety the presence of additional tonal events can be observed, namely all the prosodic words are accented, resulting in a higher density of pitch accents. Although less prevalent, a *semantic* difference arises in the use of H+L* Li tune, which is employed for yes-no questions in the Northern and for declaratives in the Standard variety.

A closer look at the prosodic variation in European Portuguese comes from Cruz’s (2013) dissertation, as part of the *Interactive Atlas of the Prosody of Portuguese (InAPoP)*, Frota 2012-2015) project for the study of intonational variation in Portuguese.

Cruz examines two central-southern varieties, the urban areas of Alentejo and Algarve, taking into account phrasing, tonal system, pitch accent distribution and rhythmic properties from four types of tasks (Interview, Map Task, Discourse Completion Task, Reading). The two varieties are also compared to Southern (standard) European Portuguese. The three varieties show some commonalities, for example as far as

¹⁵ Actually, L* in Northern European Portuguese is the most frequent choice. The instances of H+L* are considered cases in which the northern variety uses the typical nuclear accent of Standard European Portuguese.

declaratives are concerned, realized with a falling nuclear accent (H+L*) followed by a low boundary tone (L%). On the contrary, polar questions show higher levels of variation on the basis of both pitch accent and boundary tone selection, with the standard variety using H+L* LH%, Alentejo variety using L* H% and Algarve variety using L*+H H%. The three central-southern varieties appear to differ also in terms of the prosodic distribution of tonal events; indeed, the presence of a low edge tone at the left edge of the last phonological phrase of the Intonational Phrase has been observed in Alentejo variety *contra* Standard and Algarve varieties where only the Intonational Phrase has an edge tone (Cruz 2013:87). A series of common features, among which the stability of nuclear contours across speech styles and the selection of the same nuclear contours for most of the sentence types¹⁶, allows the author to consider them as the principal features characterizing the prosodic grammar of Portuguese. Accordingly, the differences among the varieties are ascribed to prosodic variation.

The study by Frota and colleagues (2015) contributes to a project aimed at creating an *Interactive Atlas of Romance intonation* (IARI) and at describing the intonational phonology of several Romance languages based on a common methodology and theoretical framework (Frota & Prieto 2015). The same approach also allows comparison across varieties of the same language and to allow varietal variation. Frota and colleagues' chapter within IARI represents a more comprehensive examination of Portuguese language, which among Portuguese varieties takes into account also non-European diatopic varieties, namely those spoken in Brazil. The analysis of continental Portuguese includes four varieties previously investigated, namely Standard and Northern European Portuguese (Vigário & Frota 2003) and the two non-standard central-southern varieties spoken in Alentejo and Algarve (Cruz 2013). Despite the common distinction between Northern and Southern varieties, the selected Brazilian Portuguese regional varieties all belong to the Southern varieties groups and cover urban locations along the Southeast coast from Bahia to Rio Grande do Sul. The comparison across these eight Portuguese varieties deals with five sentence types (statements, polar questions, partial questions, imperatives, and vocatives). Three main dimensions of variation results to be relevant, interpreted along the lines of the differences between language and language varieties proposed by Ladd (2008). The first type of difference regards the inventory of nuclear contours; *systemic* differences are detected since a given nuclear accent or tune is present in only some varieties and absent in the other, in other words different varieties can have different phonological

¹⁶ Declaratives, wh-questions, requests, commands, vocatives.

inventories. *Semantic* differences arise in the meaning associated to a particular tune, for example L*+H H% tune is used for yes-no questions, except for counter-expectational yes-no questions in two Brazilian varieties. Other dimensions of variation affect the intonational phrasing, with Brazilian varieties being characterized by edge marking of a phrase smaller than the intonational phrase, and pitch accent distribution, according to which Standard European Portuguese is the only variety showing sparse distribution of pitch accents, as already noticed in Vigário and Frota (2003), while the other ones show higher pitch accent density.

The dialectal situation of European Portuguese is roughly comparable to that of Peninsular Spain. Indeed, the main classification provided by dialectological studies concerns the separation between north and south, i.e. Northern-central or Castilian and Southern or Andalusian Spanish dialects. Such a classification is primarily based on phonetic traits: for example, the aspiration or even the elision of /s/ in syllable- or word-final position characterizes southern dialects, while the phonological opposition between /θ/ and /s/ characterizes the northern ones (Lipski 2012:2). According to the distribution of these traits, the north-south distinction appears to be rather limiting, as actually a number of regional varieties of Spanish can be identified¹⁷ showing a segmental continuum which does not follow clear (regional) borders. Beside the phonetic segmental differences, what appears to be an undisputable feature allowing the distinction among Spanish varieties is the pronunciation (Lipski 2012; Hualde & Prieto 2015); as a consequence, intonational characteristics are considered a reliable means to recognize varieties across Spain as well as Latin America.

Intonation across Spanish varieties has received a great deal of attention in the literature, as testified by the large number of studies and the development of a pan-Spanish ToBI, i.e. an Autosegmental-metric analysis and annotation system of Spanish intonation which can be adopted to each Spanish variety (Sp_ToBI; among others, Beckman et al. 2002).

Elordieta and Calleja (2005) conducted a comparative study devoted to phonetic detail. Specifically, they focus on tonal alignment in order to unveil whether given features of alignment are shared in all the varieties of Spanish, or they result to be variety-specific. To this goal, they examined SVO broad focus statements in two Peninsular Spanish varieties, namely Vitoria and Lekeitio Spanish, both spoken in the Basque Country, and then

¹⁷ Northern Castile, northern Extremadura and León, Galicia, Asturias, the interior Cantabria region, the Basque Country, Catalonia, southeastern Spain, eastern Andalusia, western Andalusia, south-central and southwest Spain (Lipski 2012:2)

compared to previous descriptions of Madrid Spanish. The differences in peak alignment detected across the varieties are regarded by the authors as different phonetic implementations of the same pitch accent and hence, ascribed to phonetic implementation variation. Accordingly, the realization of the rising pitch accents investigated “could be reinterpreted as a continuum of L+H accents with different phonetic specifications for tonal alignment” (Elordieta & Calleja 2005:435).

The collective work coordinated by Prieto and Roseano (2010) associated to the *Atlas interactivo de la entonación del español/Interactive Atlas of Spanish* contains the description and analysis of ten European and non-European varieties of Spanish¹⁸. Given this long tradition of studies on Spanish varieties, within the *Interactive Atlas of Romance Intonation*, Hualde and Prieto (2015) summarize and compare findings of a series of previous works (among which, Prieto & Roseano 2010) in order to provide a picture of intonational variation across Spanish geographical varieties. In a similar fashion to Frota and colleagues’ (2015) study on Portuguese varieties, Hualde and Prieto’s chapter includes both European and American varieties of Spanish. On the basis of the available literature, the varieties selected for Peninsular Spanish are Northern Castilian Spanish, Astur-Leonese Spanish, Navarro-Aragonese Spanish, Southern Castilian Spanish, Andalusian Spanish and Canarian Spanish. Also as regards Latin America, there is no definitive agreement on the classification of Spanish varieties; the main distinguishing features are phonological, but, given the absence of clear boundaries at the segmental level, a country-by-country definition has been adopted, hence choosing Mexican Spanish, Central American Spanish, Caribbean Spanish, Andean Spanish, Guaranitic Spanish, Chilean Spanish and Argentinian Spanish.

Several inter-varietal differences can be noticed. First, the choice of pitch accent in prenuclear and nuclear position shows variation. For example, two main nuclear contours have been reported for statements, i.e. L* L% and L+H* L%, while a falling nuclear accent followed by a low boundary tone (H+L* L%) has been attested only for Caribbean Spanish. Similar differences arise for the selection of tune for expressing neutral information-seeking yes-no questions: some varieties prefer a falling-rising configuration (e.g. Madrid and Mexico Spanish), while others select a rising-falling contour (e.g. Caribbean and Buenos Aires Spanish). Beside what would have been considered Ladd’s *systemic* differences, *realizational* differences in the phonetic implementation of the same

¹⁸ Madrid, the region of Cantabria, Gran Canaria, Mexico City, Santiago de los Caballeros in the Dominican Republic, Puerto Rico, Mérida, Quito, Santiago de Chile, Buenos Aires.

category across varieties are reported as well. One example comes from Alvord (2009), who found that polar questions in Miami Cuban Spanish are realized with a higher pitch range compared to declaratives. Another domain of potential inter-varietal differences regards the expression of marked conditions, namely the type of pitch accent employed in non-neutral utterances: for example, in Dominican Spanish a pitch accent low aligned at the beginning of the stressed syllable with a posttonic peak is reported to be used in contrastive focus conditions, while such pitch accent is attested only for broad focus prenuclear accents in Peninsular Spanish.

Within the picture of the Iberian Peninsula, great attention has been paid to Catalan prosody as well. Actually, despite the considerable interest in Catalan language by a number of prosodic studies, Catalan varieties have not been equally investigated and a clear picture of prosodic variation across is still missing.

Dialectological literature has provided a classification of the main Catalan dialects (among others, Veny (1982), which separates an Eastern Catalan and a Western Catalan block. This classification is based on a set of segmental phonological features. The most noticeable phonetic differences regard vowel reduction phenomena: for example, western dialects keep the distinction between [a] and [e] in unstressed position, while eastern dialects reduce both to the central vowel [ə]. Central Catalan, spoken in Catalonia, Aragon and Andorra and being considered the standard pronunciation, is the standard variety and has the highest number of speakers (Feldhausen 2010). On the prosodic level, it is the most investigated among Catalan varieties (among most recent works, Font-Rotchés 2007; Estebas-Vilaplana 2009; Feldhausen 2010; Prieto 2014). Studies on Central Catalan within the Autosegmental-Metrical framework have led to the development of the Cat_ToBI system of prosodic annotation (Prieto et al. 2009; Prieto 2014).

A comprehensive description of the main varieties of Catalan is provided in IARI by Prieto and colleagues (2015). The work covers the entire Catalan-speaking area, carrying out the prosodic analysis of Northern, Northwestern, Central, Valencian, Algherese and Balearic Catalan. Results highlight rich dialectal variation as regards information-seeking polar questions. Productions of this utterance type essentially split the examined varieties into two main groups according to nuclear tune employed: Northwestern, Balearic and Algherese Catalan use a falling tune (H+L* L%), while Northern and Valencian Catalan use a rising tune (L* H%); Central Catalan is the only varieties that appears to use both types of tunes, as already attested in Prieto (2014). Similarly, realizations of information-seeking partial questions distinguish Catalan varieties. Some show a preference for H* L%

nuclear tune, realized as a high plateau which lasts until the nuclear accent and then falls (attested in Central, Northwestern, Northern, part of Balearic Catalan); the other option is a H+L* L% tune, in which the prenuclear rise reaches the last prestressed syllable then there is a falling nuclear accent until the low boundary tone (attested in Valencian, Algherese and part of Balearic Catalan). Other sentence types, e.g. echo and confirmation-seeking polar questions, commands, vocatives, display a lower degree of inter-varietal variation. This cross-varietal investigation unveils a mismatch between dialectological (segmental) classification and prosodic realizational grouping across Catalan varieties. Indeed, dialects classified separately as Eastern (Central, Algherese, Balearic Catalan) and Western (Northwestern and Valencian Catalan) dialectal groups, actually show a different grouping pattern according to prosodic features, e.g., Central and Northwestern are considered as belonging to the same (geo)prosodic area.

Within the Spanish peninsula, intonational variation across Asturian varieties deserves a brief mention. As far as neutral polar questions are concerned, an intonational continuum was found that goes from the most westerly end of Asturias, linking with Galician, to the most easterly, showing similarities with Cantabrian prosody (Alvarellos, Muñiz, Díaz & González 2011)¹⁹.

The linguistic situation of French and its varieties is somewhat different from that of other Romance language reported so far, including Italian. Thanks to historical reasons, such as the role of the sixteenth-century royal court, French has been strongly codified without being subjected to subsequent radical changes, so that nowadays French appears to be one of the most highly standardized languages in the world. Accordingly, studies normally analyze and refer to standard French, and prosodic studies on French have mainly provided intonational and rhythmic descriptions without deepening the field of prosodic variation. However, despite the internal coherence of French, it is however possible to recognize a France-internal division as well as identify non-France-internal varieties of French. That is the main reason why the central goal of Delais-Roussarie and colleagues' (2015) IARI chapter is devoted to establishing a first-time ToBI transcription system to be applied to different varieties of French (i.e. F_ToBI). For this purpose, the chapter covers a number of European French varieties, namely Oïl, Occitan, and Franco-Provençal plus Belgian French, Swiss French, southern and northern Metropolitan French.

¹⁹ The study encloses five varieties: Galician-Asturian, western, central-northern, central-southern and eastern Asturian.

Results confirm high levels of homogeneity across the varieties, showing that most of the examined varieties use the same nuclear configurations, namely pitch accents and boundary tones, for the same sentence types and functions. Actually, given the still exploratory nature of study, no close attention is paid to the productions of specific varieties; however, differences identified across the varieties are generically ascribed to different phonetic implementations of a shared tonal inventory. The most striking example of French varieties' prosodic compactness can be found in the realization of information-seeking yes-no questions²⁰. Although this question type is cross-linguistically strongly subjected to inter-variety variability²¹, across French varieties a rising nuclear contour (analyzed as H* H%) has been observed with no differences related to the variety. Therefore, the French case appears to be unprecedented in the Romance framework²² *contra* the type and degree of regional variability characterizing e.g. Spanish and Catalan varieties.

2.3.2. Variation across Italian varieties

As already introduced in Chapter 1, spoken Italian is characterized by different regional accents (among others, De Mauro 1963), whose major recognizable features are mainly based on phonetics, namely segmental phonetics as well as prosody. Nevertheless, first prosodic studies aimed at identifying the main characteristics of Italian intonation, hence trying to determine a model for “standard Italian intonation” that was supposed to correspond to native speakers from Tuscany (e.g. Lepschy & Lepschy 1977). Actually, since different accents across the Italian peninsula identify an unknown number of regional varieties, it became necessary to deal with regional variation across Italy. Accordingly, cross-variety investigations emerged which today provide a picture of numerous possible

²⁰ Questions construed with no specific morphosyntactic marker, hence as a declarative question.

²¹ This prosodic type is proved to provide consistent inter-variety variation even in cases of little investigated varieties, such as Romanian ones. Both differences in the nuclear configuration and in the phonetic implementation of tunes were observed for polar questions between Transylvanian and Moldavian varieties (Jitcă, Apopei, Păduraru & Marușca 2015).

²² Little variation among varieties of the same language is also attested for dialects of Friulian, considered “a very cohesive language from an intonational point of view” (Roseano, Vanrell & Prieto 2015:136), partly for dialects of Occitan, namely Occitan dialects spoken in France and hence in contact with French (Sichel-Bazin, Meisenburg & Prieto 2015) and for the two macro-varieties of Sardinian, i.e. Campidanese, spoken in the southern regions, and Logudorese, spoken in the center and north of Sardinia, for which no intonational differences have been detected (Vanrell et al. 2015).

intonational systems in which the diatopically-related factor plays a major role in causing high degrees of inter-variety variation.

From the 90s studies in Italian intonation started to be carried out within the Autosegmental Metric framework. Avesani's (1995) work provided the description of the Tuscan variety spoken in Florence on the basis on the AM system and a proposal of a ToBI-like system to be adapted to Italian. Later studies on Italian intonation have mainly focused on single-variety description, choosing city-based varieties, hence contributing to a rich line of research of regional descriptions. Such studies provided analyses and descriptions for Northern varieties, e.g. Milan (Sardelli 2006; Sardelli & Marotta 2007), Padova (Crocco & Badan 2016), Genova (Crocco 2011), Central varieties, e.g. Rome (Giordano 2006; Sardelli & Marotta 2007), Perugia (Giordano 2006), Pescara (Barone *forthcoming*) with a particular attention to Tuscany, e.g. Florence (Avesani 1995; Hirshberg & Avesani 1997), Pisa (Gili Fivela 2002, 2008), Siena (Marotta & Sorianello 1999, 2001), and Southern varieties, e.g. Naples (Caputo 1996, 1997; D'Imperio 1997, 2001, 2002; Giordano & Savy 2003; Crocco 2006), Salerno (Orrico, Savy & D'Imperio 2019; Orrico 2020), Cosenza (Soriano 2001, 2010), Catanzaro (Sardelli & Marotta 2007), Bari (Grice & Savino 1995, 1997, 2003; Savino 1997; Savino & Refice 1996; Gili Fivela & Savino 2003; Savino et al. 2006), Lecce (Stella 2007; Stella & Gili Fivela 2009), Palermo (Grice 1995; Gili Fivela & Iraci 2017).

It is worth noticing that, from its beginning, research on intonation – most likely for practical reasons - has focused on the Italian varieties used by relatively young speakers with university-level education. Broadly speaking, therefore, we can say that our knowledge on the intonation of the “regional varieties” of Italian (cf. Grice et al. 2005) is mainly based on the analysis of several regional standards (Cataldo & Crocco, *submitted*). Cross-variety research relying on regional standards features a picture of regional Italian intonation characterized by convergence, e.g. for broad focus statements, generally realized with a similar falling tune, as well as divergence, e.g. for yes-no questions, showing a marked variability in the tune choice (among others, Savino 2012; Crocco 2013). Crucially, at present studies on the variation of regional intonation along the social dimension, i.e. from regional sub-standard varieties to regional standards, are still needed, as so are systematic studies on the intonation of the substratum dialects (cf. Chapter 1).

First cross-variety investigations are studies of Canepari (1980) and Endo & Bertinetto (1997), in which the varieties under analysis were selected according to their geographic

location²³. It emerged the difficulty of grouping varieties following geographic macro-areas on the basis of their intonational features, namely according to the varietal realizations of specific prosodic types, e.g. statements, polar questions. More systematic comparisons were later carried out, and couched in the AM model.

Among these, Grice and colleagues (2005) investigated four varieties, namely the three southern varieties spoken in Naples, Bari and Palermo, and the central Italy variety of Florence Italian with the goal of establishing a common annotation framework for Italian varieties able to ease both intra- and inter-varietal studies. Varieties were analyzed by relying on different speech types ranging from spontaneous speech from dialogues to laboratory read speech. Results highlight commonalities among the varieties, such as pitch accent choice in declarative intonation, analyzed as H+L*. On the other hand, yes-no questions present higher degree of variation regarding the selection of both pitch accents and boundary tones.

Some of the claims in Grice and colleagues (2005), such as that Northern and Central varieties of Italian use fall-rises whereas Southern varieties use rise-falls for polar questions, are argued in later studies of Savino (2009, 2012) based on dialogic speech, namely Map Task dialogues. For example, with the goal of determining intonational features to be used for identifying different Italian regional accents, Savino (2009) shows that the fall-rise stated as prototypical of Northern varieties is present only in two of the six varieties of the North, with the rise-fall actually being the most widespread tune across not only Northern, but also Central and Southern varieties. Beyond the tune type, also differences between rising accents, mainly related to temporal alignment, are registered as important cues for discriminating Italian varieties on an intonational basis. Even the cue of pitch accent peak alignment shows in effect a distribution that is not geographic, with early peaked rising accent (L+H*) being present in the North, e.g. Genoa, in the Centre, e.g. Rome and Florence, and in the South, e.g. Bari and Catanzaro.

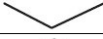
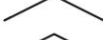
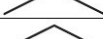
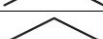
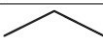
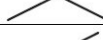
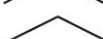
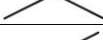
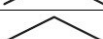
On this basis of regional variation, Savino (2012) aimed at exploring the primary intonational cue employed in regional Italian to mark interrogativity and, more specifically, at investigating the position of the rise, namely in terminal (nuclear pitch accent) or non-terminal (edge tone) position. For this purpose, she focused on polar

²³ In Canepari (1980), 21 Italian city-based varieties were considered, from North Italy (Bolzano, Udine, Trieste, Venice, Trento, Milan, Turin, Genoa, Bologna), Central Italy (Florence, Perugia, Macerata, Rome, Cagliari, Pescara) and South Italy (Campobasso, Naples, Potenza, Bari, Cosenza, Catania). In Eldo & Bertinetto (1997), cross-varietal comparison involves nine Italian varieties from North Italy (Milan, Padua, Bologna), Central Italy (Pisa, Macerata, Rome) and South Italy (Naples, Lecce, Cosenza).

questions in 15 Italian varieties based on dialogic speech data from the CLIPS corpus of task-oriented dialogues²⁴. Polar questions across the varieties result to be realized by means of two main tunes, i.e. a terminal rise preceded by accentual fall, analyzed as H+L* L-H%, and a terminal fall preceded by accentual rise, analyzed as L+H L-L%.

The distribution of the contour types, shown in Figure 2.1, is not geographically related (Savino 2012:42), since both rise-falls and fall-rises are common tunes across Northern, Central and Southern Italian varieties.

Figure 2.1: Distribution of tunes for polar questions across the 15 Italian varieties of the CLIPS corpus (from Savino 2012).

YES-NO QUESTIONS			
	Italian variety	Intonation pattern	Phonological description
North	Bergamo		H+L* L-H%
	Milan		H+L* L-H%
	Genoa		L+H* L-L%
	Turin		L+H* L-H%
	Turin		L*+H L-L% (H%)
	Venice		L*+H L-L% (H%)
Centre	Parma		L*+H L-L% (H%)
	Rome		L+H* L-L%
	Rome		L+H* L-H%
	Perugia		L* L-H%
	Florence		L+H* L-L%
	Florence		L+H* L-H%
South	Cagliari		(H+)* L* L-H%
	Bari		L+H* L-L% (H%)
	Naples		L*+H HL-L% (H%)
	Lecce		L* L-H%
	Catanzaro		L+H* L-L% (H%)
	Palermo		L*+H L-L% (H%)

Actually, varieties showing a rise-fall exhibit realizational differences of the accentual rise in the temporal alignment of the rise on the stressed syllable: Neapolitan and Palermo Italian have a late nuclear peak, namely L*+H, whereas Bari has an early peak alignment, namely L+H*.

²⁴ Varieties in the CLIPS corpus are Bergamo, Milan, Genoa, Turin, Venice, Parma from north Italy, Rome, Perugia, Florence, Cagliari from central Italy, Bari, Naples, Lecce, Catanzaro, Palermo from south Italy.

At present, the most comprehensive study comparing different regional Italian intonations is provided by Gili Fivela and colleagues (2015) within IARI. The examined varieties of Italian have been selected based on their geographical position in the peninsula, as representatives of the national language as it is spoken in different dialectological areas. Accordingly, the study analyzes 13 Italian varieties, divided as follows: Milan and Turin from Northern area, Florence, Siena, Pisa and Lucca from Tuscany area, Rome from Median area, Pescara, Naples, Salerno and Bari from Southern area, Cosenza and Lecce from extreme Southern area. To this must be added the studies by Gili Fivela & Iraci (2017) and Gili Fivela & Nicora (2018), which enlarge the picture of intonation systems of Italian varieties to Palermo Italian and to the Ligurian varieties of La Spezia and Imperia, respectively. Crucially, such studies employ the same methodology, namely elicitation technique, speakers' selection, prosodic types and prosodic analysis.

The cross-variety comparison confirms some of the tendencies previously noticed; in particular, some commonalities across the varieties can be noted, such as the realization of broad and contrastive focus statements ($H+L^* L\%$ and $L+H^* L\%$, respectively), lists ($H+L^* L\%$ in the nuclear region), disjunctive questions ($H+L^*$ pitch accent followed by either $L\%$ or $H\%$ in the nuclear region), counter-expectational wh-questions ($L+H^* H\%$ with a wide pitch excursion of the pitch accent), exclamatives (three tunes types: $L^*+>H L\%$, $L+H^* L\%$, $H^*+L L\%$). On the other hand, stronger differences are registered with regard to other prosodic types. This is the case of polar questions showing the highest inter-variety variation; other cases of variability are vocatives and partial questions.

On the whole, three main types of differences among the varieties are identified. Firstly, Italian varieties may differ in their phonological inventory, e.g. only some varieties such as Cosenza and Florence Italian have both H^* and $L+H^*$ pitch accents. Secondly, differences arise in the phonetic implementation of same categories, e.g. pitch accent and boundary tone types, showing variety-specific realizations. This is the case of rising-falling tunes employed for polar questions in Turin and Neapolitan Italian, which are both analyzed as $L^*+H HL\%$ despite exhibiting phonetic differences in the realization of the pitch accent, namely a low pitch followed a rise within the stressed syllable and a rising pitch, respectively. Finally, varieties show different form-to-function mappings, namely different association of pragmatic meanings with contours. Such association is subjected to both inter-and intra-variety variation: a given pragmatic subfunction can be expressed by means of different patterns (e.g. Pescara Italian has three tune options for expressing information-seeking wh-questions, i.e. $H+L^* L\%$, $L^*+H H\%$, $L^*+H L\%$), and the same pattern can

express different pragmatic sub-functions (e.g. Lecce Italian employs H+L* LH% tune for expressing information-seeking, confirmation-seeking and echo polar questions).

To give an overview of the variation found in these studies, Figures 2.2 and 2.3 respectively show the tunes employed for information-seeking polar and partial questions reported in Gili Fivela & Nicora (2018), which include Palermo (PA), La Spezia (SP) and Imperia (IM) in addition to the 13 varieties analyzed in Gili Fivela et al. (2015 [Milan (MI), Turin (TO), Florence (FI), Siena (SI), Pisa (PI), Lucca (LU), Rome (RO), Pescara (PE), Naples (NA), Cosenza (CS), Salerno (SA), Bari (BA), Lecce (LE)]).

Figure 2.2: Information-seeking yes-no question tunes in 16 Italian varieties (from Gili Fivela & Nicora 2018:154).

	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

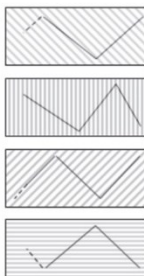
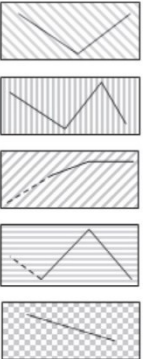


Figure 2.3: Information-seeking wh-question tunes in 16 Italian varieties (from Gili Fivela & Nicora 2018:154).

	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



Despite the selection of varieties aimed at being representative of the regional variation of spoken Italian, results unveil that “when considering intonation, there are no homogeneous areas that match those established on the basis of non-prosodic variation observed in the vernaculars spoken in the peninsula” (Gili Fivela et al. 2015:195). In fact, as shown in Figure II.2, varieties belonging to the same dialectal area show different patterns, e.g. Cosenza and Lecce Italian from the extreme Southern area, and varieties distant from each other can show commonalities in the tunes employed, e.g. L*+H L% in La Spezia (Northern area) and Palermo Italian (extreme Southern area).

2.4 Prosodic transition between language varieties

2.4.1 Transitional areas

Despite the degree of variation existing comparing closely related varieties of the same language, most of the research has been conducted by focusing on the identification of common and divergent features. Much less has been done in order to deepen the relationship between the varieties taken into account and to try to characterize the kind of prosodic transition existing between them. Specifically, given the diatopic status of language varieties, namely being broadly speaking regional varieties, little is known about the geographic shift from one variety to another in order to account for gradual geographically driven changes contributing to the broad picture of prosodic variation.

In the Arabic framework, research has recently paid attention to the intonational systems of different varieties and studies are carried out within the *Intonational Variation in Arabic* (IVAr) project. Typical cross-variety variation has been attested along *systemic* and *phonotactic* (El Zarka 2017) as well as the *realizational* (Hellmuth 2018) and *semantic* dimension (Hellmuth 2020). Interestingly, in El Zarka (2017) a three-way classification of cross-variety relations is suggested. Firstly, different varieties can exhibit “near-universal commonalities”, namely broad similarities that can be also broadly inter-linguistically shared, such as a falling tune for expressing statements. More closely, some “areal commonalities” can be noticed, namely a broad grouping in macro-areas according to the geographic location of the varieties; this is the case of the main distinctions between Western and Eastern Arabic varieties according to their accentuation behavior. Only on a

third level, inter- and intra-varietal differences may arise involving tune choice and phonetic details. As far as Arabic varieties are concerned, varieties phonetically differ on the basis of target alignment, f_0 register, scaling of the rise. For example, Egyptian, Jordanian and Lebanese Arabic display differences in the alignment of the L tone at the beginning of the rise, with Egyptian Arabic tending to an alignment at the beginning of the stressed syllable, yielding LH*, and Jordanian Arabic preferring alignment within the vowel, yielding an L*H accent, while Lebanese Arabic using both variants in free variation.

However, this classification can hardly be applied to linguistic situations such the one characterizing Italian prosodic variation, which involves varieties very divergent from one another even in contiguous and more small-range areas.

A research framework that more explicitly takes into account the intonational transition across geographically closer varieties is represented by intonational studies on the area of the Netherlands that show particular interest in the varietal distribution of prosodic features that are geographic-related. At present, a number of works (among which, Peters, Hanssen & Gussenhoven 2014, 2015; Hanssen, Peters & Gussenhoven 2016, 2022; Hanssen 2017; Hanssen, Gussenhoven & Peters 2019) document the intonational patterns of regional varieties in the Netherlands within the research project *Intonation in Varieties of Dutch*.

Peters and colleagues (2014, 2015) examine six closely related dialects and languages of the Netherlands and Northwest Germany²⁵ investigated from the intonational point of view as being spoken within a transitional area. As far as phonetic features are concerned, a “geographical cline” is identified, i.e. a gradual shift from northern to southern varieties with differences concerning phonetic details such as rises and falls’ duration, slope of the falls and tonal timing as a phonetic adjustment in sentences with different focus and focus size conditions (Peters et al. 2014). All the dialect effects contribute to feature a U-shaped pattern in the dialectal variation, that is determined more strongly by their geographical proximity than by their linguistic grouping. Along this line, Peters et al. (2015) found that the more “peripheral” varieties behave differently from the more “central” varieties in the alignment of the peaks, having later alignments.

²⁵ Note that the languages considered in Peters and colleagues (2014, 2015) are not all varieties of the same language, rather, a mix of different language varieties and different languages: Zeelandic, Rotterdam, Amsterdam and Low Saxon Dutch are Dutch varieties, whereas West Frisian and German Low Saxon are genealogically different languages. Overall, the six systems analyzed are considered closely related languages due to their geographic proximity.

Evidence corroborating the geographical cline is also provided by Hanssen (2017), who explored phonetic and phonological variation addressed considering six varieties: Zeelandic spoken in Zuid-Beveland, Hollandic spoken in Rotterdam and Amsterdam, Frisian in Grou, Low Saxon in Winschoten and Standard Dutch. Such variation is attested along the four dimensions pointed out by Ladd (2008).

Hanssen (2017) found phonetic differences across the varieties in the f_0 adjustments in response to IP-final time pressure, namely in the mechanisms of compression *vs* truncation, in statements, yes-no questions and rhetorical questions. In a similar fashion to language variety-specificity attested for the varieties analyzed by Grabe et al. (2000), Hanssen finds clear dialect-specific preferences in the strategies adopted by the speakers. In particular, they resort to various adjustment strategies, whose prevalent majority was dialect-motivated, as truncation in Standard Dutch. Phonetic effects were also found in the analysis of sentence-medial and final falls and fall-rises as reported also in Hanssen, Gussenhoven & Peters (2019). The six varieties appear to behave, on the basis of segmental duration, excursion and shape of the pitch movements, following their spatial arrangement (see Figure 2.4).

Figure 2.4: Recording locations in the Netherlands (from Hanssen 2017).



Specifically, Zuid-Beveland and Winschoten, which are geographically the farthest varieties, represent the two extremes in the realizational continuum found, while the other varieties, namely Standard Dutch, Rotterdam, Amsterdam and Grou, are both geographically and phonetically in between. Specifically, as concerns contour shape, the

northeastern variety of Winschoten realize falls with large and steep movements and fall-rises with longer, larger and steeper falling movements and shorter and shallower final rises as compared to the southwestern variety of Zuid-Beveland displaying smaller and shallower excursion of both the falling and the final rising movement. In this respect, phonetic variation covaries with the position of the varieties, namely from the southeastern via the central to the northeastern ones, providing evidence of a geographical cline.

Besides the phonetic ones, Hanssen also found inter-variety *distributional* and *semantic* differences. Specifically, she investigated the realization of IP-medial pitch accent in broad focus statements and IP-final pitch accent in narrow focus statements, narrow focus yes-no and corrective focus rhetorical questions in a reading task of mini dialogues. Results suggest that the varieties taken into account, including Standard Dutch, share the same tonal inventory, i.e. the same set of pitch accents and boundary tones, despite showing differences in the distribution and frequency of occurrence of nuclear contours according to the pragmatic conditions tested. For example, in Zuid-Beveland a falling nuclear profile (H*L L%) is used for statements but it is also extensively used for questions, whereas the other varieties show a preference for rising tunes for questions (H* H%, L*H H%, L* H%). This points to dialect-specific preferences as regards the selection of nuclear tunes.

In the Germanic framework, however, besides varietal continuum along a geographic cline, clear-cut dialectal separation according to tonal isoglosses have been attested, as in the well-documented case of Limburgian dialects (Gussenhoven 2014). Specifically, Helden and Venlo dialects are spoken in a geographic area crossed by the tonal isogloss distinguishing tonal from non-tonal dialects. The two dialects at stake are tone languages, showing tone contrast as Swedish and Norwegian. Although Venlo and Helden are closely related dialects, the intonational transition between the two exhibits a phonetic similarity featuring a gradient continuum which is, however, not mirrored in a phonological continuity, rather, in an abruptness of phonological differences between the two.

Focusing on Italian prosody, cross-variety studies reported in § 2.2.2 show that it is not possible to identify homogeneous macro-areas comparable to those found for segmental features in the dialects, suggesting that the intonational varieties of Italian are not spatially articulated along the same (type of) continuum. Despite the bulk of research highlighting outspoken intonation variability across the country as well as lack of geographically related distribution of the tune types, still little is known on the intonation of varieties belonging to the same region, and on the intonational transition from one variety to a neighboring one.

The few available studies on Italian neighboring varieties suggest that geographic variation in prosody can hardly be described in terms of traditional isoglosses bounding relatively definite areas. Variation and homogeneity in Italian intonation seem indeed not predictable based on the position of bundles of segmental or morpho-syntactic isoglosses.

Gili Fivela & Iraci (2017) in their investigation of Palermo Italian tried to verify whether it showed commonalities with other southern varieties, namely Lecce and Cosenza, which belong to the same dialectal area identified as “extreme-South”. Some cases of similarities were found, e.g. for statements and exclamatives, crucially involving intonational features that are in common not only with neighboring varieties but also with a number of other varieties throughout Italy, hence not allowing narrower areal groupings. On the other hand, other sentence types, e.g. polar questions, distinguish Palermo Italian from the other two varieties, since in Palermo Italian a L*+H L% tune is attested, that is not shared with neither Lecce nor Cosenza Italian.

Similarly, Gili Fivela and Nicora (2018) investigated the varieties spoken in La Spezia and Imperia comparing them to other already studied varieties in the transitional area on the two sides of the La Spezia-Rimini isogloss, namely other Ligurian (Genova) and Tuscan (Pisa, Florence) varieties. While maintaining the phonologically oriented approach based on the AM theory, this study proposes that areal differentiation can be more a matter of patterns of frequency and distribution than a matter of phonological inventory. Indeed, focusing on information-seeking yes-no questions, the authors showed that intonational contours of questions are not distributed according to the above-mentioned isoglosses bundle. The varieties across the two sides of the line are rather distinguished by the distribution of the examined intonational contours. In fact, regardless of the different phonological analysis of such patterns, a similarity in the phonetic shape of the contours is noticed, i.e. a H* tone in the pitch accent and a LH% sequence in the edge tone. This “shared pattern” appears to be differently employed in the varieties, with a higher frequency of occurrence in western Ligurian varieties gradually decreasing in the Tuscan ones. As a result, although such graduality points to a transition area, “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” (Gili Fivela & Nicora 2018:148).

2.4.2 Insights into prosodic variation and transition

The present thesis explores prosodic variation across three varieties of Italian spoken within the same regional borders but across a dialectological line of discontinuity. Literature dealing with transitional areas on the intonational point of view (§ 2.4.1) serves as the starting point to approach intra-regional variation between Campania Italian varieties.

As already highlighted in Chapter 1, cross-variety variation in the Italian framework has its roots in the composite structure of the dialectal substratum. Dialectological atlases traditionally represent the linguistic differences between adjacent areas through isoglosses. Several scholars have questioned the theoretical validity of isogloss-based representations because isoglosses represent diatopic differences as a clear-cut phenomenon (for the Campanian situation, cf. among others, Avolio 2000). This is also the case of dialectometric approaches, which traditionally cluster linguistic variables in order to quantify the distance between linguistic varieties (Goebel 1981). These approaches have a long tradition in Dutch dialectology, and mostly focus on lexical, morphosyntactic and segmental features. By delimiting the area where a given feature appears, such strongly quantitative approaches pin down the qualitative dimension of diatopic variation, and emphasize the divergences between adjacent varieties. However, a given linguistic feature can also be present in all the considered varieties, though to different extent. In other words, within one variety, different forms can coexist as variants, while across varieties, the variants may appear with different frequency or distributions²⁶. This is likely to be the case of varieties of Italian spoken in Campania, which on the one hand rest on different dialectal groups, namely Campanian and Lucanian, but on the other hand, such groups are identified and separated on the basis of a “weak” and frayed bundle of isoglosses, namely the Eboli-Lucera line (cf. Chapter 1).

Evidence pointing to such a complex picture between Italian variety and substratum dialects emerges from research on geographic close varieties of Italian, which unveil that

²⁶ Recently, dialectometric tools have been developed for intonation, based on numeric analysis of f_0 (Elvira-García et al 2018; Dorta & González Rodríguez 2019). Unfortunately, tools such as ProDis are at present only usable for certain types of data (like AMPER; *Atlas Multimédia Prosodique de l'Espace Roman*) and, additionally, are not publicly available. However, a dialectometric approach does not seem suitable for the purposes of the present thesis. While Elvira-García and colleagues (2018) examined a large amount of varieties, in the present study the investigation is limited to three neighboring varieties: the interest of a technique aiming at clustering varieties based on their degree of similarity seems therefore reduced.

intonation can vary within the borders of the same dialectological area (Gili Fivela and Iraci 2017), whereas varieties spoken across major dialectological boundaries such as the La Spezia-Rimini line can present a certain degree of homogeneity (Gili Fivela and Nicora 2018). On the whole, a key point of Italian cross-variety studies is that one of the most conspicuous features of diatopic variation of Italian intonation is represented by the ostensible impossibility to identify regional or macro-regional areas based on intonational features. On the other hand, the available studies on neighboring varieties in the Netherlands suggest that intonation might in several cases change smoothly across space, appearing then as more elusive feature compared to other phonetic traits.

Besides the possibility (Peters et al. 2014, 2015; Hanssen 2017) or impossibility (Savino 2012; Gili Fivela et al. 2015) of areal varietal grouping, such studies offer valuable insights as to how cross-variety prosodic variation and transition can be accounted for, even at the intraregional level. Indeed, inter-variety variability has been proved to be found along a number of dimensions of variation. Accordingly, the exploration of Campania Italian varieties is carried out by taking different variation dimensions into account. Specifically, in addition to the dimensions identified by Ladd (2008) and proved to apply to a large number of Romance and non-Romance language varieties, including Italian, namely *systemic*, *realizational*, *phonotactic* and *semantic*, the frequency of occurrence and the distribution of tonal events according to different speech types and across the relevant varieties will be explored in order to account for variants (intra-variety variation), frequency and distribution (inter-variety variation) to describe neighboring intonational systems (Hanssen 2017; Gili Fivela & Nicora 2018).

CHAPTER 3

INTONATION IN CAMPANIA ITALIAN

The present chapter is dedicated to the description of the variety of Italian spoken in the upper area of Cilento. It provides the intonational phonology of Cilento Italian as an original variety based on a production experiment.

The exploration of this variety of spoken Italian has the overarching aim of deepening the knowledge of Italian intonational systems by describing a novel variety. Furthermore, it allows to enlarge the coverage of locales to characterize Italian spoken in Campania from the intonational point of view, hence contributing to the research on intonation in neighboring varieties of regional standard Italian. The specific purposes of the chapter within the thesis are to investigate the intra-regional variation across closely related varieties and to explore the intonational transition across them by comparing Cilento Italian with already studied varieties of Italian spoken in Campania.

Previous studies on Campania Italian have dealt with varieties belonging to the same dialectal area, namely Neapolitan and Salerno Italian both having “proper Campanian dialects” as substratum (Avolio 2000). The study of Cilento Italian adds a further point in the Campanian area allowing to explore the intonational features of Italian varieties contiguous to each other, but having a different dialectal type as substrate, i.e. Lucanian dialects. The area encompassing these three Campania varieties is therefore likely to show characteristics of a transitional area along the lines of Hanssen (2017) and Gili Fivela & Nicora (2018). Specifically, the chapter explores the following hypotheses:

1. that a geographical cline (Hanssen 2017), i.e. a smooth transition comparable to the one observed in Italian varieties spoken in Liguria and Tuscany (Gili Fivela & Nicora 2018), can also be observed zooming in on a smaller area, examining therefore a geographically limited area with regard to Gili Fivela and Nicora (2018, on Liguria and Tuscany) as well as Gili Fivela and Iraci (2017, on Palermo, Lecce,

Cosenza). The cross-variety investigation has the goal of verifying whether the intra-regional transition across Italian varieties spoken in Campania mirrors the dialectal transition from Campanian to Lucanian dialects. Given the status of “weak border” of the Eboli-Lucera line (Avolio 1989), a gradual transition rather than a clear-cut separation between the varieties is expected. Specifically, it would be plausible to find a gradual shift, similar to that observed by Gili Fivela and Nicora (2018), from the northernmost variety, i.e. Neapolitan, going south, i.e. towards Salerno and then Cilento Italian.

2. that Campania Italian varieties, although to a different extent, diverge along all four Ladd’s (2008) dimensions, namely *systemic*, *realizational*, *phonotactic*, *semantic*, but also in the frequency of occurrence and distribution of tonal events. Indeed, following Gili Fivela & Nicora (2018), the same intonational features are possibly differentiated by frequency and distribution across space.

The chapter is articulated as follows. In § 3.1 previous studies on the Campania Italian varieties spoken in Naples and Salerno are reported, with a focus on the prosodic types that are then analyzed for Cilento Italian (§ 3.1.1). In § 3.2 the methodology is reported, providing details of data collection procedure, speakers’ recruitment criteria and the analysis used for the intonational analysis of Cilento Italian spoken data. Results are shown in § 3.3 and § 3.4. Specifically, first the intonational phonology of Cilento Italian based on the analysis of a series of prosodic types is reported. The second part of the results is devoted to cross-varietal comparison in order to explore the spatial variation of question intonation across Campania Italian varieties. Discussion is reported in § 3.5.

3.1. Previous studies on Campania Italian

Neapolitan Italian is certainly one of the most investigated varieties of spoken Italian. It has been the object of study from early research on spontaneous speech (Caputo 1996, 1997) to a series of production and perception works (D’Imperio 1997, 1999, 2000, 2001, 2002, 2003; D’Imperio & House 1997; Brunetti, D’Imperio & Cangemi 2010; D’Imperio & Cangemi 2011; Cangemi 2014). Neapolitan Italian has also been investigated in a number of works relying on dialogic speech (Giordano & Savy 2003; Crocco 2006; Giordano & Crocco 2005; Alfano 2019) and included in cross-variety studies (Grice et al. 2005; Savino 2012; Crocco 2013; Gili Fivela et al. 2015).

On the other hand, Italian spoken in Salerno has only recently received scholarly attention. First studies carried out within the Foreign Language Learning framework report some intonational features of this variety from a phonetic perspective (Savy & Luque Moya 2015; Orrico et al. 2016; Cataldo, Orrico & Savy 2017). In these studies, Salerno Italian data were collected to serve as reference model to cross-linguistically evaluate productions of Italian-speaking learners of a foreign language²⁷ within a line of research that aimed at monitoring how prosodic competence and metaprosodic skills develop in the learning process of a foreign language.

A first phonological account derives from the *Interactive Atlas of Romance intonation* (IARI) project (Frota & Prieto 2015) since Salerno Italian was included in the survey of 13 varieties of the Italian section (Gili Fivela et al. 2015). The knowledge on this varieties has been extended by production and perception studies by Orrico and colleagues (Orrico, Savy & D’Imperio 2019a, 2019b; Orrico 2020; Orrico, Cataldo & D’Imperio 2020) which account for detail phonological description, quantitative analyses and variability driven by a number of sources, e.g. cognitive variables.

Although none of the abovementioned studies had the specific goal of evaluating cross-variety variation, some considerations on the relationship between the intonational systems of Neapolitan and Salerno Italian can be made. Indeed, despite both varieties have Campanian dialect as substratum, a number of intonational traits can possibly distinguish the two (Orrico 2020). Accordingly, in § 3.1.1 previous descriptions of the sentence types relevant to the present work are reported, to highlight phonetic and phonological commonalities and differences between Neapolitan and Salerno Italian, to be taken into account for the subsequent description of Cilento Italian (§ 3.3) and inter-variety investigation across Campania varieties (§ 3.4).

3.1.1. Prosodic types in Neapolitan and Salerno Italian

Broad and narrow focus statements

Broad focus and narrow focus statements have been largely investigated in Neapolitan Italian and have been reported to be primarily differentiated on the basis of the nuclear pitch accent. Broad focus statements present a falling pitch accent (analyzed as H+L*) and

²⁷ Learners of Spanish (Savy & Luque Moya 2015), learners of English (Orrico et al. 2016), learners of Spanish and English (Cataldo, Orrico & Savy 2017).

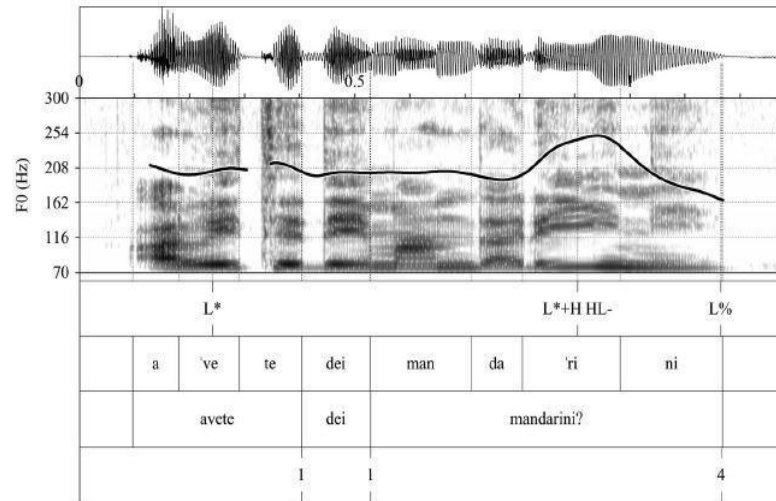
low boundary tones as generally reported for Italian varieties. On the other hand, narrow focus statements have acoustically more salient nuclear pitch accents showing a high target that seems associated to the metrical prominence. For the description of the accent of narrow focus statements both HL and LH sequences could apply²⁸. The initial analysis H*+L, that was motivated by the fact that the fall was perceptually considered the principal cue for identifying narrow focus statements by Neapolitan Italian native participants (D'Imperio & House 1997), was then modified after having tested its phonetic and acoustic properties. The LH sequence of statements shows an early alignment of the H target with regard to the same LH sequence employed for polar questions, which is however characterized by a later H alignment. The different timing allows for the identification of two pitch accent types, with narrow focus statement accent ultimately analyzed as L+H*, and polar question accent as L*+H (D'Imperio 1999). It is worth noting that this results to be an intra-varietal choice for distinguishing the two rising accents, since the rise is, on a perceptual basis, the most important cue for questions, whereas the fall is for statement; however, the HL sequence analyzed as H*+L for narrow (and contrastive) focus statements is employed for other varieties, e.g. Bari and Palermo Italian (Grice et al. 2005). In a similar fashion, and for the phonological contrast with L*+H pitch accent detected in polar questions, broad and narrow focus statements in Salerno Italian have been analyzed as falls, i.e. H+L* L-L%, and rise-falls, i.e. L+H* HL-L%, respectively (Orrico 2020).

Polar questions

Yes-no questions in Neapolitan Italian have been proved to have their most salient cue in the rise within the stressed syllable, namely in the LH sequence (D'Imperio 1995, 1997; D'Imperio & House 1997). The whole tune shows a rising-falling pattern with a rising pitch accent on the nuclear syllable, analyzed as L*+H, followed by a HL- phrase accent (D'Imperio 2002) and commonly by a low boundary tone (L%; Grice et al. 2005). Actually, despite the typical late peak alignment of L*+H accent, the exact timing of the peak can be affected by syllable structure, e.g. later in closed syllable than in open syllables (D'Imperio 2000), also due to other processes of resyllabification, e.g. *raddoppiamento fonosintattico* (Petrone 2005). This tune (L*+H HL-L%), shown in Figure 3.1, is attested also in studies relying on dialogic data, i.e. task-oriented dialogues (Crocco 2006; Savino 2012; Alfano 2019).

²⁸ The analysis of bitonal accents with a H* target is notoriously a thorny issue, as for the LHL sequence both an onramp and an offramp analysis are possible (Ladd & Sheppmann 2003; Gussenhoven 2004).

Figure 3.1: Information-seeking yes-no question *Avete dei mandarini?* ‘Do you have tangerines?’ uttered by a Neapolitan Italian speaker (Gili Fivela et al. 2015:172).

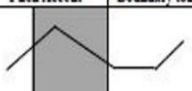
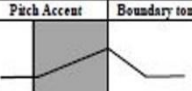
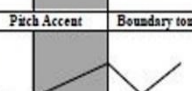


Quantitatively, in Savino (2012) this rise-fall is registered in 89% of cases; the remaining productions are realized with a rise-fall-rise tune differing in the edge tones, i.e. selecting a rising boundary tone (L-H%). Indeed, “the accentual rise is prototypically followed by a low boundary and occasionally followed by an extra final rise” (Savino 2012:41). Rising boundary tones are also documented in other studies. Cangemi & Grice (2016) on a read speech corpus of Neapolitan Italian investigated yes-no questions with different focus conditions (on the subject, the verb, the object) in SVArgument utterances and found occurrences of final rises. A 16% of final rises in Neapolitan Italian yes-no questions were found in Spot-the-difference dialogues by Alfano (2019). To the best of our knowledge, no information on tune-meaning (i.e. pragmatic sub-conditions) association in Neapolitan polar questions is available.

Conversely, Salerno Italian appears to be more strongly affected by intra-variety variability for this sentence type. Indeed, four possible tunes are attested and reported in Figure 3.2 (Gili Fivela et al. 2015; Orrico 2020): two rise-falls (L+H* HL-L% and L*+H HL-L%)

and two rise-fall-rises ($L+H^*$ HL-H% and L^*+H HL-H% tunes)²⁹. The four tunes exhibit the combinations of two types of pitch accent with either low or high boundary tones. Although both nuclear accents are rising accents, the difference between the two deals with the temporal alignment of the high target to the stressed syllable: $L+H^*$ is an early peaked pitch accent and the same employed in narrow focus statements, while L^*+H is aligned later, namely the L target is aligned with the onset of the stressed vowel and the H target with its offset.

Figure 3.2: Nuclear tunes of information-seeking yes-no questions in Salerno Italian (adapted from Orrico 2020:150).

Tune	f0 realization	
	Pitch Accent	Boundary tone
$L+H^*$ HL-L%		
$L+H^*$ HL-H%		
L^*+H HL-L%		
L^*+H HL-H%		

As regards the frequency of occurrence of these yes-no tunes, Orrico (2020) highlights the presence of many-to-many relationships between tunes and meanings. Focusing on information-seeking yes-no questions, $L+H^*$ HL-H% results to be the most employed tune (more than 60% of occurrences), followed by L^*+H HL-L% and L^*+H HL-H% (the tunes with the late peak, both in less than 20% of cases) and $L+H^*$ HL-L% which is the least frequent (less than 10%). A similar picture was also confirmed in other studies, i.e. Orrico, Cataldo & D'Imperio (2020), for which a different dataset of read SI speech was used³⁰. As regards other pragmatic sub-functions of polar questions, namely confirmation-seeking, counter-expectational and echo, Orrico (2020) confirms for Salerno Italian the many-to-

²⁹ Phonetic-based studies describe information-seeking yes-no questions in Salerno Italian as realized with a rising pitch accent (LH) and a high boundary tone (Savy & Luque Moya 2015; Orrico et al. 2016).

³⁰ $L+H^*$ HL-H% (43,5%), L^*+H HL-L% (33,9%), $L+H^*$ HL-L% (14,1%), L^*+H HL-H% (8,5%).

many relationship between tune and meaning attested for other Italian varieties (Gili Fivela et al. 2015). The four sub-functions can be expressed by means of all the four tunes. Only some tendencies can be observed: L+H* HL-L% is more frequently used for counter-expectational questions, while L+H* HL-H% is the most common tune for the other functions, including information-seeking. Looking at the specific contribution of tonal events, L+H* pitch accent is largely employed in all the functions, while boundaries show a meaning-related distribution: H% is preferred for information- and confirmation-seeking questions, while L% for counter-expectational questions. Instead, the employment of specific tunes and tonal events, including boundary tones, are shown to be similarly used across speech types, namely read and spontaneous speech (Orrico 2020).

Partial questions

Partial question intonation is assumed to be less heterogeneous compared with that of polar questions. Actually, a low inter-variety variation particularly concerns pragmatic functions other than information-seeking, i.e. incredulous and counter-expectational questions. Gili Fivela and colleagues (2015) report that the most common pitch accent type is H+L* (the same of statement intonation), which can be followed by either low or high edge tones. Such pitch accent is indeed employed in both Campania Italian varieties.

In particular, for Neapolitan Italian a single tune is reported regardless of the pragmatic meaning: a fall composed by the H+L* pitch accent combined with low terminal (L-L%) as in broad focus statements. Alfano (2019:88) confirms the great majority of frequency of this tune in dialogic speech, though finding 25% of cases with a rising terminal.

Salerno Italian shows once again more variability. Specifically, four tunes are documented for wh-questions (Gili Fivela et al. 2015; Orrico 2020; Orrico, Cataldo & D'Imperio 2020) shown in Figure 3.3: the falling tune also attested for Neapolitan Italian and similar to broad focus statements (H+L* L-L%); a falling-rising tune which combine the falling pitch accent with high boundary (H+L* L-H%); a rising tune which combines a rising accent (the late-peaked rising accent already found in yes-no questions) with high terminals, analyzed as L*+H H-H%. In Gili Fivela et al. (2015) this latter tune was considered under-represented in the corpus because it sounded more read speech-like. Actually, in Orrico and colleagues (2020) it is little frequent together with the falling-rising one, while the falling tune (H+L* L-L%) is the most frequent, accounting for 60% of the total

realizations³¹. Conversely, in Orrico (2020) the three wh-tunes appeared to be equally represented in information-seeking wh-questions (they are around 30% of productions each). Actually, a fourth tune, i.e. L*+H HL-L% rising-falling tune, has been attested, though in a much lower percentage of cases (Orrico 2020).

Figure 3.3: Nuclear tunes of information-seeking wh-questions in Salerno Italian (adapted from Orrico 2020:150).

Tune	f0 realization	
	Pitch Accent	Boundary tone
H+L* L-L%		
H+L* L-H%		
L*+H HL-L%		
L*+H H-H%		

As far as counter-expectational and echo wh-questions are concerned, they show lower degree of tune variability, with the former selecting a L*+H pitch accent with either high or boundary tone, and the latter showing L*+H followed by a HL- phrase accent with high or low boundary tone (L*+H HL-H% or L*+H HL-L%; Orrico 2020).

Alternative questions

Alternative questions are syntactically and prosodically composed by two main portions; the first one involves all the elements of the choice/alternative preceding the last one, accordingly considered “non-final” items. Each of them has its own pitch accent followed by a phrase accent. On the other hand, the second part of the alternative, namely the last item, corresponds to the nuclear configuration of the utterance.

This question type is less explored with respect to others such as polar and partial questions. Indeed, even if in the corpus used by Gili Fivela and colleagues there were contexts for disjunctive questions, their realization is not deepened or exemplified in the

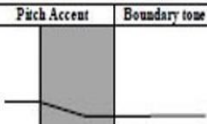
³¹ H+L* L% (60%), H+L* H% (23,3%), L*+H H% (16,7%).

chapter. It appears that they are realized in a very similar way in the varieties under analysis, showing strong homogeneity, i.e. employing L+H* pitch accent for non-final items, H+L* pitch accent for final item followed by low or high terminals.

As for Neapolitan Italian, no specific description is available from IARI data. Alfano (2019) reports a pattern which seems to match the general description provided for other varieties in Gili Fivela et al. (2015), in that she found in disjunctive structures with two items of the alternative that the first (hence non-final item) has a rising-falling configuration (corresponding to a rising pitch accent followed by a falling phrase accent), while the final one has a falling profile ending with a low termination (corresponding to a H+L* L-L% nuclear configuration).

A more detailed account for Salerno Italian disjunctive questions is provided in Orrico (2020). All non-final items show a rising accent (L*+H); the last one of them, thus in pre-final position, is characterized by a wider pitch span within the pitch accent (in particular, of the H target). All the non-final elements are followed by a falling phrase accent (HL-). As regard the nuclear region of alternative questions, this is realized with the three tunes attested for wh-questions (H+L* L-L%, H+L* L-H%, or L*+H H-H%) as shown in Figure 3.4.

Figure 3.4: Nuclear tunes of alternative questions in Salerno Italian (adapted from Orrico 2020:150).

Tune	f0 realization	
	Pitch Accent	Boundary tone
H+L* L-L%		
H+L* L-H%		
L*+H H-H%		

The first two tunes are more frequent than the last one (hence, there is a preference for the falling pitch accent followed by either a low or high boundary tone; this situation mirrors what has been observed for the frequency of wh- tunes in Orrico et al. 2020).

3.2 Methods

3.2.1 Data collection

The analysis of Cilento Italian intonational phonology was carried out by relying on a commonly inter-linguistically employed methodology to elicit intonational contours with specific pragmatic values, which was adopted for the data collection of the Interactive Atlas of Romance Intonation (IARI, Frota and Prieto 2015), i.e. the Discourse Completion Task (DCT; Blum-Kulka et al. 1989; Billmyer & Varghese 2000; Félix-Brasdefer 2010). DTC is an inductive method of data elicitation often employed in pragmatic and sociolinguistic studies, which requires the speaker to orally respond to a situation presented by the experimenter. The use of this technique allows for the collection of a range of pragmatically and syntactically diverse tunes, controlling the situational context and the specific pragmatic meanings desired. Along the lines of Gili Fivela et al. (2015), in the present study DCT data were complemented with a Reading Task: in this case the desired utterance was proposed to the speaker in written form. This methodology of data collection has the goal of providing a qualitative overview of a number of intonational types in different varieties. The DCT used for the present research is the same as the one used for the collection of the Italian data for IARI. It includes a set of 31 discourse contexts intended to elicit different sentence types, such as statements, questions, commands, requests, vocatives, in different types of speech, namely semi-spontaneous and read speech.

Due to the COVID-19 pandemic, Cilento Italian data were remotely collected via Zencastr (<https://zencastr.com/>), a commercial software allowing recording of a suitable quality for intonational analysis (.wav, 44100 Hz, 16 bit; cf. Magistro 2021) The whole phase of data collection was carried out under the supervision of the author (in case of difficulties in understanding the contexts or in the production). Zencastr allows to create “episodes”, personal online meetings working as online recording sessions, in which the experimenter and the participant(s) can meet. Each speaker was invited to his/her personal episode. Once there, he/she was given all the information and instructions for the recording (wear headphones with a microphone, silent their phones, stay in a quiet room) and received the ppt presentation with the task to be open on his/her personal computer. After having checked the material and audio quality, it started the recording. Informants were first presented with a situational context they had to silently read and to which they had to react

producing a spontaneous utterance fitting the situation, then the target sentence proposed by the experimenter appeared on the bottom of the slide on their screen to be read aloud as spontaneously as possible. By doing so, a spontaneous as well as a read repetition for each context were collected. In Figure 3.5 an example of ppt slide with context and target sentence is provided.

Figure 3.5: Example of situational context and target sentence in the ppt presentation for DCT data collection.



The dataset analyzed for the intonational phonology of Cilento Italian includes different sentence types. Each speaker performed the DCT twice. The final dataset consists of two spontaneous and two read renditions for each sentence type.

- Statements
 - Broad focus statements (4 item * 2 repetition * 2 task * 6 speakers)
 - Narrow focus statements (3 items * 2 repetition * 2 task * 6 speakers)
 - Declarative lists (2 items * 2 repetition * 2 task * 6 speakers)
- Yes-no questions
 - Information-seeking (5 items * 2 repetition * 2 task * 6 speakers)
 - Confirmation-seeking (2 items * 2 repetition * 2 task * 6 speakers)
 - Counter-expectational (1 item * 2 repetition * 2 task * 6 speakers)
 - Unheard echo (1 item * 2 repetition * 2 task * 6 speakers)
- Wh-questions

- Information-seeking (5 items * 2 repetition * 2 task * 6 speakers)
- Counter-expectational (1 item * 2 repetition * 2 task * 6 speakers)
- Unheard echo (1 item * 2 repetition * 2 task * 6 speakers)
- Alternative questions (4 items * 2 repetition * 2 task * 6 speakers)³².

3.2.2 Speakers

Just like the recording procedure, for the present production experiment speaker selection followed the same criteria of Gili Fivela et al. (2015). In the IARI chapter for each Italian variety five speakers were selected, balanced according to the gender (two male and three female speakers or three male and two female speakers), all aged between 20 and 35 years, who had experienced continuous exposure to the related variety of Italian, hence used for everyday conversation. All speakers had a similar educational level, which varied from high school to university degree.

As concerns Cilento Italian speakers, six speakers were selected, balanced across male and female, who all were 18-20 years old. Speakers were all born and raised in the selected locales of Perito and Ostigliano and never lived abroad or in other Italian cities. A choice different from Gili Fivela et al. (2015) for speakers' educational level was made, in that only non-university students for this experiment were selected. The choice is motivated by the fact that there are no university in Cilento, therefore school graduates need to move to access higher education. Accordingly, recruited Cilento Italian speakers were all just graduated in order to prevent the possibility that they have left their town and gone to larger cities to attend university. Moreover, the main and closest possibilities are precisely Naples and Salerno. This choice aimed at avoiding possible phenomena of transfer or linguistic convergence/adaptation towards other systems they could be exposed to, i.e. Neapolitan or Salerno intonational systems or other Italian varieties, possibly triggered by issues such as perceived linguistic prestige.

³² For alternative questions different pragmatic functions can be identified as well. Specifically, two items are information-seeking questions, one item is an echo question, and one item is an interrogative list. However, it is always possible to identify two main prosodic and syntactic blocks corresponding to (a series of) non-final item(s) on the one hand, and the final item realized in the nuclear region on the other hand. Since the realization of alternative questions seems not to appreciably vary across Italian varieties according to different (sub)functions (Gili Fivela et al. 2015), no further pragmatic classification is presented in the analysis of this question type in § 3.3 and § 3.4.

All participants signed their consent and filled out a sociolinguistic questionnaire before the recording session and were paid 10€ for the participation.

3.2.3 Analysis

The intonational phonology of Cilento Italian (§ 3.3) was couched within the framework of the AM theory (Pierrehumbert 1980; Ladd 2008) using a ToBI-like system of annotation as in previous studies on Italian varieties. Intonational analysis is based on a phonetic and phonological analysis of the tunes, by combining an acoustic-based analysis of the prosodic patterns with an AM analysis of the tunes and the tonal events of pitch accents and boundary tones. Tunes' phonological and main phonetic characteristics as well as their identification on the basis of their pragmatic function were carried out along the lines of previous studies by Gili Fivela and colleagues (2015; Gili Fivela & Iraci 2017; Gili Fivela & Nicora 2018) and Orrico and colleagues (Orrico, Savy & D'Imperio 2019a; Orrico, Cataldo & D'Imperio 2020; Orrico 2020). In particular, the transcription of tonal events in Cilento Italian followed the guidelines for annotating “new” varieties suggested in Gili Fivela et al. (2015), to avoid varietal-specific choices in order to maximize cross-varietal consistency in the annotation and increase cross-variety comparability.

The data gathered through prosodic analysis were also analyzed quantitatively in order to provide a fine-grained representation of intonational variation based on the combination of intonational features, and their frequency of occurrence and distribution across speech types, namely read and spontaneous speech.

The inter-variety comparison (§ 3.4) provides a systematic comparison of question intonation in Campania Italian varieties. The comparison is based on data from Neapolitan and Salerno Italian originally collected for IARI (Gili Fivela et al. 2015) and DCT data collected for Cilento Italian³³, hence employing a methodology allowing for direct comparison across varieties. The comparison deals with question intonation because question types are likely to present the highest degree of inter- and intra-variety variability and, therefore, to show differences along various variation dimensions.

Question tunes employed in Cilento Italian productions are compared with tunes previously attested for Neapolitan and Salerno Italian. The analysis of Salerno presented in

³³ The only difference between the datasets lies in the criteria of speakers' selection, namely in speakers' educational level, since speakers recorded for Naples and Salerno are university students (Gili Fivela et al. 2015), while Cilento Italian speakers have high school education.

the following pages is based on Gili Fivela et al. (2015) and Orrico (2020) and includes the results of the in-depth investigations on the tunes and their frequency of occurrence provided by Orrico and colleagues (Orrico, Savy & D’Imperio 2019a; Orrico, Cataldo & D’Imperio 2020; Orrico 2020). As for Naples, the available literature provides detailed phonetic and phonological analysis of several tunes (D’Imperio 2001, 2002; Crocco 2006; D’Imperio & Cangemi 2011; Cangemi 2014; Gili Fivela et al. 2015); however, the data concerning the occurrence of specific tunes in the IARI corpus result from first-hand analysis carried out by the author of the present study. Since prosodic features can be affected by speech style (a.o. Savino 2012), we look at the occurrence of tonal events, i.e., pitch accents and boundary tones, across varieties and types of speech (read and semi-spontaneous).

To investigate and compare question intonation across Campania varieties, three question types were selected and reported below.

- Information-seeking yes-no questions (5 items)

1. *Avete dei mandarini?*
‘Do you have tangerines?’
2. *Avete delle mandorle?*
‘Do you have almonds?’
3. *È tornata Barbara?*
‘Is Barbara back?’
4. *Loredana l’ha trovato Davide?*
‘Has Loredana found Davide?’
5. *È andata a vivere da Davide Loredana?*
‘Has Loredana moved with Davide?’

- Information-seeking wh-questions (5 items)

1. *Che ora è?*
‘What time is it?’
2. *Che cosa le regalerebbero?*
‘What would they gift her?’
3. *Chi le vendeva?*
‘Who sold them?’
4. *Dov’è la drogheria?*
‘Where is the grocery shop?’

5. *E se vivessero in Ghana cosa le regalerebbero?*
'If they lived in Ghana, what would they gift her?'
- Alternative questions (4 items)
 1. *Vuoi il gelato alla vaniglia o alla banana?*
'Do you want vanilla or banana ice cream?'
 2. *Vuoi il gelato alla vaniglia o preferisci il latte di mandorle?*
'Do you want vanilla ice cream or do you prefer almond milk?'
 3. *Mi hai chiesto in che modo arriveremo o in che modo ritorneremo?*
'Did you asked how do we go or how do we come back?'
 4. *Qui ci sono vari gusti. Vuoi fragola, anguria, mandarino, banana, mandorla, amarena o limone?*
'Here there are a lot of flavors. Do you want strawberry, watermelon, tangerine, banana, almond, black cherry or lemon?'

Each speaker performed two renditions of DCT and reading task. The final dataset consists of 896 items: 56 productions (14 question items * 2 tasks * 2 renditions) per each speaker (6 of Neapolitan, 4 of Salerno, 6 of Cilento Italian).

3.3 Intonational phonology of Cilento Italian

3.3.1 Statements

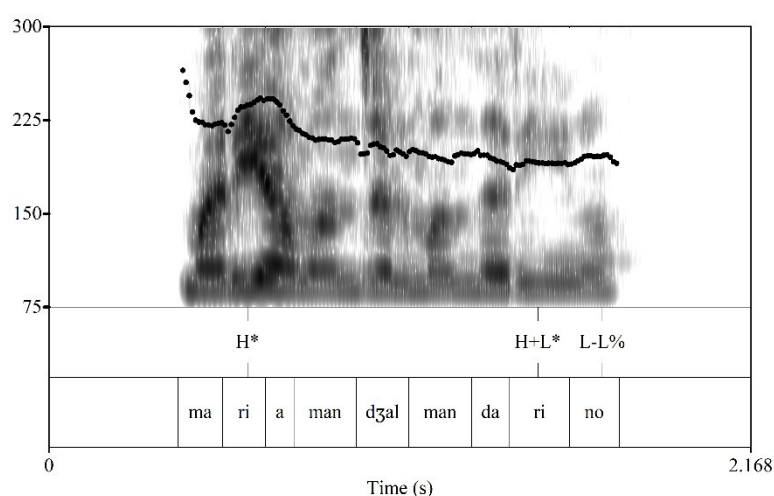
Broad focus statements

As reported for most Italian varieties, also in Cilento Italian broad focus statements are realized with a falling tune, analyzed as H+L* L-L%. The movement within the pitch accent is a moderate fall, followed by a low boundary tone (Figure 3.6). However, the realization of the pitch accent may differ according to the scaling of the H+ (Gili Fivela et al. 2015); in Cilento data most often it is a modest fall within a gradually falling stretch (90% of cases), whereas in the remaining cases a fall from a preceding high target or high plateau has been found (9% of cases).

Figure 3.6 shows the occurrence of a prenuclear accent, that is Cilento Italian data was found to have different phonetic realizations, mirroring the situation attested for Salerno Italian. According to Orrico (2020:117), prenuclear accents are analyzed as H* and can be phonetically realized as a rising movement from a low pre-tonic region and a late peak

aligned with the right edge of the stressed vowel or even beyond (in the post-stressed syllable). However, both realizations were considered as phonetic variants of the same accent in Salerno Italian (Orrico 2020) as well as in Neapolitan Italian (Brunetti, D’Imperio & Cangemi 2010). On this basis, since Cilento Italian prenuclear accents include both variants, and for the sake of inter-variety annotation consistency, H* was chosen for prenuclear accents in Cilento Italian as well.

Figure 3.6: F_0 contour for broad focus statement *Maria mangia il mandarino*³⁴ ‘Maria eats the tangerine’ uttered with a H+L* L-L% tune.



It is worth mentioning that the choice for Salerno Italian was due to variety-internal motivations, namely, to contrastively distinguish three rising accents, i.e. prenuclear (H*), narrow focus statements (L+H*; see below) and contrastive topics. Specifically, contrastive topics in sentence-initial position in Salerno Italian broad focus statements bear a pitch accent that involves a rise from the beginning of the stressed vowel with the peak on the post-stressed syllable and analyzed as L*H. In Cilento Italian data the same sentence type (*Milena lo vuole amaro* ‘Milena takes it [the coffee] black’) shows a realization of the contrastive topic as a regular topic (Figure 3.7). Indeed, it is realized by means of one of the phonetic variants identified for the H* prenuclear pitch accent, i.e. as a rise starting from the pretonic region and the peak reached within the stressed syllable (at its right edge), making it fairly comparable to Neapolitan Italian realization of contrastive topics (Brunetti, D’Imperio & Cangemi 2010). However, DCT data only include one item

³⁴ Uppercase letters indicate the stressed syllable.

of this sentence type. The possible inter-variety difference between these realizations is deepened in Chapter 4.

As far as the phonetic realization of broad focus statements is concerned, considerations on both pitch accents and boundary tones need to be made.

As for pitch accents, some instances of H+L* pitch accent appeared to be preceded by an f_0 peak; this pitch movement was detected in 19% of broad focus statements. In particular, it occurs on the first syllable of the word carrying the nuclear accent; in proparoxytone quadrisyllables in nuclear position (Figure 3.8), such as *mandarino* ‘tangerine’, the anticipation occurs more frequently (28% of cases).

Figure 3.7: F_0 contour for broad focus statement with contrastive topic in initial position Milena lo prende aMAro ‘Milena takes it black’.

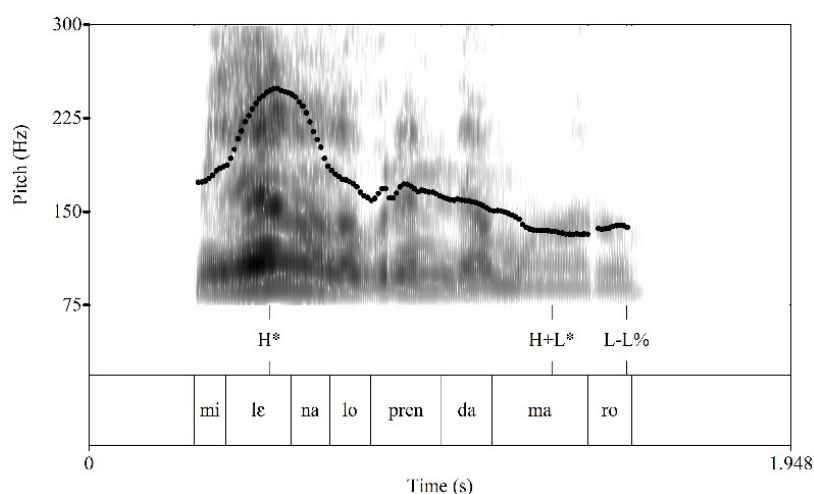
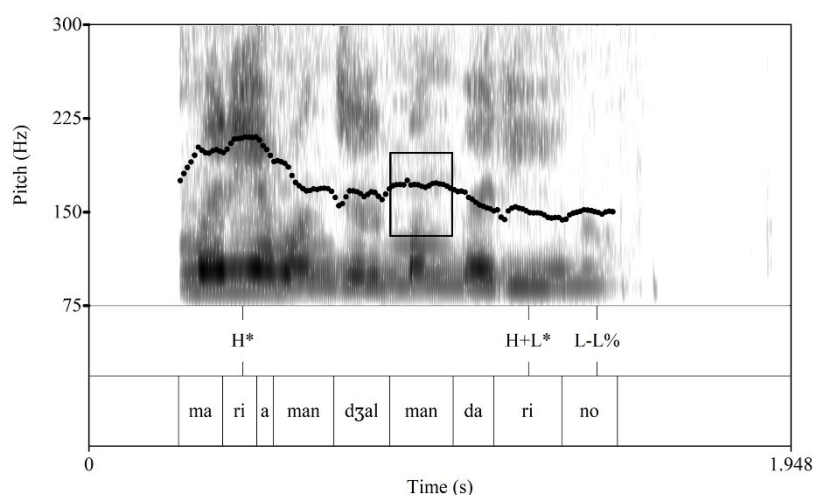


Figure 3.8: F_0 contour for broad focus statement showing an early f_0 peak Maria mangia il mandaRIno ‘Maria eats the tangerine’.

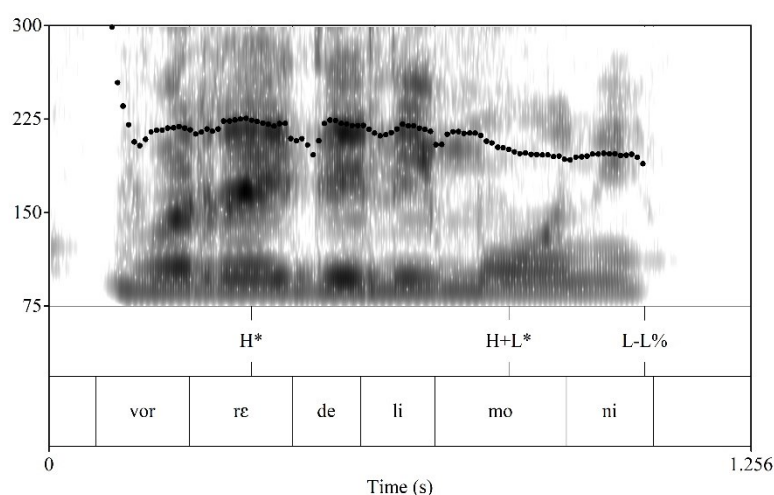


As for boundaries, creaky voice is often used as a somewhat unspecified variant of boundary tone. A similar feature was recently observed in Crocco, Gili Fivela & D’Imperio (*forthcoming*) in Neapolitan dialect productions. Accordingly, it might be considered as trait of dialectal substratum emerging in Cilento Italian variety.

Narrow focus statements

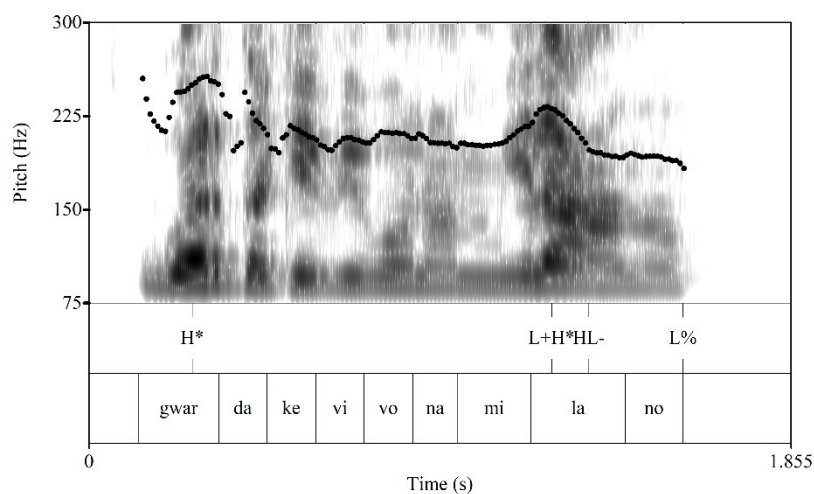
As regards narrow focus statements, Cilento Italian has two possible tunes as already observed by Gili Fivela and colleagues (2015) for other Campania varieties. The first tune option is a falling tune (H+L* L-L%) similar to the gradually falling pattern employed in broad focus statements (shown in Figure 3.9) and employed in a slight majority of cases (55%).

Figure 3.9: F₀ contour for narrow focus statement Vorrei dei liMOni ‘I wanted lemons’ uttered with a H+L L-L% tune.*



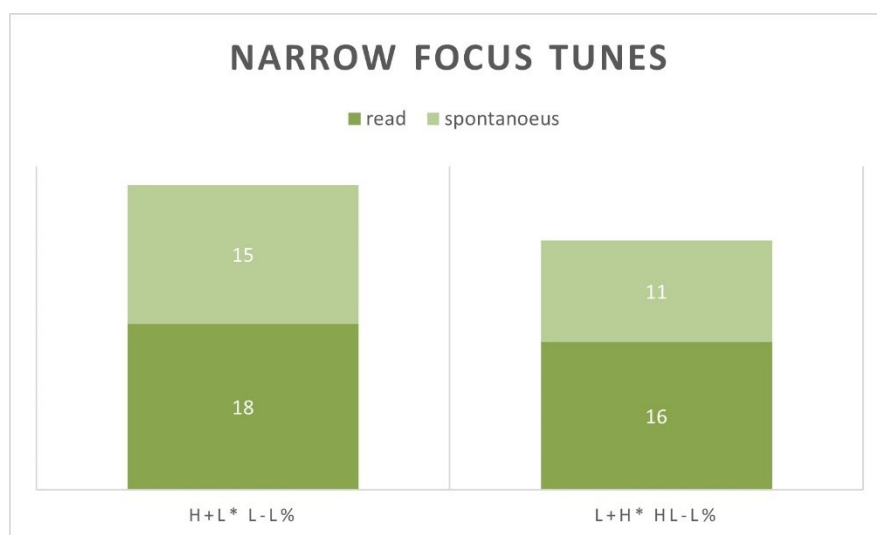
Secondly, a rising-falling tune composed of a rising pitch accent with the peak reached in the first half of the stressed syllable followed by a falling phrase accent and a low boundary tone, analyzed as L+H* HL-L% (45% of cases) and shown in Figure 3.10. This last realization matches the description of narrow-contrastive statements for both Neapolitan (D’Imperio 2001) and Salerno (Orrico 2020) Italian. The falling tune has been suggested to convey a less marked contradiction with regard to the rise-fall (Gili Fivela et al. 2015).

Figure 3.10: *F contours for narrow focus statements* Guarda che vivono a MiLAno ‘Actually they live in Milan’ uttered with a *L+H* HL-L%* tune.



Interestingly, the choice of the tune does not seem to be affected by speech style (as in other Romance varieties, cf. among others, Face 2003), as a slight majority of the falling realization is observed in both spontaneous (58%) and read (53%) renditions (Figure 3.11).

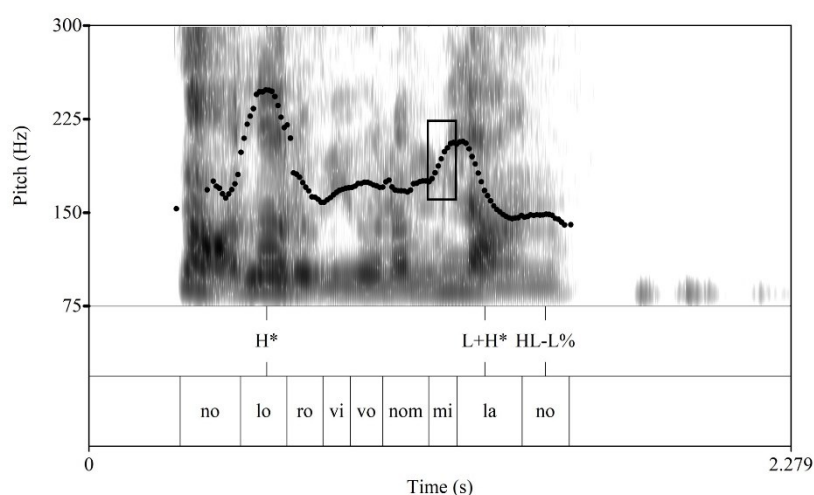
Figure 3.11: Occurrences of narrow focus statement tunes according to speech type.



Even in narrow focus statements an anticipation of tonal targets can be observed. The accentual movement can occur on the last stressed syllable of the word, as expected, or can present a temporal anticipation, being shifted and realized on the pre-stress stretch. Such an anticipation is found on both H+L* accents and L+H* pitch accent and appears to involve

the high (H) target. When H is shifted, the accent maintains the rising or falling trend it has when the H is not anticipated and, crucially, the anticipation of the H target does not entail a stress shift, nor seems inducing changes in the meaning of the utterance. The anticipation of the peak can be observed in 15% of all narrow-contrastive focus statements. Figure 3.12 shows an instance of such anticipated peak involving the nuclear accent L+H* in a contrastive focus statement. The rise of the L+H* nuclear accent on the word *Milano* ‘Milan’, instead of being realized within the stressed syllable ‘la’ (cf. Figure 3b), is remarkably anticipated and in fact entirely realized in the prestressed syllable ‘mi’³⁵.

Figure 3.12: F_0 contour for narrow focus statement showing an early f_0 peak No, loro vivono a MiLANO ‘No, they live in Milan’.



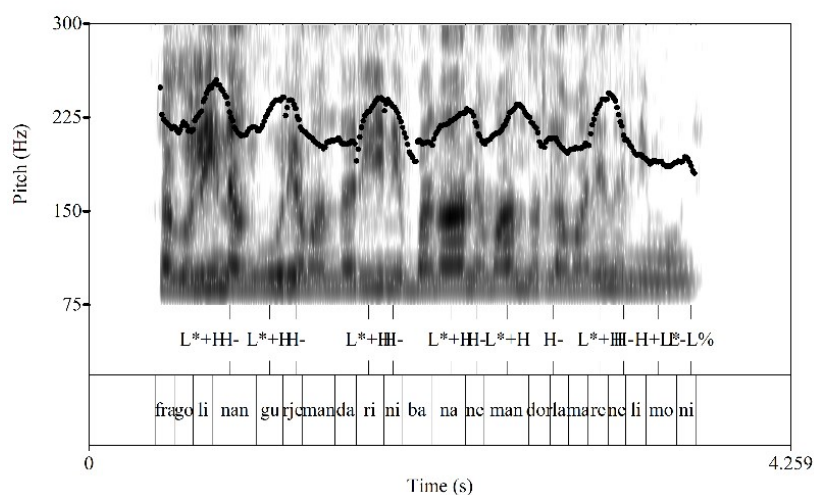
Lists

Declarative lists are reported to be realized quite uniformly in Italian varieties. Cilento Italian data confirm such uniformity (see Figure 3.13), showing a rising pitch accent with late alignment of the peak (L*+H) followed by a high phrase accent (H-) on all non-final items of the list, including the item before the last one (pre-final). Accordingly, each non-

³⁵ As far as this realization is concerned, one may argue that it should be the falling to L* phase rather than the rising from L* to H phase to be relevant to CI speakers, hence considering the option of an off-ramp analysis for the pitch accent found in narrow focus. Actually, L+H* with anticipated peak is a realization that does not systematically occur. Specifically, it is a minority variant occurring in the same contexts of the non-anticipated L+H* pitch accent. Informal checks with a native speaker of the CI variety indicate that this realization is not perceived as marking a meaning distinction compared to the majority variant. Since it appears that CI speakers do not use this information, we decided to treat it as a phonetic phenomenon, rather than as a shift of phonological category. The status of CI anticipated pitch accent peaks is largely discussed in Chapter 5.

final item is included in its own intermediate phrase. As concerns the last item being in nuclear position, it presents the typical nuclear configuration of broad focus statements, hence a falling pitch accent and low boundary tones (H+L* L-L%).

Figure 3.13: F_0 contour for declarative list FragoLIne, anGUrie, mandaRIni, baNAne, MANDorle, amaREne e liMOni ‘Strawberries, watermelons, tangerines, bananas, almonds, black cherries and lemons’.



3.3.2 Yes-no questions

Question intonation, compared with statement intonation, is expected to be much more subjected to intra-variety variability. In particular, polar questions are likely to be realized with the highest degree of variation, followed by partial questions, which generally show more consistency, and alternative questions.

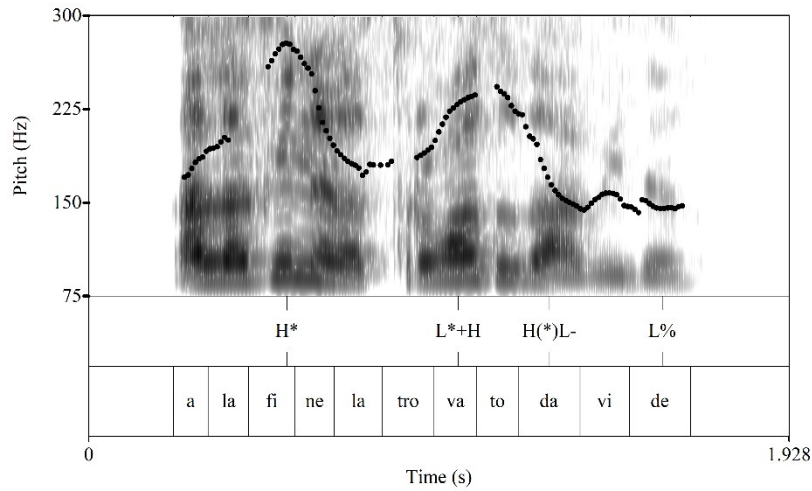
We considered polar questions under four pragmatic conditions.

Information-seeking yes-no questions

Cilento Italian speakers produced three different intonational patterns for information-seeking yes-no questions during the experiment: a rise-fall and two rise-fall-rises. The rising-falling tune is perceptually and visually equivalent to the rising-falling tune of L*+H HL-L% in Neapolitan and Salerno Italian, composed by a rising pitch accent reaching its peak at the end of the stressed syllable and a falling phrase accent and a low boundary tone. Figure 3.14 shows an instance of this tune being realized in an utterance with a long focus constituent; in this case, the rise and the fall are respectively realized on the first and the last edge of the prosodic focus. The analysis involves an early pitch accent (L*+H) on

the first stressed syllable and a H(*)L- phrase accent on the last stressed syllable of multi-word focus constituents, along the lines of D’Imperio (2002).

Figure 3.14: F_0 contour for yes-no question Alla fine l’ha troVAto DAvide? ‘Did she found Davide at the end?’ uttered with a L+H H(*)L-L% tune.*



As for the rising-falling-rising tunes, they correspond to the question tunes L*+H HL-H% and L+H* HL-H% identified by Orrico (2020) for Salerno Italian. Indeed, also in Cilento Italian the two tunes differ according to the alignment of the high accentual target (H): late peaked (L*+H) vs early peaked (L+H*) pitch accent, respectively shown in Figure 3.15 and 3.16. Therefore, the tunes found in Cilento Italian correspond to three out of the four tunes attested for information-seeking questions in the neighboring variety of Salerno³⁶.

The three tunes occur with different frequency in the Cilento sample (Figure 3.17). The rise-fall-rise with the late peaked pitch accent is the most frequent (61%), followed by the variant with the late peak (29%). Notably, the rise-fall tune, which is in common with other (Campania) varieties, is the least frequent in Cilento Italian (10%). The tunes distribution does not vary appreciably across speech styles (read vs spontaneous) and speakers.

³⁶ No instances of the rise-fall tune with early peaked pitch accent (L+H* HL-L%) in information-seeking yes-no questions were found in Cilento data.

Figure 3.15: F_0 contour for yes-no question È torNAta BARbara? 'Is Barbara back?' uttered with a $L+H^*H(^*)L-H\%$ tune.

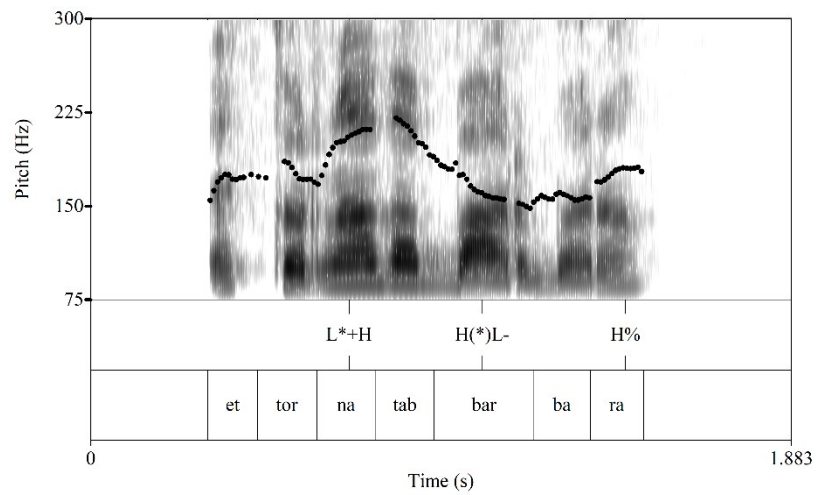


Figure 3.16: F_0 contour for yes-no question Per caso avete mandaRIni? 'Do you have tangerines?' uttered with a $L+H^*HL-H\%$ tune.

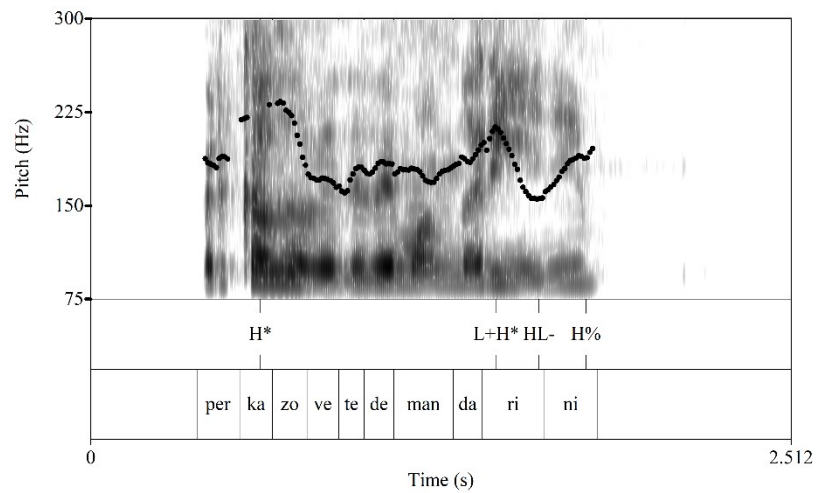
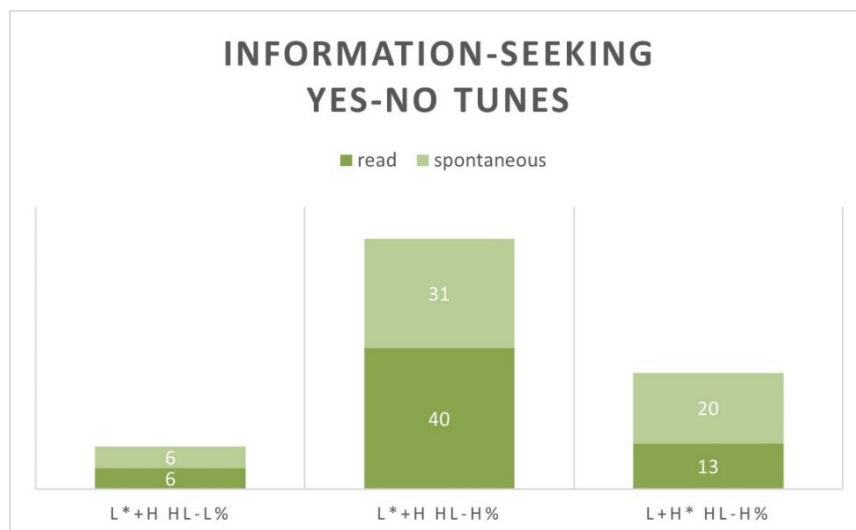
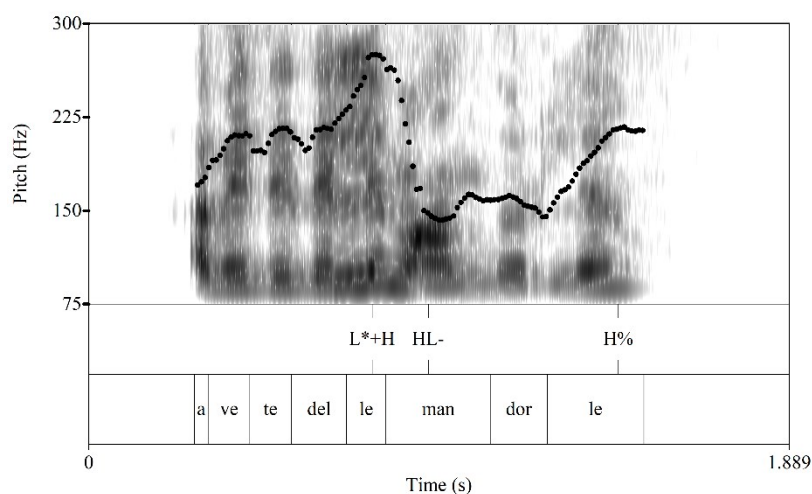


Figure 3.17: Occurrences of information-seeking yes-no question tunes according speech type.



The phonetic analysis of yes-no questions also confirms the temporal anticipation of accentual movement observed in statements. In several instances of L*+H HL- H%, the whole rising movement of the L*+H pitch accent is realized within the prestressed syllable, reaching the H target at its right boundary; accordingly, the HL- phrase accent is anticipated to the stressed syllable (see Figure 3.18). This realization is neither described nor attested for other varieties, hence it appears to represent a peculiar phonetic feature of Cilento Italian.

Figure 3.18: F_0 contour for yes-no question showing an early f_0 peak Avete delle MANDorle? 'Do you have almonds?' uttered with a L+H* HL-H% tune.



Confirmation-seeking yes-no questions

Cilento Italian, as other Italian varieties, e.g. Lucca, Cosenza, Salerno, employs for this pragmatic function a subset of the tunes found in information-seeking questions as well as an extra tune. Indeed, both rise-fall-rise tunes are used (L^*+H HL-H% and $L+H^*$ HL-H%), while the rise-fall (L^*+H HL-L%), already little used for information-seeking questions is not employed at all. The extra tune identified for confirmation-seeking condition is a rise-fall with an early-peaked pitch accent and analyzed as $L+H^*$ HL-L%. Figure 3.19 shows an instance of this tune, actually found in few occurrences. This last tune appears to be phonetically and phonologically the same of contrastive focus statements reported for a number of varieties including Cilento Italian.

The employment of the three tunes appears to vary according to the sentence type, in particular for the pitch accent selection: the sentence *Vuoi le MANDorle?* ‘Do you want the almonds?’ presents the $L+H^*$ (of contrastive focus) followed by high or low boundary tone as in Figure 3.19, while *Viene ANche LoreDAna no?* ‘Is Loredana coming too, isn’t she?’ presents the “hat pattern” since the whole sentence is realized as a long-focused constituent, hence selecting L^*+H pitch accent and ending with high boundary (Figure 3.20).

Figure 3.19: F_0 contour for yes-no question *Vuoi le MANDorle?* ‘Do you want the almonds?’ uttered with a $L+H^*$ HL-L%.

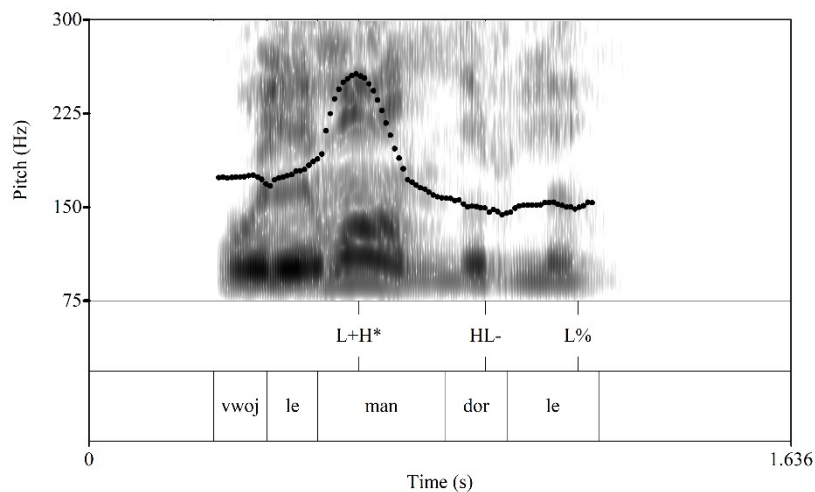
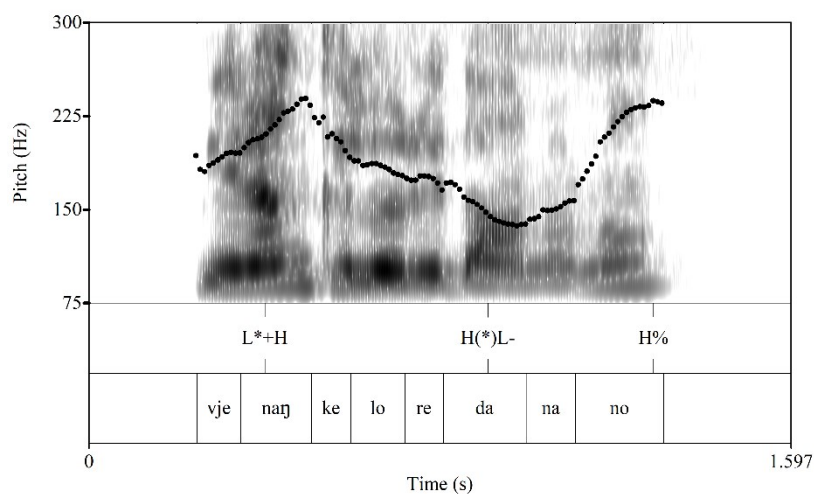


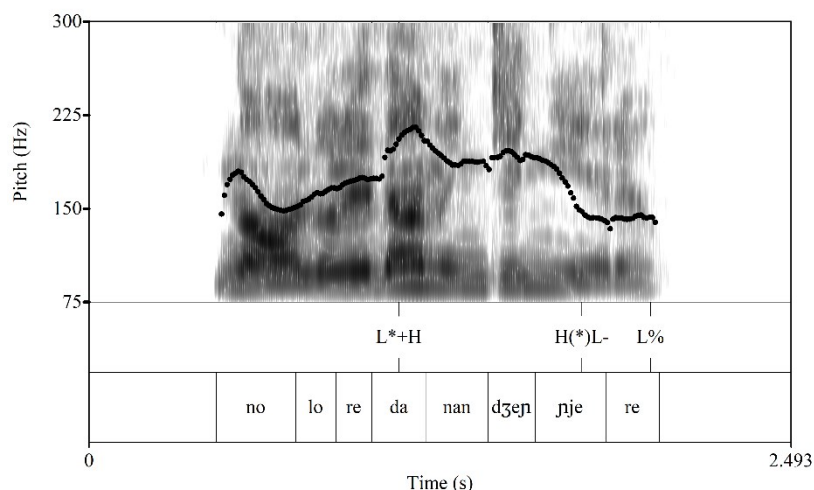
Figure 3.20: F_0 contour for yes-no question *Viene ANche LoreDAna no?* ‘Is Loredana coming too, isn’t she?’ uttered with a $L^*+H\ H(^*)L-H\%$ tune.



Counter-expectational yes-no questions

This subfunction in Cilento Italian data is expressed by means of all four tunes identified so far for polar questions, i.e. two rise-falls and two rise-fall-rises. Most common tune choice is the rise-fall selecting the late-peaked pitch accent and featuring the “hat pattern” so that all utterance is focalized.

Figure 3.21: F_0 contour for yes-no question *LoreDAna un ingeGNere!?* ‘Loredana an engineer!?’ uttered with a $L^*+H\ H(^*)L-L\%$ tune.



Hence the rising pitch accent is on the first stressed syllable and the falling phrase accent is on the last one, followed by a low boundary ($L\%$), namely $L^*+H\ H(^*)L-L\%$ (Figure 3.21).

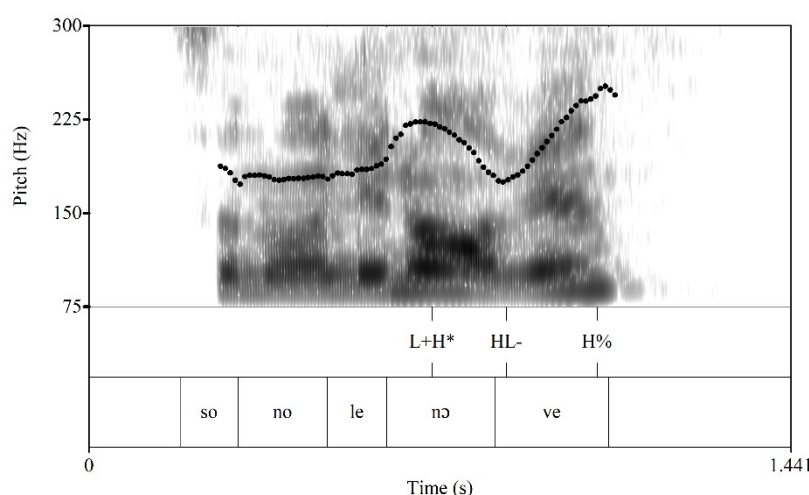
The preference for low boundaries for counter-expectational polar questions matches previous descriptions of Salerno Italian, where, however, it most often follows the L+H* pitch accent (Gili Fivela et al. 2015; Orrico 2020).

Unheard echo yes-no questions

In Gili Fivela et al. (2015) this question type has been reported to be phonologically realized as regular information-seeking yes-no questions or employing extra tunes. As concerns Campania Italian varieties, no information is available for Neapolitan Italian, while Salerno Italian is reported to use a subset of the tunes identified for information-seeking yes-no questions; specifically, for echo questions, L+H* pitch accent is selected with either low (L%) or high (LH%) boundary tone. Similarly, Cilento Italian employs a subset of tunes; more specifically, for this function the most limited tune subset is selected. Indeed, only two possible tunes were found. A small minority of productions shows a L*+H HL-L%, whereas almost all productions are realized with the L+H* HL-H% tune (Figure 3.22).

Given the employment of only two tune types, this pragmatic subfunction of yes-no questions appears to be particularly consistently realized across both speakers and speech types.

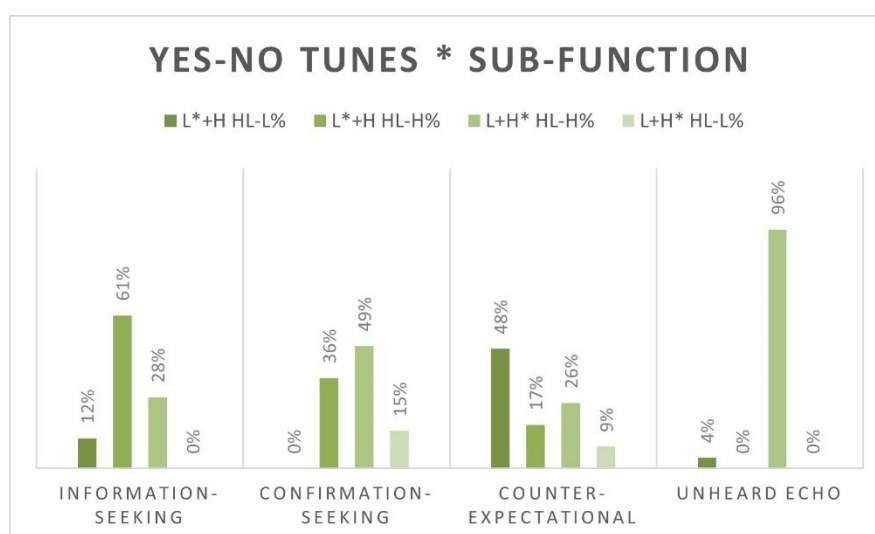
Figure 3.22: F₀ contour for yes-no question Sono le NOve? ‘Is it nine o’ clock?’ uttered with a L+H HL-H% tune.*



Occurrence of yes-no question tunes

Overall, we found four possible tunes for yes-no questions, corresponding to the inventory of polar question tunes previously identified for Salerno Italian. The tunes are not equally employed in the data: rise-fall-rises are on the whole largely employed (L^*+H HL-H% and $L+H^*$ HL-H% in 44% and 40% of cases, respectively), while rise-falls are far lesser selected (L^*+H HL-L% and $L+H^*$ HL-L% in 11% and 4% of cases, respectively). As largely stated for other varieties, and considered one of the most striking feature of question intonation, no one-to-one relationship exists between possible tunes to express pragmatic subfunctions. Rather, many-to-many relationships are possible, since more than one tune can express a pragmatic function and more than one function can be expressed by means of the same tune (Gili Fivela et al. 2015). Figure 3.23 shows the percentage of occurrence of the four tunes according to the four different pragmatic categories.

Figure 3.23: Frequency of occurrence of yes-no tunes according to yes-no pragmatic functions.

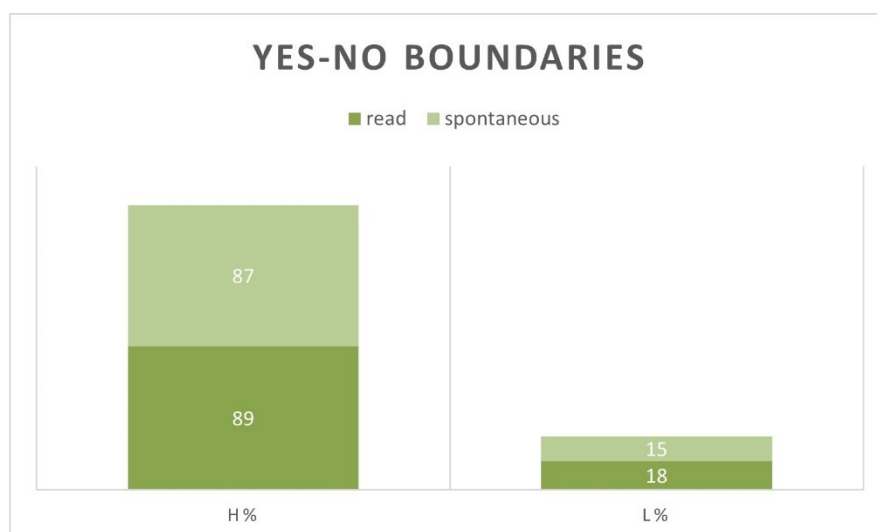


What is worth mentioning is that information-seeking questions are commonly reported to show the highest number of possible tunes that are available for other functions, e.g. echo questions. In Cilento Italian information-seeking questions three tunes were found, while the function displaying the widest range of tunes is counter-expectational, namely four tune types matching the inventory of yes-no tunes identified for SI (Orrico 2020). Looking at tunes' distribution across pragmatic functions only partially helps to get a more comprehensive picture of polar question variation. The most visible thing is that echo

questions are almost exclusively realized with L+H* HL-H% which is also used in confirmation-seeking questions. Other tendencies concern information-seeking questions, which most often use rise-fall-rise with late-peaked pitch accent, while the only functions which fairly often is realized with a rise-fall (L*+H HL-L%) is counter-expectational, while the other rise-fall (L+H* HL-L%) is little used in all four functions.

As for specific tonal events, a clear preference for high boundaries (84% of polar question items) is noticed. Interestingly, the selection of boundary tones appears not to be affected by speech style. Indeed, the two boundary types are equally selected in both read and spontaneous productions (Figure 3.24).

Figure 3.24: Frequency of occurrences of high and low boundary tones in yes-no questions according to speech type.



3.3.3 Wh-questions

We considered partial questions under three pragmatic conditions. Across Italian varieties, information-seeking wh-questions are reported to show strong inter-variety variation, while counter-expectational and echo wh-questions are more consistently realized.

Information-seeking wh-questions

The falling tune H+L* L-L% attested in several Italian varieties, including Naples and Salerno, is also used in Cilento Italian for expressing wh-questions. Figure 3.25 provides an example with a prenuclear accent (H*) on the wh-item *chi* ‘who’ followed by the falling nuclear configuration. As in the other Campania varieties under scrutiny, also in Cilento

Italian the H+L* pitch accent can combine with a low phrase accent and a high boundary tone (L-H%) resulting in the falling-rising tune H+L* L-H% (Figure 3.26).

CI also features the rising tune L*+H H-H%, with late-peaked pitch accent following by high edge tones (Figure 3.27)³⁷. This three-tune option for neutral partial questions is attested also in other Italian varieties besides Salerno Italian, e.g. Cosenza (Gili Fivela et al. 2015) and Este Italian (Crocco & Badan 2016).

Figure 3.25: F_0 contour for *wh*-question *Chi le venDEva?* ‘Who sold them?’ uttered with a H+L* L-L% tune.

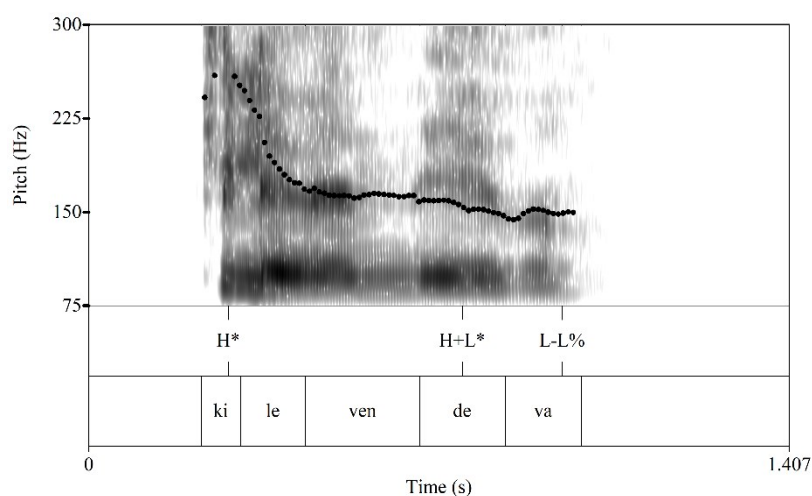
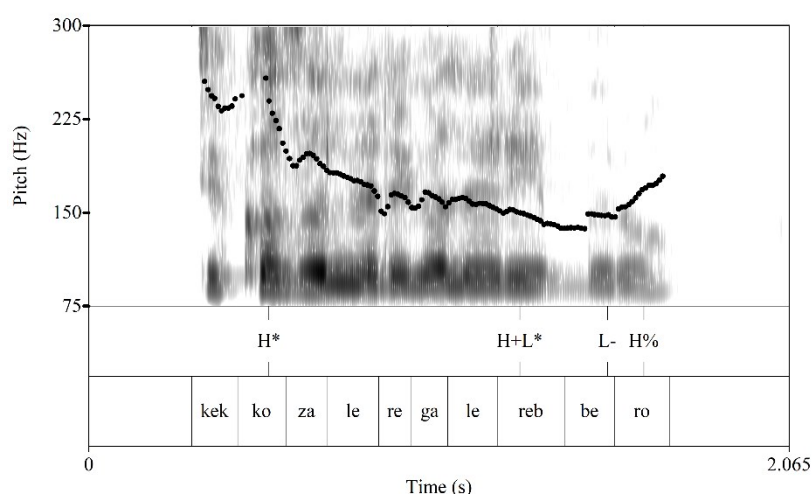
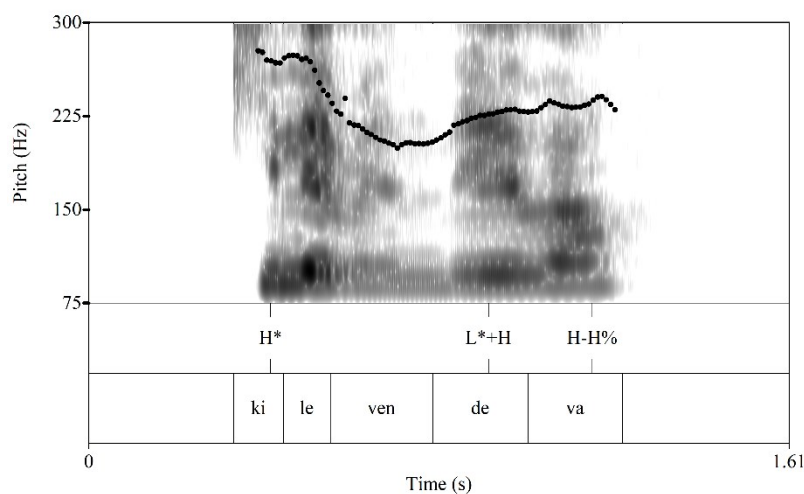


Figure 3.26: F_0 contour for *wh*-question *Che cosa le regaleREbbero?* ‘What would they gift her?’ uttered with a H+L* L-H% tune.



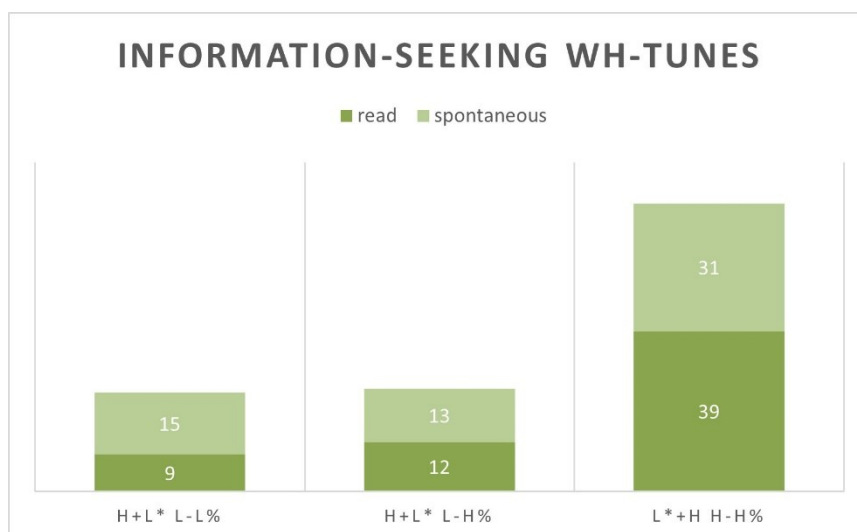
³⁷ No instances of the least SI frequent tune (L*+H HL-L%) were found in Cilento Italian information-seeking *wh*-questions.

Figure 3.27: F_0 contour for *wh*-question *Chi le venDEva?* ‘Who sold them?’ uttered with a L^*+H $H-H\%$ tune.



The two tunes that Cilento has in common with most of Italian varieties, namely $H+L^* L-L\%$ and $H+L^* L-H\%$, appear to be little represented in the data (20% and 21%, respectively), but slightly more employed in spontaneous than in read productions (Figure 3.28). On the other hand, the rising tune alone achieves the 59% of total occurrences, with a higher presence in read speech. Indeed, this tune was regarded as “read speech-like” for Salerno Italian (Gili Fivela et al. 2015).

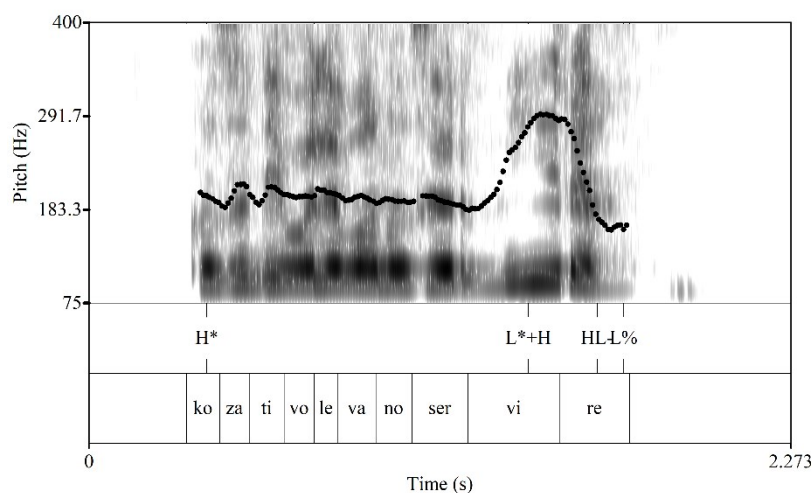
Figure 3.28: Occurrences of information-seeking *wh*-question tunes according to the task (read vs spontaneous speech)



Counter-expectational *wh*-questions

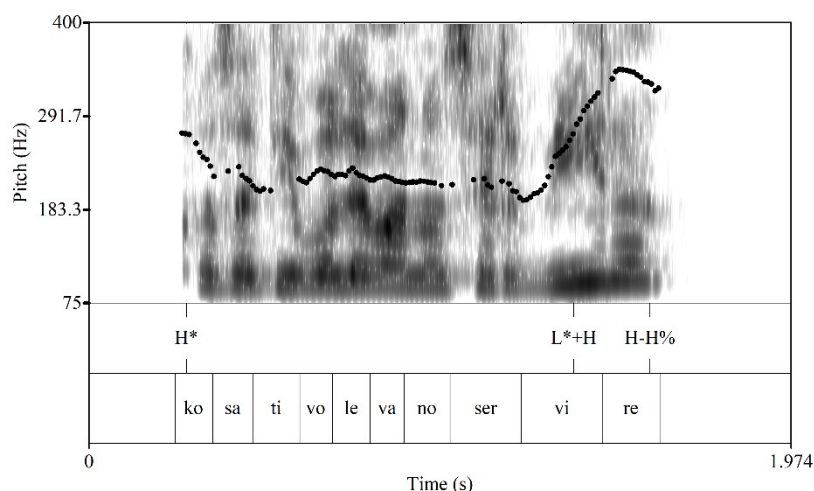
In neutral, that is to say information-seeking, *wh*-questions, the *wh*-item carries the information focus of the question, and, accordingly, the relative *wh*-answer is supposed to provide the new information requested by the *wh*-questions (e.g. Rizzi 1997). On the other hand, echo questions are used to ask for repetitions or clarifications of a piece of information which surprised the speaker or that s/he did not hear or understand; these meanings are respectively conveyed by counter-expectational and unheard echo questions. As expected, contrary to information-seeking questions, counter-expectational *wh*-questions display a lower degree of intra-variety variability. Indeed, this pragmatic function is realized by means of only two tune types selecting the same pitch accent (L^*+H) and differing only on the basis of the edge tone. Even if with little frequency of occurrence, a new tune type was found: a rise-fall, composed by a rising pitch accent with late peak alignment followed by a falling phrase accent and a low boundary tone, analyzed as L^*+H HL-L% and shown in Figure 3.29.

Figure 3.29: F_0 contour for *wh*-question *Cosa ti volevano servire?* ‘What did they want to serve you?’ uttered with a L^*+H HL-L% tune.



On the other hand, the majority of counter-expectational *wh*-questions is realized with a rising tune (L^*+H H-H%; Figure 3.30). This result is in line with SI (Orrico 2020) and other Italian varieties e.g. Venetian Italian where fronted *wh*-echo questions were found to end obligatory with a rise (Badan, Gryllia & Fiorin 2017).

Figure 3.30: F_0 contour for *wh*-question *Cosa ti volevano serVire?* ‘What did they want to serve you?’ uttered with a L^*+H $H-H\%$ tune.



As far as the phonetic implementation is concerned, in both tunes the L^*+H rising pitch accent presents a considerable pitch excursion. This feature appears to be a phonetic characteristics of echo *wh*-questions in different Italian varieties and considered a distinguishing feature between neutral and echo *wh*-questions, with the latter presenting a greater excursion in the nuclear pitch accent region conveying incredulity or surprise by the speaker (Gili Fivela et al. 2015; Crocco & Badan 2016³⁸). The difference of pitch span was proved to have statistical significance in differentiating the two pragmatic condition in Salerno Italian (Orrico & D’Imperio 2020). In Cilento Italian as well, a wide pitch span was not observed in rising accents employed for information-seeking *wh*-questions (cf Figure 3.27).

Unheard echo wh-questions

This function was found to be quite uniformly realized by Cilento Italian speakers, confirming the great consistency of this subfunction attested in other varieties. Like in Salerno Italian (Orrico 2020), all productions show the “hat pattern” found in yes-no questions, selecting two possible tunes presenting a rising pitch accent (L^*+H) aligned with the stressed syllable of the sentence-initial *wh*-word and a falling phrase accent on the

³⁸ Compared to echo *wh*-questions analyzed in Gili Fivela et al. (2015), where the *wh*-item is in initial-sentence position (e.g. *COSA ti volevano servire?* ‘WHAT did they mean to serve you?’), in Crocco & Badan (2016) echo *wh*-questions analyzed for Este Italian have a syntactically marked construction, with the *wh*-item *in situ* and the right dislocation of the object (e.g. *Le vendono DOVE le mandorle?* ‘They sell them WHERE the almonds?’). However, a greater pitch excursion with the L^*+H nuclear accent was registered in both cases.

last stressed syllable, namely in nuclear position (H(*)L-). The tunes differ in the boundary tone. The tune ending with H% (Figure 3.31) is more frequently used than the one ending with L% (Figure 3.32).

Figure 3.31: F_0 contour for wh-question Dove voglio andare? 'Where do I want to go?' uttered with a L^+H H(*)L-H% tune*

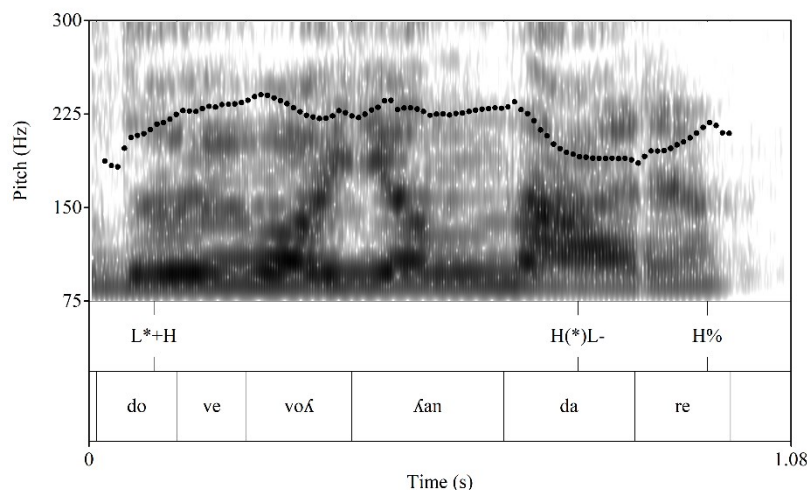
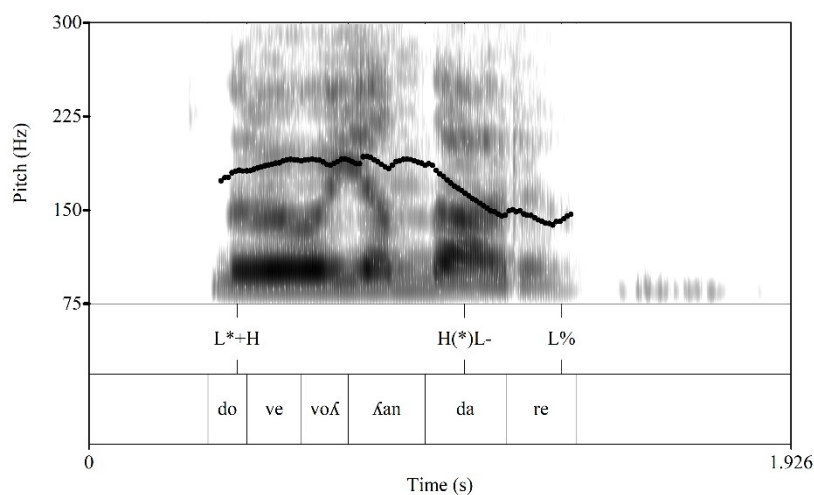


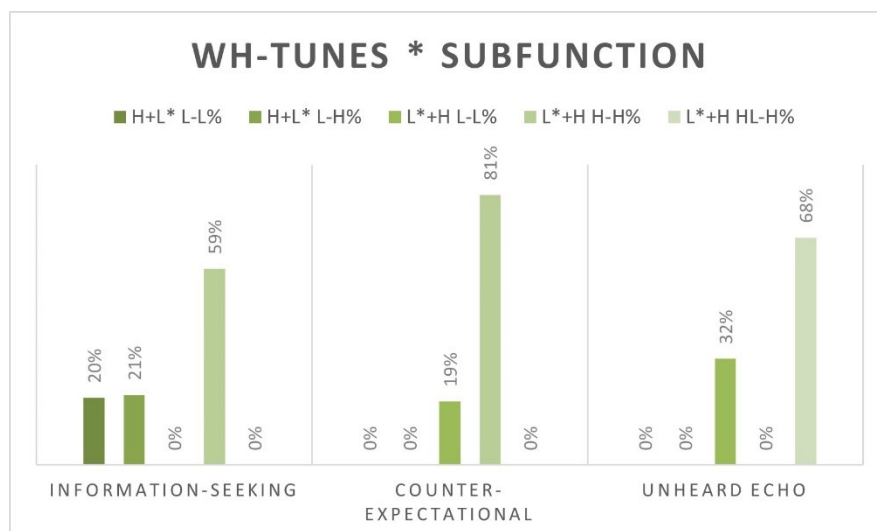
Figure 3.32: F_0 contour for wh-question Dove voglio andare? 'Where do I want to go?' uttered with a L^+H H(*)L-L% tune.*



Occurrence of wh-question tunes

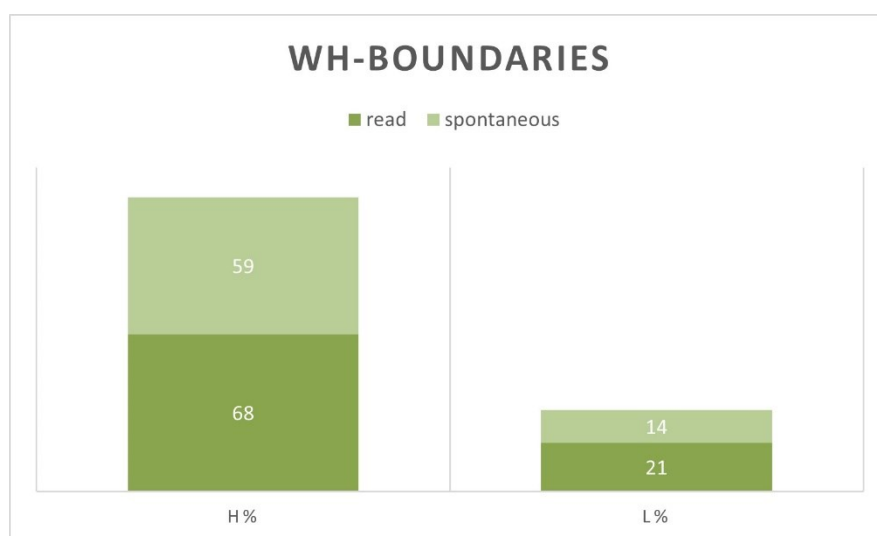
Cilento Italian data show that wh-questions show a greater uniformity in their realization compared to polar questions. Figure 3.33 presents the distribution of tunes according to wh-pragmatic subfunctions.

Figure 3.33: Frequency of occurrence of *wh*-tunes according to *wh*-pragmatic functions.



Information-seeking *wh*-questions have the widest range of tune types, namely three, with a preference for the rise (L*+H H-H%), employed in 59% of productions. Counter-expectational and echo *wh*-questions select only two tune types each. The preference for rising tunes is even more marked for the expression of counter-expectational *wh*-questions, reaching the 81% of occurrences. On the other hand, it is less selected for echo *wh*-questions, which are largely realized with the rise-fall-rise (L*+H H(*)L-H%). It is worth noting that the two tune types in common with most of other Italian varieties, namely the fall and the fall-rise, are on the whole the least employed across all Cilento *wh*-functions, specifically, only employed for information-seeking questions and with low frequency of occurrence.

Figure 3.34: Frequency of occurrence of high and low boundary tones in *wh*-questions according to speech type.

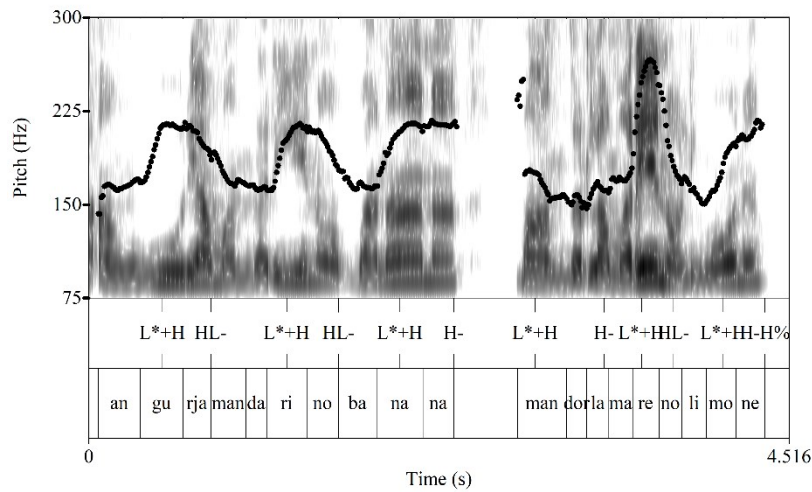


The analysis of *wh*-questions confirms the preference for high boundaries in this variety (78%). As shown in Figure 3.34, H% is frequently selected in both speech types, and slightly more often in read than in spontaneous renditions.

3.3.4 Alternative questions

Non-final items show a consistent pattern characterized by a rising pitch accent with late alignment of the high target (L*+H) and a falling phrase accent (HL-). Figure 3.35 provides an example of an interrogative list consisting of a series of non-final items, each realized in its own intermediate phrase. Parallel to what has been observed by Orrico (2020) on Salerno Italian, the pre-final item (*amaREna*, ‘black cherry’ in Figure 3.35) is phonetically realized with a wide pitch excursion on the stressed syllable.

Figure 3.35: F₀ contour for interrogative list AnGUria, mandaRIno, baNAna, MANdorla, amaREna o liMOne? ‘Watermelon, tangerine, banana, almond, black cherry or lemon?’ uttered with a L+H H-H% tune.*



As for the nuclear region, Cilento Italian alternative questions present three possible tunes. Note that they are the same tunes identified for *wh*-questions, namely a fall (H+L* L-L%), a fall-rise (H+L* L-H%) and a rise (L*+H H-H%). This three-way possibility mirrors the Salerno Italian situation highlighted by Orrico (2020) for this question type. Figures 3.36-3.38 show the three tunes for alternative questions in Cilento Italian.

Figure 3.36: F_0 contour for alternative question *Vuoi il gelato alla vaNiglia o alla baNAa?* ‘Do you want vanilla or banana ice cream?’ uttered with a $H+L^* L-L\%$ tune.

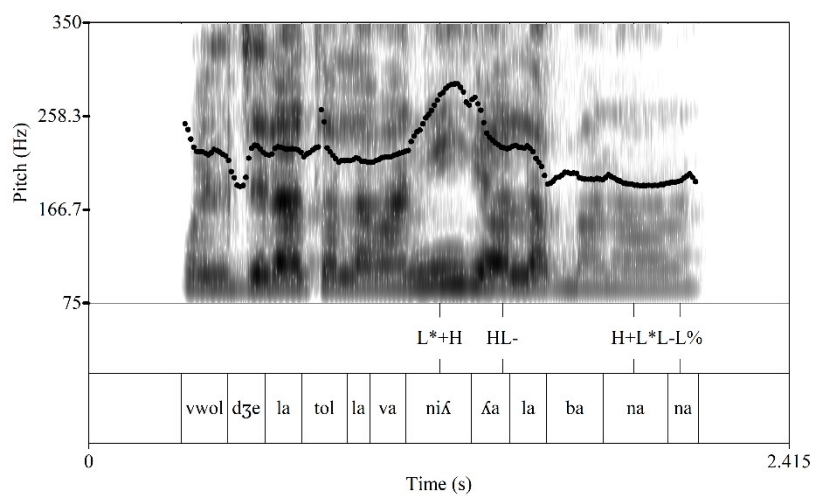


Figure 3.37: F_0 contour for alternative question Gelato alla vaniglia o latte di mandorle? 'Vanilla Ice cream or almond milk?' uttered with a H+L* L-H% tune.

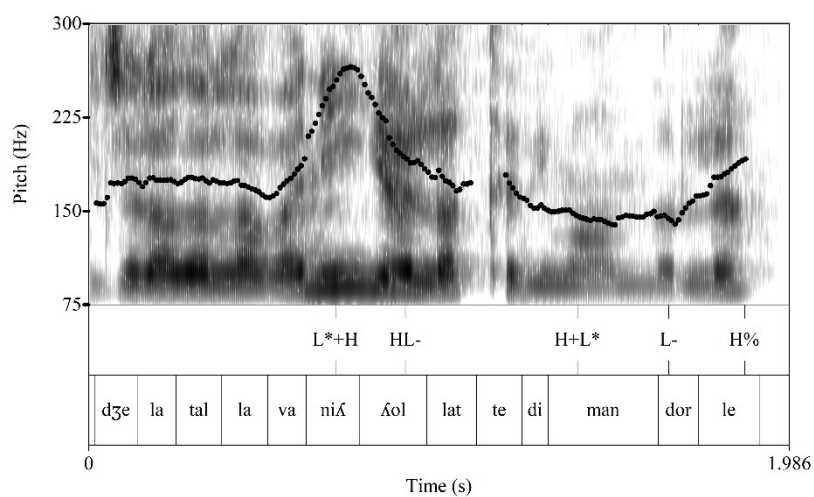
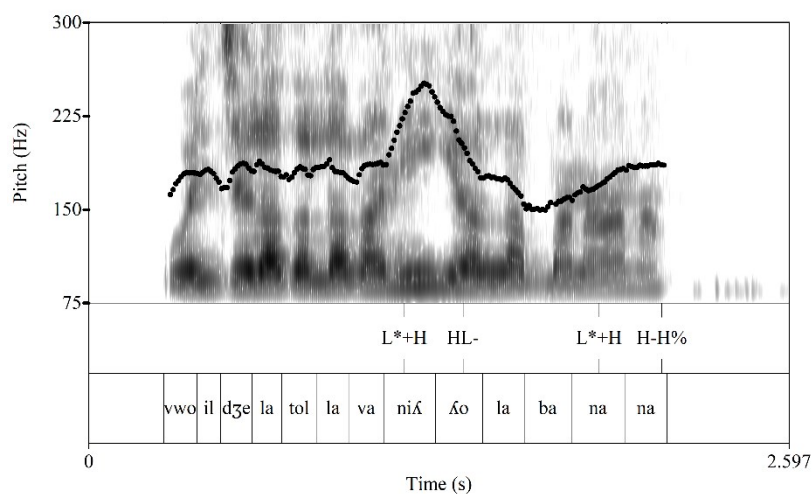


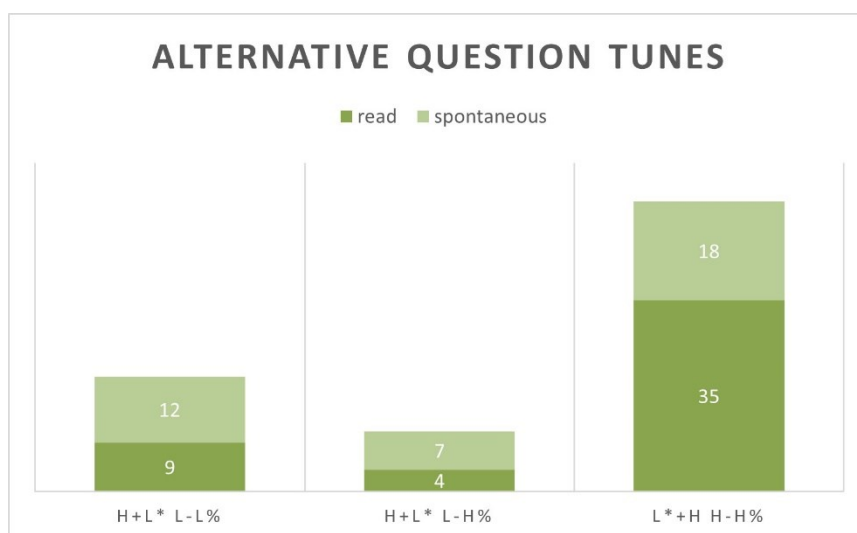
Figure 3.38: F_0 contour for alternative question *Vuoi il gelato alla vaniglia o alla banana?* ‘Do you want vanilla or banana ice cream?’ uttered with a L^*+H $H-H\%$ tune.



Occurrence of alternative question tunes

The three available tunes are employed with different frequency of occurrence (Figure 3.39). The falling-rising tune $H+L^* L-H\%$ is the least represented (13%), followed by the falling tune $H+L^* L-L\%$ (25%). In contrast, the rising tune $L^*+H H-H\%$ is the most common nuclear configuration of alternative questions (62%) in the Cilento sample, although more present in read than in spontaneous renditions.

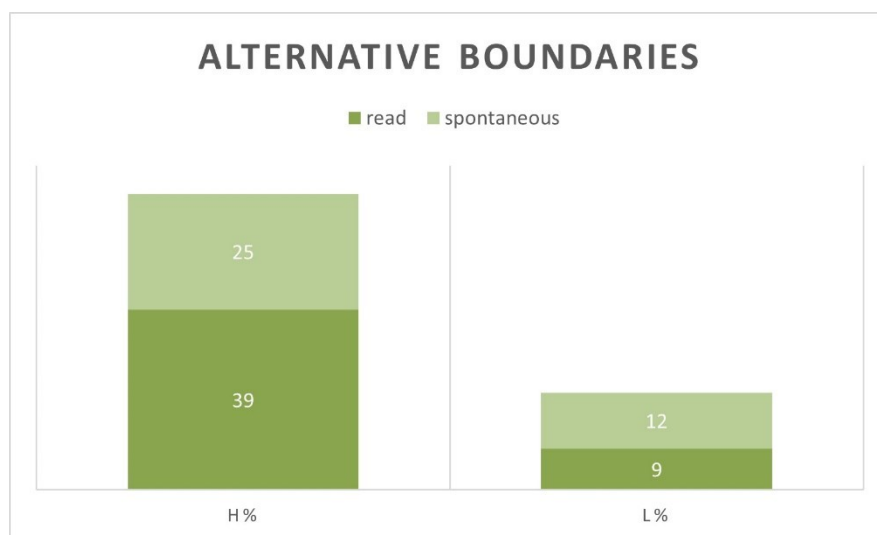
Figure 3.39: Occurrences of tune types in alternative question according to speech type.



The preference for the rising tune is in line with what was observed for wh-questions, as well as the low frequency of occurrence of the tune types in common with other varieties,

namely the fall and the fall-rise. Moreover, it further supports the preference observed in Cilento Italian for high boundaries (total: 75%; Figure 3.40).

Figure 3.40: Frequency of occurrence of high and low boundary tones in alternative questions according to speech type.



Note, however, that for this question type, the boundary choice (Figure 3.40) seems affected by speech type; indeed, unlike polar and partial questions, H% is mostly present in read productions.

3.4 Cross-varietal comparison of question intonation in Campania Italian

In this section results of the cross-variety comparison on question intonation are reported. Tunes and tonal events of Cilento Italian (CI) are compared to those of Neapolitan (NI) and Salerno (SI) Italian based on the read and semi-spontaneous datasets from DCT and focusing on information-seeking yes-no questions, information-seeking wh-questions and alternative questions.

3.4.1 Yes-no questions

One first observation emerging from the cross-variety comparison results is that the tonal inventories of the examined varieties do not totally overlap, highlighting a possible *systemic* difference (Ladd 2008) as far as the number of available yes-no questions tunes is concerned. Indeed, the three varieties differ in the number of tunes used to express

information-seeking yes-no questions. While SI has four possible tunes, NI only has two, and CI three. The least common tune attested in SI ($L+H^*$ $HL-L\%$) is not present in the other two varieties. In NI productions, as expected based on the literature (D'Imperio 2002 and subs. works), no instances of pitch accents different from L^*+H were found. However, beside the prototypical $L\%$ boundary tone, approximately half of the questions presented a $H\%$ boundary tone (52% of the occurrences), in line with the findings of a.o. Savino (2012).

The three samples show different frequency of occurrence of the tunes (Figure 3.41): both SI and CI make use of rise-fall-rises, but, while the $L+H^*$ $HL-H\%$ is the most common in SI (63%), in CI it not equally employed, indeed the tune with late peak alignment, i.e. L^*+H $HL-H\%$, results to be the most frequent in CI (61%). As for NI, productions are equally divided between the two tunes involving L^*+H pitch accent and differing according to high or low edge tone.

Zooming in on the individual tonal events, no clear pattern of continuity across the three varieties can be noticed as regards pitch accent selection (Figure 3.42). Indeed, L^*+H , although shared by all the three Campania varieties, is the only selected in NI, it is a minority choice in SI (30%), and the majority choice in CI (72%). Conversely, in the case of edge tones (Figure 3.43), there is indeed a gradual transition across the varieties: NI has a slight majority of $H\%$ (52%) which are more employed in SI (76%) e even more in CI (90%).

Figure 3.41: Frequency of occurrence of yes-no question tunes according to the variety.

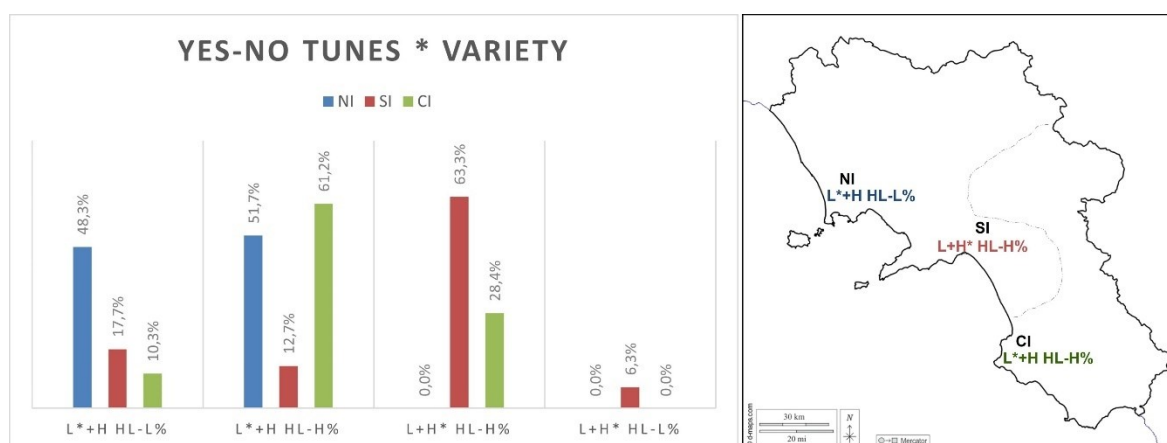


Figure 3.42: Frequency of occurrence of pitch accent in yes-no question tunes according to the variety.

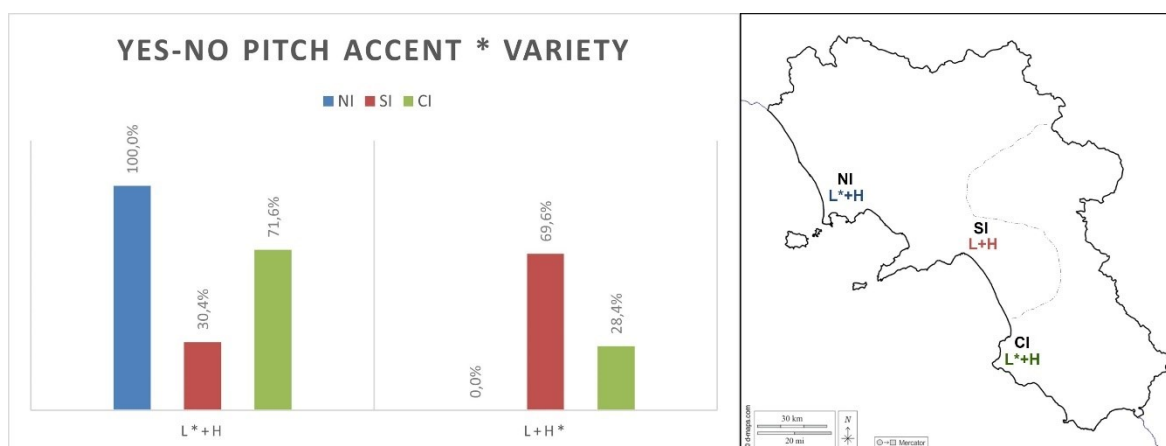
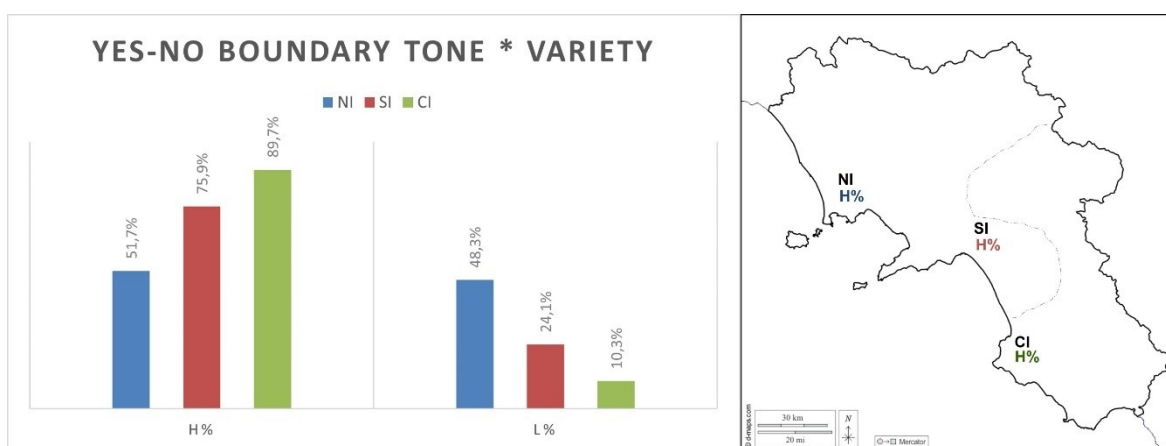


Figure 3.43: Frequency of occurrence of boundary tone in yes-no question tunes according to the variety.



The analysis of NI, SI, and CI yes-no questions suggests that the three varieties largely share the same phonological inventory, although tonal features may be employed with different frequency in each of them. Boundary tone choice points to a geographic cline from north to south. In the case of pitch accents, instead, the picture offered by the present exploration is more fragmented, featuring local preferences for specific combination of tonal events.

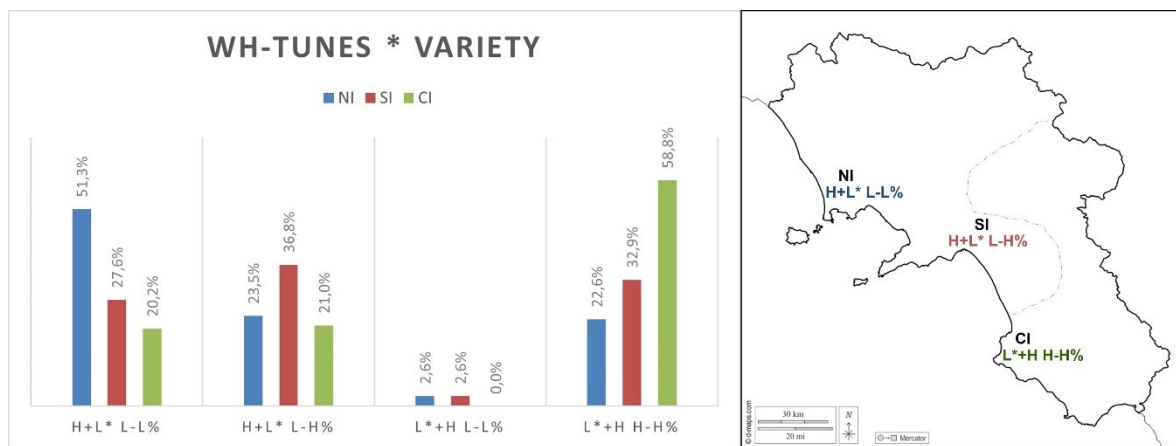
If we include in the picture the peculiar temporal anticipation of tonal targets observed in CI questions (cf. Figure 3.18), the overall picture for yes-no questions suggests possible *systemic*, *realizational*, *phonotactic* differences as well as differences in the frequency of occurrence of tonal events among NI, SI and CI. Moreover, the *semantic* dimension is involved as well, showing differences in the tune-function mapping. Indeed, CI does not select L+H* HL-L% tune for expressing information-seeking function, but the tune was

found to be employed for other subfunctions of polar questions, namely confirmation-seeking and counter-expectational (§ 3.3.2).

3.4.2 Wh-questions

The tune choice across Campania varieties for information-seeking partial questions show lower cross-varietal variation compared to polar questions (Figure 3.44). The rising-falling tune, i.e. L^*+H $L-L\%$, is the least used in the varieties and not registered in CI data. The other three tunes are represented in all the varieties, with no sharp differences, although specific intra-variety preferences can be noticed. As regards NI, the falling tune reported in Gili Fivela et al. (2015), is indeed the most frequent (52%) in the examined sample. In SI and CI, it appears that the different tunes actually coexist, with SI preferring the fall-rise (37%), while CI the rise (59%).

Figure 3.44: Frequency of occurrence of wh-question tunes according to the variety.



Looking at the tonal events composing the nuclear configurations, the employment of pitch accents and boundary tones unveil differences in the frequency of occurrence across the varieties. As far as nuclear accents are concerned (Figure 3.45), the falling accent $H+L^*$, largely employed in NI (75%), is less selected in SI (64%) and CI (41%), despite remaining the most used. Similarly, a gradual shift in the employment of tonal events across the varieties can be observed in the edge tones (Figure 3.46). As reported in the literature, NI prefers low boundary tones ($L\%$), even if, and as already noticed in yes-no questions, with an intra-variety frequency that hardly exceeds half of the productions (54%). Low boundaries seem in contrast less frequent in southern Campania varieties, as the use of $H\%$ reaches 70% and 80% of instances in the sample of SI and CI, respectively.

Figure 3.45: Frequency of occurrence of pitch accent in *wh*-question tunes according to the variety.

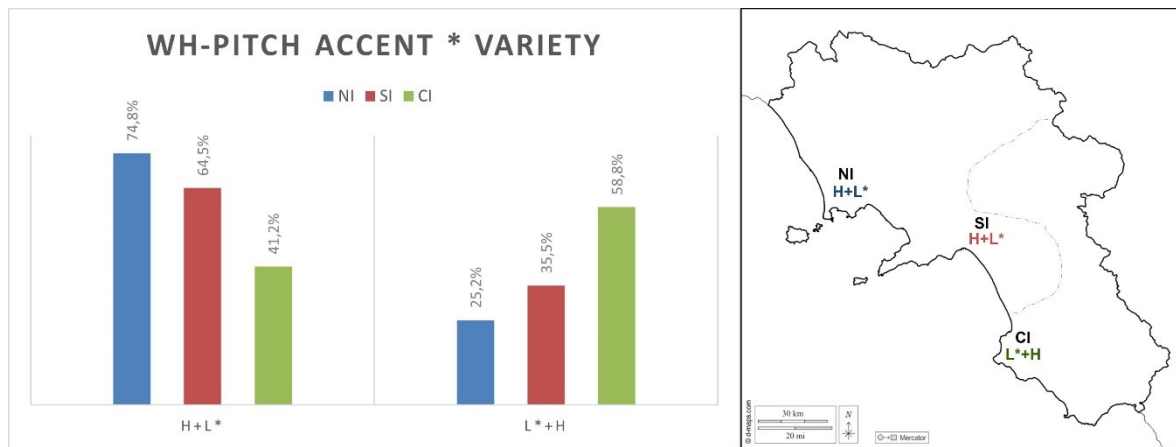
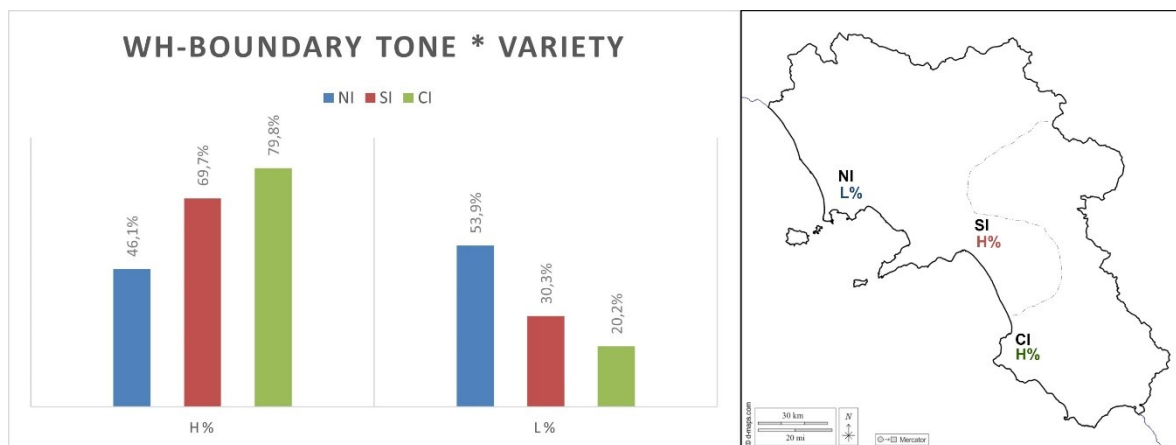


Figure 3.46: Frequency of occurrence of boundary tone in *wh*-question tunes according to the variety.

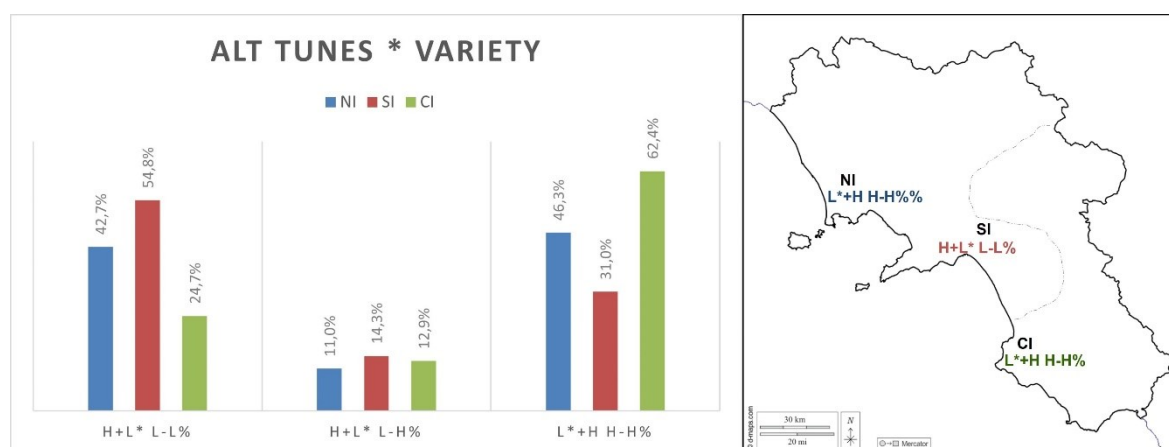


Cross-variety comparison shows that even in the case of *wh*-questions minor *systemic* and *phonotactic* differences can be noticed, since CI lacks one of the four tune types found in SI and NI data. Accordingly, also differences along the *semantic* dimension can be noticed, since the L*+H L-L% tune not found in CI data, does exist in CI inventory, but displaying a different tune-function mapping, namely it expresses *wh*-subfunctions other than information-seeking (counter-expectational and unheard echo questions; § 3.3.3). On the other hand, the *realizational* dimension does not seem to be involved in the examined intonational variation. As for the frequency of occurrence, a geographic-related difference in the occurrence of both tunes and specific tonal events can be noticed.

3.4.3 Alternative questions

The cross-variety comparison reveals that the three most employed wh-tunes of NI, SI and CI are also present for nuclear configurations of alternative questions (Figure 3.47). The fall-rise is little used (below 15%) in all three varieties. The falling tune is preferred in SI (55%), while CI mostly use rises (62%). Crucially, NI productions are divided between falls and rises (43% and 47%, respectively). It is worth mentioning that NI productions are greatly affected by individual variability for this specific question type; while five out of six NI speakers select all three alternative question tunes, although with different frequency of occurrence, a marked choice for the rising tune by one speaker in both read and spontaneous renditions was registered.

Figure 3.47: Frequency of occurrence of alternative question tunes according to the variety.



As regards nuclear pitch accents, a discontinuity at the height of the Eboli-Lucera line can be noticed: indeed, there is a preference for the falling pitch accent (H+L*; Figure 3.48) in the two northernmost varieties (which can be combined with either high or low edge tone), while CI, below the line, mostly employs the rising accent L*+H. As for boundary tones (Figure 3.49), their selection is not clear-cut as that observed for other question types. Nevertheless, for boundary tones in alternative questions as well, an increase of H% from north towards south is registered. The two northernmost varieties of NI and SI use high boundaries in the 57% and 45% of cases respectively, while the southernmost variety of CI in most cases (75%).

Figure 3.48: Frequency of occurrence of pitch accent in alternative question tunes according to the variety.

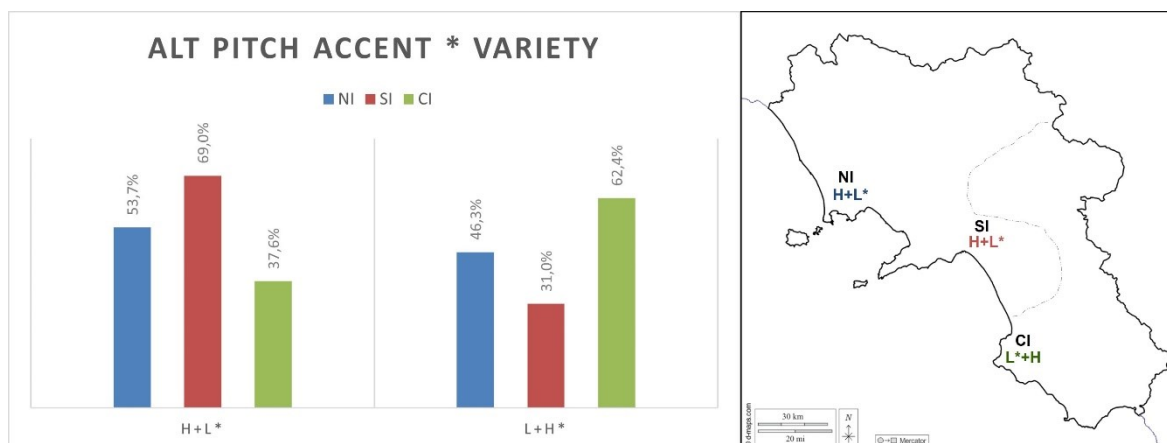
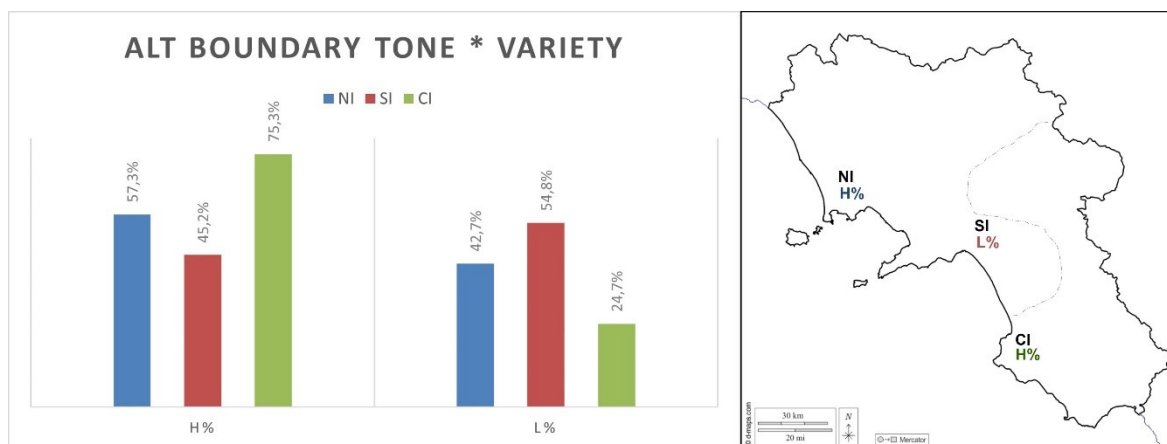


Figure 3.49: Frequency of occurrence of boundary tone in alternative question tunes according to the variety.



On the whole, and as expected, alternative question intonation is more consistent across the varieties (Gili Fivela et al. 2015). Accordingly, none of Ladd's (2008) dimensions seems to be involved in the examined intonational variation. The analysis of this question types does not reveal differences in the frequency of occurrence of tonal events, rather only variety-specific preferences.

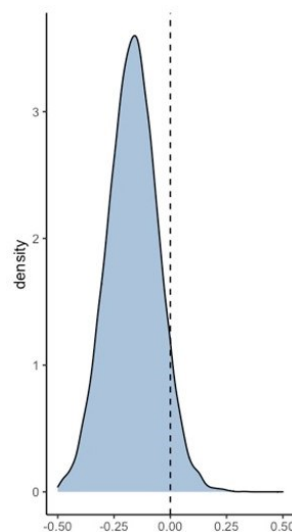
3.4.4 Boundary selection

Results of cross-variety comparison of question intonation suggest that the main feature distinguishing Campania Italian varieties lies in the selection of boundary tones, with high boundaries (H%) being less frequently selected in Neapolitan Italian. Here are the results of a further analysis carried out in order to quantify the inter-variety differences in boundary tone selection.

Given the amount of data and the exploratory nature of the comparison, a Bayesian Poisson mixed model (McNelsh 2016) was performed to predict the frequency of H% with the variety (NI, SI, CI), question type (yes-no, wh-, alternative questions) and speech type (read, spontaneous). At least a posterior probability of 90% is expected in order to believe that the data confirm the hypothesis. The model also included question type and speech type as fixed effects and speaker and item in the random structure. The model was built in Stan using the R interface brms (Bürkner 2017) using a Monte Carlo Markov Chain with 4 chains and 2000 observations for each chain. A weakly-informative prior was indicated. The model, which obtained a R-hat value of 1, specifies an intercept set at the variety of CI with the read speech and question type equal to alternative question at 0.48, est. error = 0.14, and a credible interval [0.20, 0.75], while the effect of the spontaneous speech did not yield any credible difference on the dataset (estimate = -0.04, estimate error = 0.09, CI [-0.19, 0.11], probability = 0.66). The effect of question type was stronger but not yet satisfactory (estimate = 0.14, est. error = 0.13, CI [-0.08, 0.36], $p = 0.85$). On the contrary, the strongest effect was detectable in the variety factor, whereas the level of NI yielded an estimate of -0.17, std. error = 0.04, and CI [-0.39, 0.06], probability = 93%. The effect of SI variety cannot be said to produce any credible effect (estimate = -0.06, est. error = 0.12, CI [-0.30, 0.17], probability = 0.63).

We can conclude that the data and model confirm the hypothesis that in NI high boundaries (H%) are less employed (Figure 3.50) with regard to the other southerner varieties.

Figure 3.50: Posterior distribution of high boundaries (H%) in NI.



On the other hand, the effect of question type, speech type and the difference between Salerno and Cilento is not convincing yet.

3.5 Discussion

The present chapter provides the intonational phonology of Cilento Italian within the framework of Italian intonation, and explores the intra-regional variation of Campania Italian intonation by comparing the variety spoken in Cilento with the two neighboring varieties of Naples and Salerno.

Intonation in Cilento Italian

Cilento Italian has a phonological inventory widely shared among other Italian and Campania Italian varieties. As far as pitch accents are concerned, both monotonal and bitonal accents were found in Cilento Italian data.

- H*. It is the only monotonal pitch accent in the phonological inventory. It occurs in prenuclear position and can be realized as a high plateau or as a rising movement from a preceding low region reaching the peak within the stressed syllable.
- H+L*. It was found in nuclear and post-focal position, e.g. in narrow focus statements with focus in initial-sentence position. It is phonetically realized as a f_0 fall from a high/plateau pretonic region or as part of a gradual fall.
- L+H*. One of the two rising accents of the inventory, found in nuclear position. It is phonetically implemented as a f_0 rise with an early peak, namely aligned in the first half of the stressed syllable.
- L*+H. Rising nuclear pitch accent with late peak alignment, realized as a f_0 rise starting at the beginning of the stressed vowel and the peak reached at its right edge.

Apart from H*, which occurs only in prenuclear position, each nuclear pitch accent can be combined with either low or high edge tones (L-, H-, HL-; L%, H%). From the combination of tonal events seven tune types were found. In addition, two combinations only include pitch accent and phrase accent since they are employed in non-final position (at the end of the intermediate phrase), namely used for non-final and/or pre-final items in declarative and interrogative lists.

Table 3.1: Nuclear configuration of Cilento Italian tunes, their schematic f_0 representation (the white area corresponds to the region preceding the nuclear accent, the dark grey area to the pitch accent, the light grey area to edge tones) and sentence types and pragmatic functions in which are used.

Tune	F_0 realization	Sentence type
H+L* L-L%		Broad focus statements Lists Wh-questions (information-seeking) Alternative questions
H+L* L-H%		Wh-questions (information-seeking) Alternative questions
L+H* HL-L%		Narrow focus statements Polar questions (confirmation-seeking, counter-expectational)
L+H* HL-H%		Polar questions (information-seeking, confirmation-seeking, counter-expectational, echo)
L*+H HL-L%		Polar questions (information-seeking, counter-expectational, echo) Partial questions (counter-expectational, unheard echo)
L*+H HL-H%		Polar questions (information-seeking, confirmation-seeking, counter-expectational) Partial questions (unheard echo)
L*+H H-H%		Partial questions (information-seeking, counter-expectational) Alternative questions
L*+H HL-		Non-final item in questions Non-final item in lists
L*+H H-		Non-final item in lists

Table 3.1 makes it clear that many-to-many relationships between tune and meaning are possible. Indeed, all nuclear configurations can be used for more than one sentence type and more than one pragmatic function and, conversely, the same function can be expressed by means of more than one tune. Such intra-variety variation affects certain sentence types more than others. Broad focus statements and declarative lists are homogeneously realized. Falls and rise-falls alternation for narrow focus statements was also previously attested in both Neapolitan and Salerno Italian (Gili Fivela et al. 2015). Alternative questions present enough consistency in Cilento Italian data, despite a certain degree of intra-variety

variation due to the employment of three possible tunes. Polar questions were expected to show high levels of variation, since they are cross-linguistically reported as the most variable sentence type (e.g. Frota & Prieto 2015). Cilento Italian fits the picture of a marked intra-variety variation especially characterizing information-seeking function (e.g. Savino 2012; Gili Fivela et al. 2015). Echo yes-no questions, instead, that can be put outside the box of other Italian varieties since neither select extra tunes (not found for information-seeking questions; Gili Fivela et al. 2015) nor present intra-variety variability in the tune choice (unlike Orrico 2020). Much less variation affects the realization of partial questions. In particular, five tune types were identified for this question type, but displaying a quite clear tune-function mapping (L*+H H-H% for information-seeking and counter-expectational wh-questions, L*+H HL-H% for unheard echo wh-questions).

Cross-variety comparison

As for the comparison across Campania Italian varieties, question intonation works as a showcase for investigating variation within and across varieties, providing a first exploration in the transition across neighboring varieties. The aim was to place CI within the wider framework of Campania Italian varieties, i.e. NI and SI, from which CI is separated by a bundle of dialectal isoglosses composing the so-called Eboli-Lucera line and to identify possible elements of convergence and divergence in regional Italian spoken in the area from Naples to upper-Cilento.

The comparison confirms high levels of intra- and inter-variability highlighted in previous studies (a.o. Gili Fivela et al. 2015) with the highest affecting the production of yes-no questions. The examined varieties largely converge in their phonological inventory, although possible elements of divergence have also emerged, suggesting instead the presence of a minor *systemic* difference in the question tune inventory. In particular, the tune choice for information-seeking yes-no questions in NI seems reduced to two options, while CI has three and SI four; as for information-seeking wh-questions, NI and SI have four tune choices, while CI has three. The analysis of CI data actually shows that tunes not employed for information-seeking yes-no and wh-questions in CI does actually exist in the inventory but with other tune-function association, hence pointing to *semantic* differences as well.

Concerning the frequency of occurrence of tunes and tonal events, different tendencies can be noticed. For polar questions, despite intra-variety tune preferences are observed (L*+H HL-L% in NI, L+H* HL-H% in SI, L*+H HL-H% in CI), a gradual increase of high

boundary selection moving south (NI < SI < CI) is registered. In a similar way, although wh-tunes occur with different frequency across the varieties (most common tunes are H+L* L-L% in NI, H+L* L-H% in SI, L*+H H-H% in CI), the choice of tonal events seems to gradually change from north to south: the extensive use of H+L* pitch accent and L% boundary tone registered in NI decreases in favor of L*+H and H% in CI; interestingly, SI is located halfway between the two in that it selects most often a tune which combines the H+L* pitch accent (as in NI) and the H% boundary (as in CI). The same is not observed in alternative question productions, since SI appears to be more similar to NI in selecting most often H+L* L-L% with respect to CI in which a different and marked preference for both pitch accent, i.e. L*+H, and boundary tone, i.e. H-H%, is observed.³⁹ These data hint to an intonational transition that seems to mirror the geographic one, suggesting a “geographic cline”, since variation can be noticed when moving from NI, the northernmost varieties, to the southern variety of SI and then CI. Actually, CI analysis indicates that the phonetic implementation of the tunes in CI appears to be characterized by the presence H target in in the prenuclear region, possibly pointing to the temporal anticipation of accentual peaks. No instances of anticipated pitch accent were found in the northernmost Campania varieties, pointing to possible *realizational* differences (see below).

On the whole, the analysis of question intonation opens up to the possibility that NI, SI and CI vary along all four dimensions of cross-varietal variation identified by Ladd (2008), i.e. *systemic*, *realizational*, *phonotactic* and *semantic*, and in the frequency of occurrence of both the entire nuclear tunes and the single tonal events.

Overall, intonational continuity and discontinuity can be accounted for by the geographic proximity of NI, SI and CI and the Eboli-Lucera line running between them, respectively.

³⁹ Speech type has been proved to affect intonation (e.g. Face 2003; cf Chapter 2); in particular, high boundaries in Italian varieties of south Italy have been considered triggered by read speech, i.e. sounding more read speech-like (Savino 2012). Gili Fivela & Iraci (2017) reported the choice of boundary tone, especially in yes-no questions, to be dependent on the speaker rather than being speech style related. Looking at Campania Italian varieties, high edge tones have been found in NI read (Cangemi & Grice 2016) and dialogic speech (Alfano 2019), while as for high terminals in SI, Orrico (2020:131) shows that the type of speech does not affect neither the entire tune nor the boundary tone alone in information-seeking yes-no questions elicited via DCT; the choice of boundary tone appears to depend on speaker specific strategies in wh-questions as well (Orrico & D’Imperio 2020). Using the very same elicitation method which combines read and spontaneous productions, in CI data the rising tune attested for information-seeking wh- and alternative questions does actually occur more in read than in spontaneous renditions, while grouping together all pragmatic functions of polar and partial questions, high boundaries are more employed in spontaneous speech.

In line with the dialectological literature, the Eboli-Lucera line is confirmed as not being a strong linguistic border; indeed, not even as regards intonation it does mark a clear-cut separation between varieties located north and south.

With the aim of deepening the dimensions of variations involved in the intonational transition across neighboring Italian varieties, differences along the *realizational* dimension will be investigated in Chapters 4 and 5. In particular, both chapters will be dedicated to the exploration of phonetic features possibly differentiating intonational systems of neighboring Campania varieties.

CHAPTER 4

PHONETIC DETAIL IN TOPIC AND FOCUS ACCENTS IN CAMPANIA ITALIAN

The present chapter focuses on the phonetic inter-variety variation across Campania Italian varieties; in particular, differences along the *realizational* dimension (Ladd 2008) in the phonetic implementation of pitch accents in statements under different topic and focus conditions is investigated. For this goal, a production experiment was carried out to quantitatively explore possible phonetic differences in order to deepen the nature of the intonational transition across neighboring varieties of Campania Italian, namely Cilento, Salerno and Neapolitan Italian.

The chapter is divided as follows. Firstly, in § 4.1 previous works identifying a case of possible *realizational* differences across Campania varieties is reported, from which the specific goals of the Chapter stem. Then, § 4.2 describes the method used for the production study, illustrating the data collection procedure, the selection of participants and the parameters of analysis. In § 4.3 the results of the production experiment are reported, while in § 3.4 the discussion is drawn.

4.1 Introduction and research questions

The literature on Italian intonation outlines an extremely complex picture characterized by a pronounced variation both within and across varieties (Grice et al. 2005; Savino 2012; Gili Fivela et al. 2015). Results of cross-variety comparison reported in Chapter 3 can be added to these studies in proving evidence that cross-variety variation can be detected also in small-range areas such as within the borders of Campania, and that it deals with more than one dimension of variation, affecting the tonal inventory (*systemic*), the combination

of accents and terminals (*phonotactic*), the tune-function association (*semantic*) as well as the frequency of occurrence and distribution of tonal events.

Cross-variety differences in Italian intonation are reported also with regard to the phonetic realization of tonal events. A well-known case of such difference distinguishes rising (nuclear) pitch accents in polar questions in Bari and Neapolitan Italian. Indeed, both accents are described as sharing a LH structure but specified by different alignment properties (Grice et al. 2005); in particular, the peak of the rise is reached in the middle of the stressed syllable in Bari Italian (Grice & Savino 1997) and at the offset of the stressed vowel in Neapolitan Italian⁴⁰ (D’Imperio 1999). Accordingly, yes-no pitch accents are analyzed as L+H* and L*+H, respectively. The difference between the two accents was also experimentally tested within the imitation paradigm. In D’Imperio, Cavone & Petrone (2014), Bari and Neapolitan Italian speakers were asked to imitate the rising accent of their non-native variety, namely Bari speakers had to produce the Neapolitan late peaked accent L*+H, whereas Neapolitan ones had to produce the Bari early (or middle) peaked accent L+H*. Results show successful cross-variety imitation by both Bari and Neapolitan speakers, made even more relevant in the case of Neapolitan speakers, since Neapolitan Italian has paradigmatically contrast between two rising accents (L*+H and L+H*) according to tonal alignment properties (D’Imperio 1999). In other words, Neapolitan participants were able to temporally anticipate the peak of the rising accent in polar question productions although this was likely to lead to cross-category overlap.

Crucially, literature on Italian intonation account for major *realizational* differences in intonational systems geographically far from each other, unlike research within other frameworks, such as that of Dutch varieties (e.g. Peters et al. 2014, 2015; Hanssen 2017; cf. Chapter 2). For instance, Southern varieties spoken in Naples, Bari and Palermo are assumed to have the primary cue to interrogation in the accentual rise (Grice et al. 2005). Getting back to Campania Italian, a number of *realizational* differences in the geographically limited area of Campania emerged from results of Chapter 3, possibly differentiating Campania Italian varieties. The present chapter more specifically explores such differences, namely variety-specific phonetic implementations of given prosodic types.

⁴⁰ Actually, In Neapolitan Italian polar questions, the rise can actually continue beyond the right edge of the stressed syllable, e.g. at the end of the word in nuclear position (Grice et al. 2005:367).

Although the realization of declaratives is broadly attested to have higher inter- and intra-variety homogeneity compared with interrogatives, a case that resulted particularly subjected to variation related to phonetic detail from qualitative analysis on Discourse Completion Task data is the expression of different topic and focus condition in statements. Specifically, in the realization of neutral, that is to say “regular”, topics, contrastive, that is to say “partial”, topics, and contrastive focus in sentence-initial position. Such conditions were already explored in depth for Neapolitan Italian in previous works conducted by Brunetti, D’Imperio & Cangemi (2010) and D’Imperio & Cangemi (2011). Both studies adopt the notion provided by Büring (1997) for sentence topic, being an element introducing a set of sets of alternatives, i.e. a set of questions, in the semantic computation. According to Büring, a Partial Topic (PT) is a sentence topic that narrows down a given discourse topic represented by an implicit or explicit question, hence providing a partial, non-exhaustive answer. D’Imperio & Cangemi (2011) report the following example:

- (1) A: *Come lo vogliono il caffè i tuoi amici?*
 ‘How do your friends would like to have their coffee?’
 B: *[Milena]_{PT} lo vuole amaro.*
 ‘(As for) Milena (she) would like it unsweetened.’

The answer of B results to be only a partial one as it informs about the preferences of the subset *Milena* without saying anything of the other friends. In other words, the answer predicates something about only one member of the set of the alternatives evoked by the question, hence *Milena* forms one of the subsets that the set of friends is made of.

The Topic/Focus partitioning and the contrastive/non contrastive nature of Topic and Focus in Neapolitan Italian is explored for NP-subjects (D’Imperio & Cangemi 2011) and clitic left dislocated objects (Brunetti, D’Imperio & Cangemi 2010).

As for the realization of these conditions, D’Imperio, & Cangemi (2011) claim that, in Neapolitan Italian, Regular Topic (RT), i.e. non-contrastive topic, is realized as a rising movement, analyzed as a H* prenuclear pitch accent, with the peak reached in the post-stressed syllable, as shown in Figure 4.1; on the other hand, Partial Topic (PT) is realized by a rising movement having its peak aligned late but reached within the stressed syllable. Unlike Regular Topic accents, Partial Topic ones present an expanded pitch range

followed by a falling phrase accent (!H-) at the end of the topic constituent (Figure 4.2). It is analyzed as H* as well.

Figure 4.1: Milena lo vuole amaro 'Milena wants it (the coffee) black' uttered as a Regular Topic in Neapolitan Italian (from D'Imperio & Cangemi 2011).

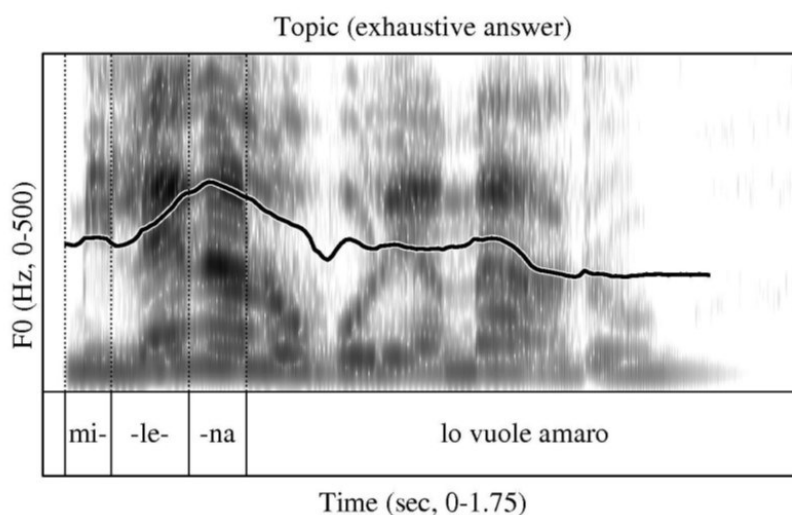
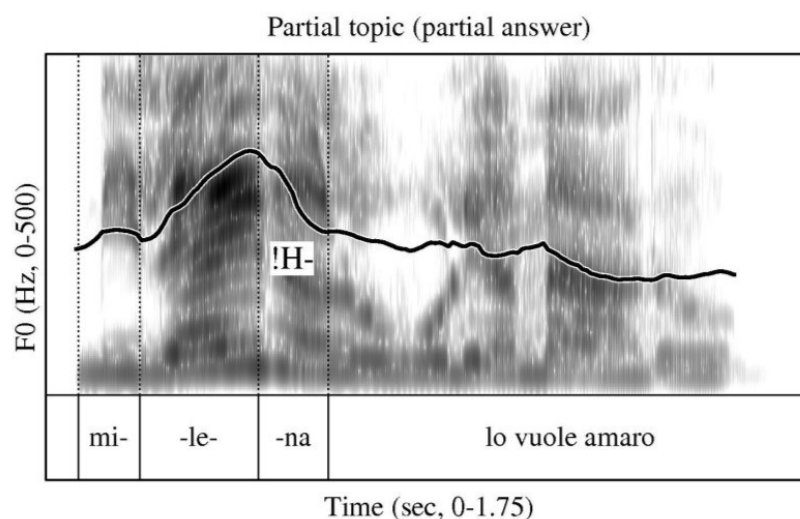
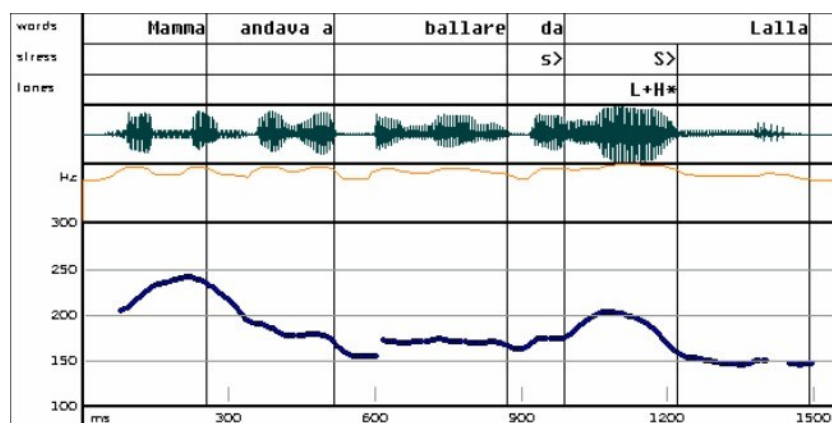


Figure 4.2: Milena lo vuole amaro 'Milena wants it (the coffee) black' uttered as a Partial Topic in Neapolitan Italian (from D'Imperio & Cangemi 2011).



Contrastive focus (CF) is reported to be a rise-fall movement analyzed as a L+H*. Specifically, it is realized as a rise from a f₀ valley in the pre-stressed syllable and the peak reached within the stressed syllable (D'Imperio 2001; Face & D'Imperio 2005) as shown in Figure 4.3.

Figure 4.3: Mamma andava a ballare da Lalla ‘Mom used to go dancing at Lalla’s’ uttered as a *Narrow Focus on the final word in Neapolitan Italian* (from Face & D’Imperio 2005).



D’Imperio & Cangemi (2011), investigating SVO statements made of NP+VP, showed that the subject NP exhibits different prosodic properties according to the topic and focus structures. In particular, the occurrence of post-topical phrase break and register level downstep as a function of different information structures was tested. Indeed, PTs show a prosodic break after the topic rise with a partial reset of the pitch range after the NP, while such break is absent in RT construction. In the case of early contrastive focus statements (CF), the reset is maximal. As a consequence, the VP results to have the highest register level in RT, an intermediate register level in PT and an extremely low and compressed register level in CF (in which it is post-focal). Accordingly, a phrase break occurs only in PT and CF conditions and the NP results to be set off in its own prosodic phrase (the phrase accent is analyzed as !H- for PT and L- for CF).

Brunetti, D’Imperio & Cangemi (2010) focused on the realization of clitic left dislocated objects set as topics in exhaustive and partial answers, i.e. RT and PT, respectively, with a highly comparable methodology with respect to D’Imperio & Cangemi (2011) as far as the data elicitation method (question/answer dialogues) and the design of the task (target sentences in short paragraphs of context) are concerned. Target sentences followed short contexts: in example (2), the question specifically asks about one of the dogs in the house, hence the answer is exhaustive, while in (3), the question more generally asks of a set of

animals of the house to be fed, and the answer is partial, as it only concerns the dog Momo, representing a subset of a larger set of alternatives.

(2) A: *Chi ha dato da mangiare a Momo oggi?*

‘Who fed Momo today?’

B: *[A Momo]_{RT} gliel’ho dato io.*

‘I gave it to Momo.’

(3) A: *Chi ha dato da mangiare agli animali oggi?*

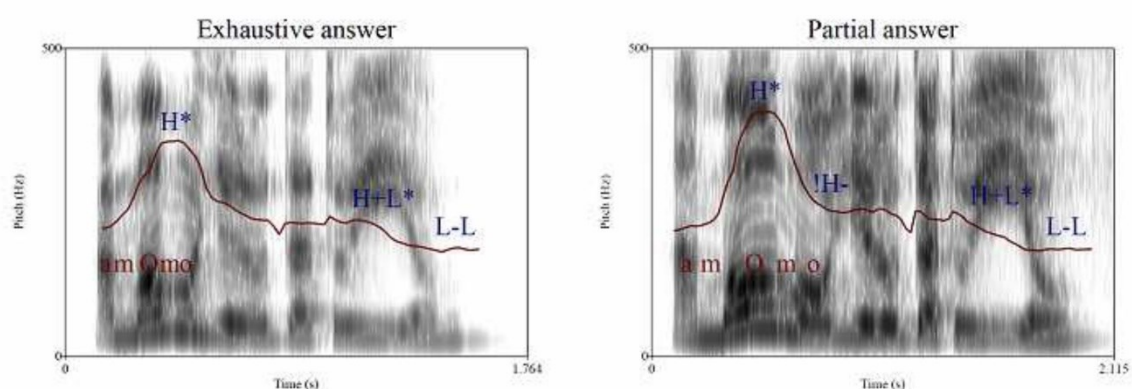
‘Who fed the animals today?’

B: *[A Momo]_{PT} gliel’ho dato io.*

‘I gave it to Momo.’

Their results fully confirm the prosodic differences detected between RT and PT in D’Imperio & Cangemi (2011), in that RT is realized by a rising pitch accent reaching the peak in the post-stressed syllable and it is in the same prosodic phrase of the following VP, while PT rising accent reaches the peak within the stressed syllable and is followed by a !H- phrase accent after the topic.

Figure 4.4: *A Momo gliel’ho dato io* ‘I gave it to Momo’ uttered as a Regular Topic (left panel) and as a Partial Topic (right panel) in Neapolitan Italian (from Brunetti, D’Imperio & Cangemi 2010).

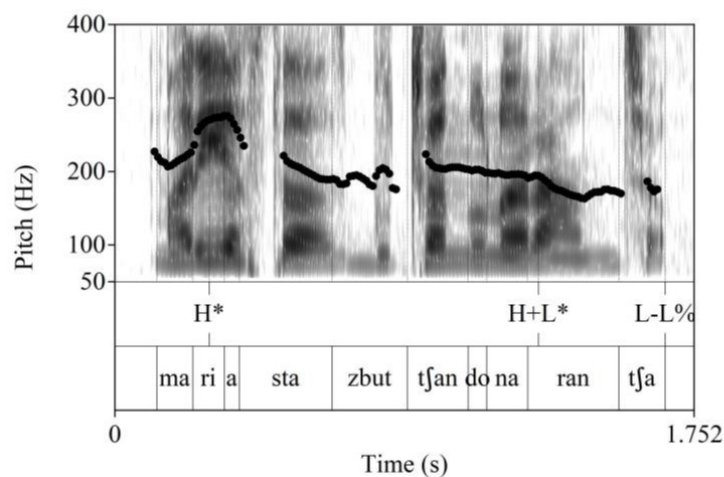


To sum up, different topic and focus conditions show differences in the presence of a phrasal break between NP and VP and a register compression in the VP as well as differences in pitch accents’ alignment and span.

As regards Salerno Italian, among the possible differences distinguishing Neapolitan and Salerno Italian, Orrico (2020) recognizes a different realization of pitch accents in prenuclear position. In D’Imperio and colleagues’ terms, one of these differences deals with the three-way distinction between RT, PT and CF present in Neapolitan Italian. Specifically, the three conditions show specific properties in Salerno Italian as well, but exhibiting different realizations, mainly dealing with peak alignment, pointing to differences in the two varieties as for RT and PT.

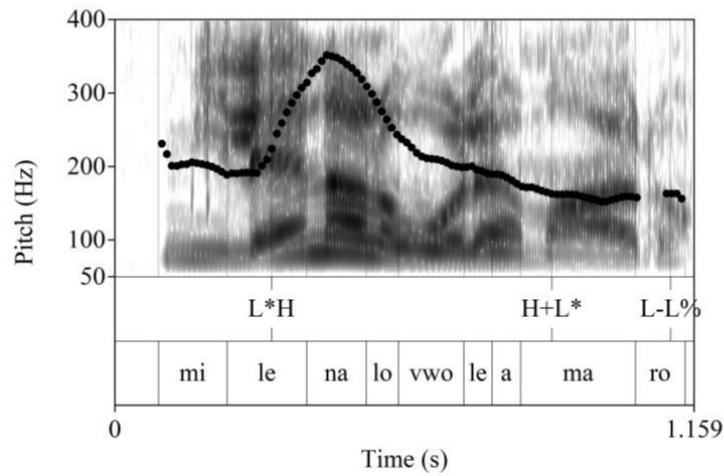
Specifically, RT in broad focus statements carries a rising prenuclear accent, labelled H*, with the peak aligned late, hence within the stressed or the post-stressed syllable (Figure 4.5).

Figure 4.5: Maria sta sbucciando un’arancia ‘Maria is peeling an orange’ uttered as a broad focus statement with a regular topic in Salerno Italian (from Orrico 2020).



In line with Neapolitan Italian, in Salerno Italian the PT pitch accent is also a bitonal rising accent, but this is realized as L*H. It presents differences from RT H* in the alignment of the H target, since the rise starts at the beginning of the stressed vowel, and the peak appears to be more systematically reached in the post-stressed syllable (Figure 4.6).

Figure 4.6: Milena lo vuole amaro ‘Milena takes it [the coffee] black’ uttered as a broad focus statement with a contrastive topic in Salerno Italian (from Orrico 2020).

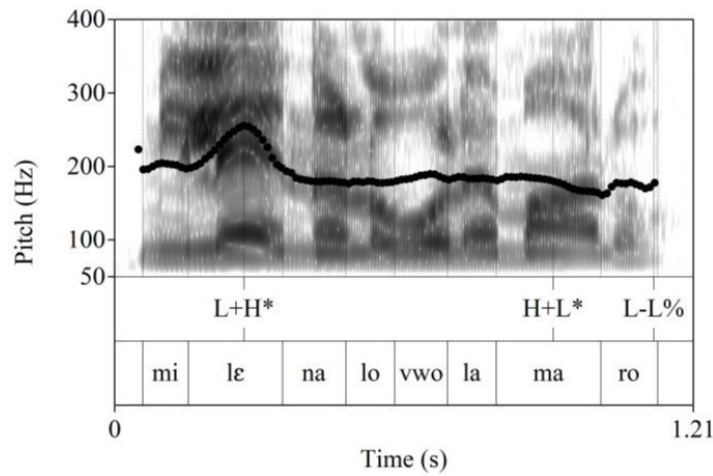


Crucially, this description of Salerno PT matches that of the RT in Naples. Hence, a reversed situation emerges, in that earlier peaked pitch accents are employed for RT in Salerno and for PT in Naples, while the late-peaked pitch accent characterizes RT in Naples and PT in Salerno. Deeper investigation on the prosodic properties of PT realization, e.g. the presence of a phrase break and a register level downstep, was not possible since only few renditions of statements with PT were present in the Discourse Completion Task data collected for Salerno and analyzed by Gili Fivela et al. (2015) and Orrico (2020).

On the other hand, Salerno Italian CF is realized in a similar fashion with regard to Neapolitan Italian, showing a rise-fall movement, with the rising movement starting in the pre-stressed syllable and the peak reached in the first half of the stressed syllable (Figure 4.7).

To complete the picture, the analysis reported in Chapter 3 suggested that Cilento Italian appears to select the same prenuclear pitch accent type for expressing both RT and PT, realized as a rise starting from the pre-stressed syllable and the peak reached within the stressed syllable (§ 3.3.1). In this light, it seems that in Cilento Italian differences between the conditions related to tonal alignment (emerged when comparing Neapolitan and Salerno Italian) are neutralized, and that for both conditions the pitch accent employed matches the description of RT in Salerno Italian and PT in Neapolitan Italian.

Figure 4.7: Milena lo vuole amaro ‘Milena takes it [the coffee] black’ uttered as a narrow focus statement with sentence-initial focus in Salerno Italian (from Orrico 2020).



Given the presence of such potential differences across Campania Italian varieties, a replication study was carried out adopting the study design of D’Imperio & Cangemi (2011). This has the goal of investigating the possible contrast among RT, PT and CF conditions enlarging the picture on Campania Italian varieties to Salerno Italian and Cilento Italian. Accordingly, preliminary and qualitative observations on Salerno Italian (Orrico 2020) and Cilento Italian (Chapter 3) will be experimentally tested and compared to Neapolitan Italian data. Specifically, the analysis carried out in this chapter aims at exploring:

1. the relation among the three varieties along two dimensions, i.e. *systemic* and *realizational*. The goal is to verify whether the three varieties realize/encode the topic and focus conditions in the same way. We expect the encoding of the different conditions to be similar across the varieties, with possible differences in the employment of specific phonetic cues, among which, pitch accent peak alignment.
2. the phonetic transition between Campania Italian varieties. This specific aim concerns the possibility for Neapolitan, Salerno and Cilento Italian to follow the Italo-Romance dialectal continuum, namely being abruptly separated at the height of the Eboli-Lucera line, or to feature a continuously smooth transition, namely a geographic cline from north (Neapolitan) to south (Cilento). On the basis of the

cross-variety comparison carried out in Chapter 3, a continuous phonetic transition, rather than a clear-cut separation between the varieties is expected.

4.2 Methods

4.2.1 Data collection procedure

Four Cilento Italian and four Salerno Italian participants were recruited for the experiment. They all were aged 18-45 years old, and never lived in areas or cities other than their native area. In particular, Cilento Italian speakers all came from the upper area of Cilento, namely from the town of Agropoli, Ostigliano and Ascea. Salerno Italian speakers came from the city of Salerno, San Mango Piemonte and Pontecagnano.

The production experiment consisted of a Reading Task. Along the lines of D’Imperio & Cangemi (2011), target sentences were statements with SVO word order and consisting of a sentence-initial NP followed by a VP. To ensure comparability across the conditions and with Neapolitan Italian data, the rhythmic structure of the sentences was highly controlled⁴¹. NPs were all trisyllabic first names with all syllables having a CV structure and lexical stress on the penultimate syllable (*Milena*, *Lorena*), while each VP presented two stressed constituents, namely the verb and the argument consisting of the same number of syllables in each target sentence. An example of target sentence is shown in (4):

(4) *Lorena* _{NP} *lo rende ameno* _{VP}

‘Lorena makes it funny’.

The Reading Task aimed at eliciting the NP with three interpretations, namely under three different pragmatic conditions:

- a. Regular Topic (RT), followed by a focal VP in exhaustive answers.
- b. Partial Topic (PT), followed by a focal VP in non-exhaustive answers.
- c. Contrastive Narrow Focus (CF) followed by a postfocal VP in corrective answers.

⁴¹ Indeed, tonal alignment can be subjected to several sources of variability, such as vowel-length (Ladd et al. 2000), stress position (Elordieta & Calleja 2005), number of unstressed syllables before and after prenuclear and nuclear accents (Dalton & Ni Chasaide 2005; Kalaldehy, Dorn & Ni Chasaide 2009), different Voice Onset Timing values (Atterer & Ladd 2004), segmental content (e.g. *raddoppiamento fonosintattico*, Petrone 2005).

Data collection was carried out entirely by means of a remote procedure (Zencastr software). The Reading Task was presented in the form of a ppt presentation the participants received before the recording. Participants then met the experimenter on Zencastr where they received instructions to how to perform the task (for further detail see Chapter 3). Each slide of the presentation contained a target sentence in written form preceded by situational contexts which had the goal of inducing the desired interpretations. The context was to be read in mind and the target sentence to be read aloud. Examples of contexts for each condition are given below. In Example (5), Lorena is set as the Topic, so that the answer is exhaustive since the VP contains the new information, while in (6) the answer is only partial, i.e. non-exhaustive, since “classmates” is set as the Topic. Finally, in (7) the context sets “the study so funny” as the given information, so “Lorena” is the focal constituent, and it is corrective with regard to “Barbara”. Target sentences are reported in bold.

(5) RT in exhaustive answers

You are studying for a difficult university exam with Lorena, your usual classmate. A friend of yours wants to join your study group and asks you how the study with her is. You answer:

[Lorena]_{RT} lo rende ameno ‘Lorena makes it funny’

(6) PT in non-exhaustive answers

You are preparing for an exam with a new group of classmates. Your father wants to know how the study with them is. You only know Lorena, a former schoolmate of yours. You answer:

[Lorena]_{PT} lo rende ameno ‘Lorena makes it funny’

(7) CF in corrective answers

Study session with friend at your house. The study is repeatedly interrupted by laughs and jokes. Your father asks whether it is Barbara who makes the study so funny. Actually, it is not her, so you answer:

[Lorena]_{CF} lo rende ameno ‘Lorena makes it funny’.

The experimental sentences were interspersed with (14) fillers. The final dataset consists of 480 items: 10 target utterances (5 Lorena, 5 Milena) * 3 conditions (RT, PT, CF) * 2 renditions * 4 speakers * 2 varieties (SI, CI).

4.2.2 Analysis

The realization of RT, PT and CF across in SI and CI was compared.

The sample was segmented using Webmaus (Kisler, Reichel & Schiel 2017), which allows to obtain Praat textgrid with separate tiers for orthographic words, syllables and segments and then analyzed in Praat (Boersma & Weenink 2020). A set of Praat scripts was used to extract duration and f_0 measurements.

To quantitatively test the phonetic differences among the three varieties, the phonetic properties of the three conditions were explored. Since in all three conditions a rising pitch accent is involved, a Praat script was used to identify the two relevant accentual target points, namely the start of the rise (L) and the end of the rise (H). The exact position of these two target points was then manually checked. The following phonetic parameters were considered:

- Span of the rise, corresponding to the distance between L and H, namely f_0 minimum and f_0 maximum, calculated in Hz and converted in semitones (ST) ('t Hart et al., 1990: 24).
- Slope of the rise, calculated as span (between L and H) in semitones/duration in seconds (Peters & Pfitzinger 2008).
- Peak latency, namely latency in milliseconds (ms) of the H target from the offset of the stressed syllable.

In addition, a categorical assessment of the peak location was carried out. Since previous observations suggest that the rise exhibits different properties of tonal alignment across the varieties, the position of the rise peak in the NP stressed or post-stressed syllable was considered in order to get a more comprehensive look of cross-variety alignment features involved in the realization of the different pragmatic conditions pitch accents and leading to different annotations (e.g. H* vs L*H vs L+H*). Ultimately, this difference may possibly unveil phonological opposition between the pitch accents employed in Cilento Italian as well.

To replicate the study design of D'Imperio & Cangemi (2011), in addition to exploring the realization of sentence-initial pitch accents, the analysis also considered the realization of

VP, since in Neapolitan Italian the three pragmatic conditions are characterized by the presence *vs* absence of a phrase break between NP and VP and by different kinds of register compression within the VP. Accordingly, the analysis also considered respectively:

- Pre-boundary and post-boundary lengthening, namely the duration of both NP-final syllable and vowel ([na] and [a] for *Milena* and *Lorena*) and the duration of the VP-initial syllable and vowel ([lo] and [o] for *lo rende ameno*).
- Height of post-boundary peaks, namely the f_0 height of the first (H1) and second (H2) peak (in Hz) occurring on the first and second stressed syllables in the VP (e.g. *lo RENde aMEno*).

The sample was statistically analyzed using mixed-effect linear regression models in R (R Core Team 2019)⁴². We used the *lmer* function within the package *lme4* (Bates et al. 2015a) and for the procedure we followed the criteria reported in Bates et al. (2015b). Phonetic values (span, slope, peak latency, duration, f_0 height) were set as dependent variables, variety (CI, SI) and experimental condition (RT, PT, CF) as interactive independent variables, speaker as random variable. Inspections of levels within main effects and interactions that reached significance were performed using pairwise comparison.

4.3 Results

On the whole, results show that the contrast in the realization of the three conditions observed for Neapolitan Italian (NI) is also present in both Salerno (SI) and Cilento (CI) Italian. The three conditions are phonetically encoded in a similar way in the varieties of SI and CI and in line with what was reported for NI (Brunetti, D’Imperio & Cangemi 2010; D’Imperio & Cangemi (2011). Here productions showing the realization of RT, PT and CF in SI (Figures 4.8-4.10) and CI (Figure 4.11-4.13) are reported. Specifically, data of the Reading Task are in line with the qualitative analysis of Discourse Completion Task data for SI (Orrico 2020) and CI (Chapter 3).

⁴² The adoption of a different statistical approach with reference to the analysis reported in Chapter 3 deals with the different nature of collected speech data. Indeed, cross-variety comparison (§ 3.4.4) relied on speech data primarily conceived for qualitative analysis. i.e. Discourse Completion Task data, that included too many and all categorical variables (variety, speaker, type of question, type of task, tonal events). Accordingly, we opted for Bayesian models providing an interesting instrument to assess the reliability of hypotheses that can be subsequently further tested. On the contrary, data collected for the present chapter, as well as for Chapter 5, allow for statistical analyses based on Frequentist methods, in that a number of continuous values are included, i.e. all phonetic values.

Figure 4.8: F_0 contour of RT condition MiLEna lo vuole aMAro ‘Milena takes it black’ in SI.

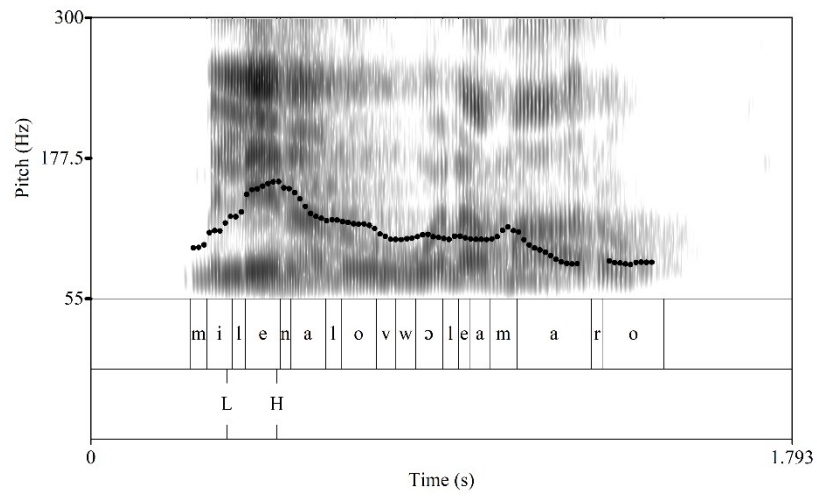


Figure 4.9: F_0 contour of PT condition MiLEna lo vuole aMAro ‘Milena takes it black’ in SI.

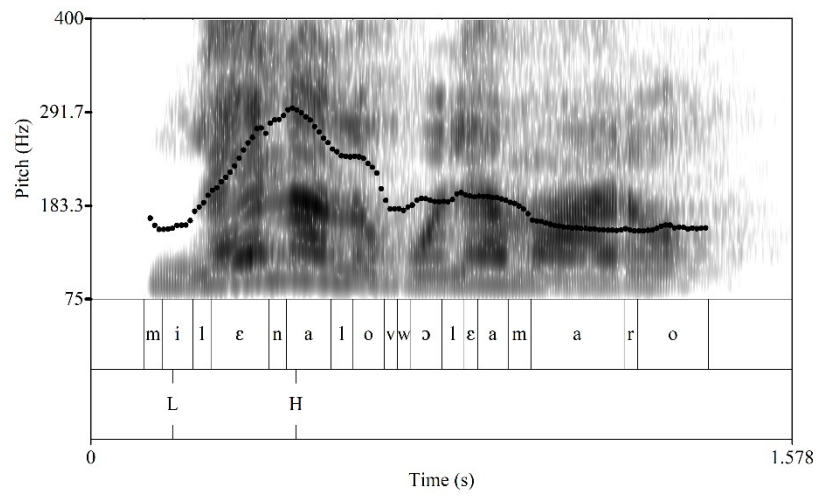


Figure 4.10: F_0 contour of CF condition MiLEna lo vuole aMAro ‘Milena takes it black’ in SI.

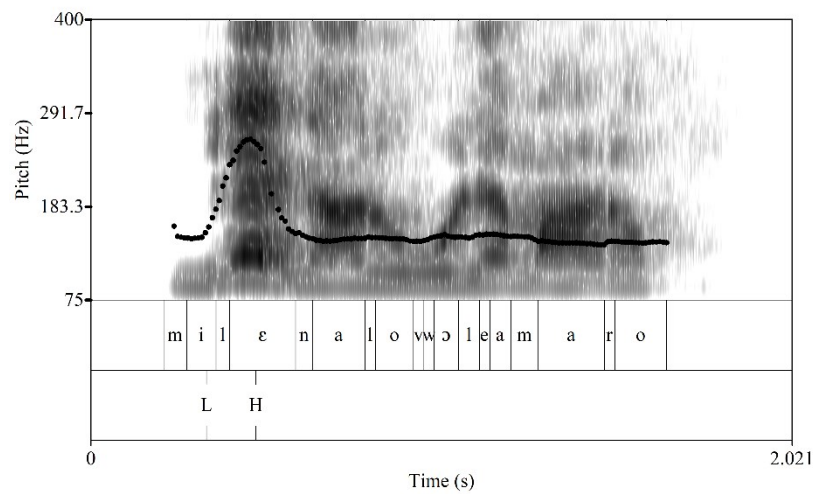


Figure 4.11: F_0 contour of RT condition MiLEna lo vuole aMAro 'Milena takes it black' in CI.

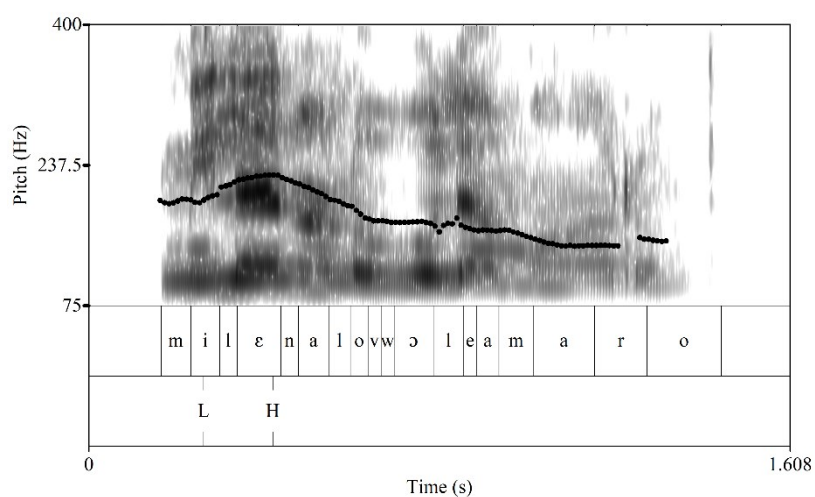


Figure 4.12: F_0 contour of PT condition MiLEna lo vuole aMAro 'Milena takes it black' in CI.

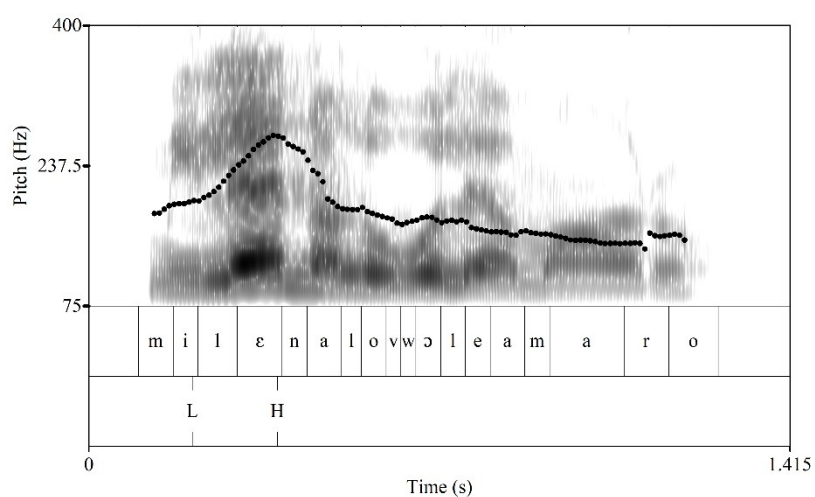
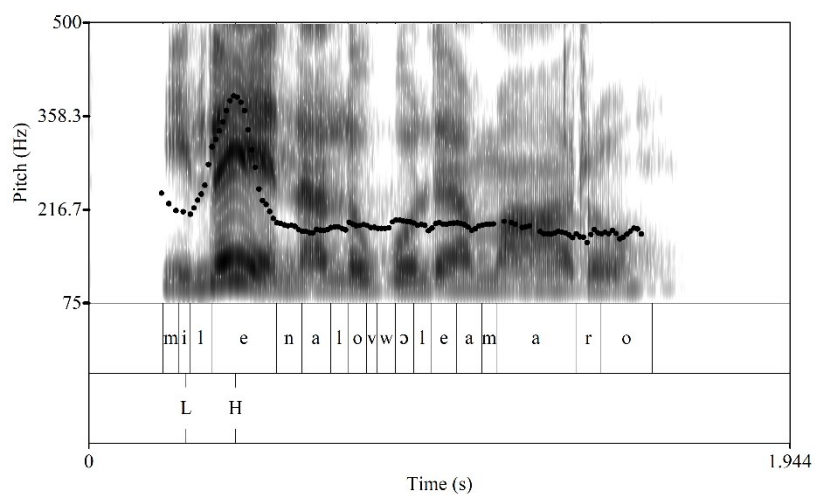
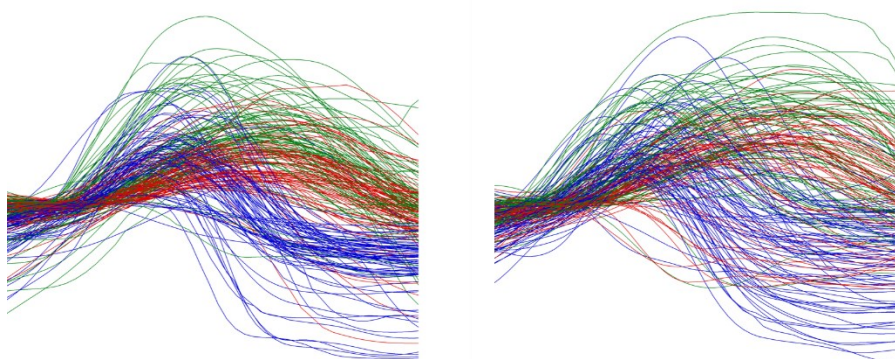


Figure 4.13: F_0 contour of CF condition MiLEna lo vuole aMAro 'Milena takes it black' in CI.



Therefore, consistency in the realization can be observed both across the three conditions and across the two varieties. Figure 4.14 reports f_0 contours of the topic and focus NP portion plotted according to the three conditions in the two varieties. The f_0 contours were first smoothed in Praat using a customized version of *mousmooth* (Cangemi 2015); the smoothed contours were synthesized, normalized in height and duration using the stressed syllable onset as temporal anchor point, and plotted together.

Figure 4.14: F_0 curves of the NPs according to the three conditions of RT (red line), PT (green line), CF (blue line) in CI (left panel) and SI (right panel).



Beyond the consistency, the plotted contours suggest also condition-specific and variety-specific phonetic properties. Below are the results according to each parameter of analysis.

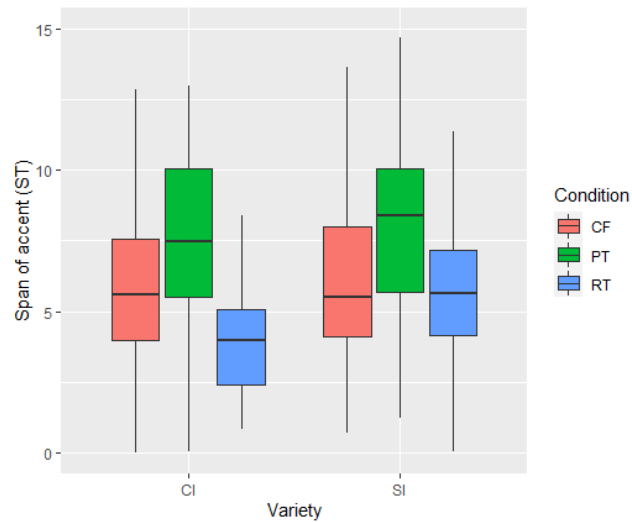
Span

Span was found to show statistical significance according to the condition (Est: 2.9; $p < .001$), as shown in Table 4.1 and Figure 4.15. No effect according to the variety nor according to the interaction between condition and variety was found. In particular, the significance concerns the two topic conditions, in that a wider span distinguishes PT from RT in both varieties. On the other hand, CF appears not to be significantly different in the excursion of the accentual rise with regard to the topic conditions; specifically, it is slightly wider than RT only in CI data.

Table 4.1: Summary of pairwise comparisons among the three levels of experimental condition according to span (ST).

	Estimate	Std. Error	z value	Pr ($> z $)
CF - PT	-1.5558	0.8962	-1.736	0.104
CF - RT	1.4426	0.8010	1.801	0.104
PT - RT	2.9984	0.4633	6.472	2.86e-10***

Figure 4.15. Span (ST) of the accentual rise according to the condition (RT, PT, CF) and the variety (SI, CI).



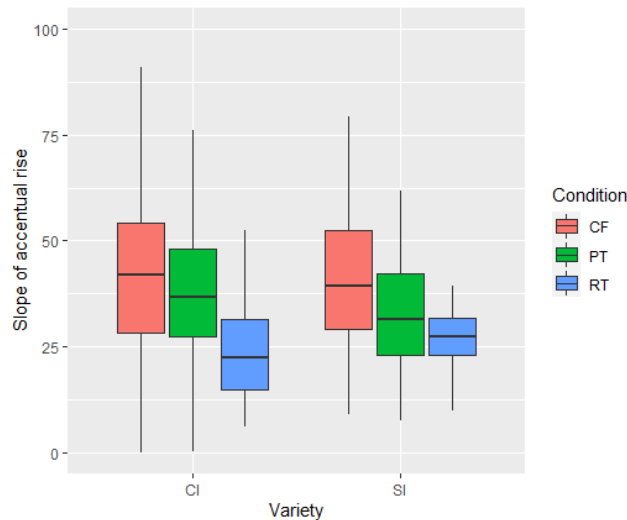
Slope

In a similar fashion, the slope of the rise resulted to be significant only according to the condition (Table 4.2). In both varieties, contrastive conditions, namely CF and PT, are realized with steeper accentual slopes with regard to RT (Est: 9.9; $p < .001$), although no differences were detected between the two (Figure 4.16).

Table 4.2: Summary of pairwise comparisons among the three levels of experimental condition according to slope.

	Estimate	Std. Error	z value	Pr(> z)
CF - PT	7.551	5.810	1.300	0.19373
CF - RT	17.516	5.281	3.316	0.00133**
PT - RT	9.965	1.954	5.101	8.43e-07***

Figure 4.16. Slope of the accentual rise according to the condition (RT, PT, CF) and the variety (SI, CI).



Latency

Instead, peak latency parameter showed an effect of both condition and variety.

As for condition (Table 4.3), CF was found to have the earliest peak compared to both PT (Est: -140.9; $p < .001$) and RT (Est: -122.8; $p < .001$); specifically, CF peak systematically showed negative latency from the offset of the stressed syllable, that is to say that the H target is always aligned within the stressed syllable. CI and SI topic conditions showed later alignment, with more frequently positive latency in SI, namely with H target more frequently aligned within the post-stressed syllable. However, no significance was found between PT and RT.

Table 4.3: Summary of pairwise comparisons among the three levels of experimental condition according to peak latency (ms).

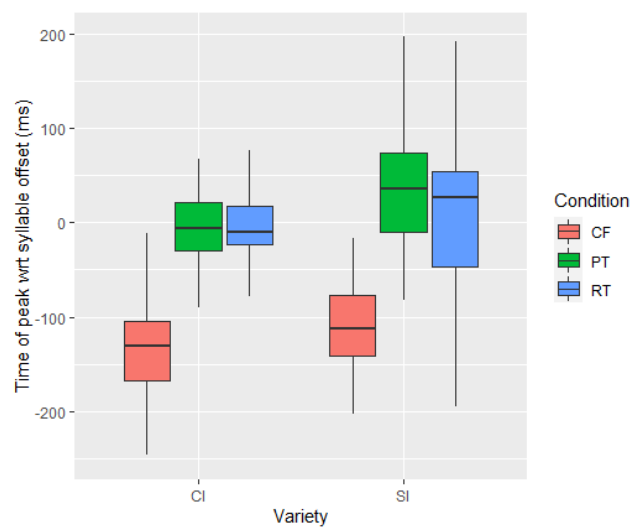
	Estimate	Std. Error	z value	Pr(> z)
CF - PT	-140.98	15.00	-9.398	<2e-16***
CF - RT	-122.78	13.49	-9.101	<2e-16***
PT - RT	18.21	16.34	1.114	0.265

As for variety, CI show a significantly anticipation of accentual peaks of all three conditions compared with SI (Est: -33.2, $p < .01$) = ca 30 ms) as shown in Table 4.4 and Figure 4.17. Crucially, despite the overall anticipation, the distinction between the three conditions is preserved, namely early CF peaks vs late PT and RT peaks.

Table 4.4: Summary of pairwise comparisons among the two variety conditions according to peak latency (ms).

	Estimate	Std. Error	z value	Pr(> z)
CI - SI	-33.19	10.27	-3.233	0.00123 **

Figure 4.17. Time in ms of accentual peak alignment according to the condition (RT, PT, CF) and the variety (SI, CI).



Moreover, peak latency results allow to make some intra-variety observations. Indeed, the data show that SI PT is aligned later than RT (ca 37 ms), as already qualitatively noted by Orrico (2020) on a smaller sample; however, such a difference between the conditions is not statistically significant. The categorical assessment of peak location corroborates this tendency (Table 4.5). In fact, in the within-stressed *vs* within-post-stressed syllable alignment opposition, H target position in CI shows no major differences between the topic accents (RT and PT), as observed in the CI analysis on Discourse Completion Task data. Regarding instead SI, PT peaks are more frequently aligned in the post-stressed syllable (73.2% of occurrences), although a high number of RT peaks in the post-stressed syllable were found as well. It is worth noticing that instances of RT aligned with the post-stressed syllable are found in both CI and SI, as a confirmation of H* notation, one of whose phonetic variant presents a peak aligned even beyond the right edge of the stressed vowel (Orrico 2020).

Table 4.5: Categorical assessment of peak location: productions divided according to the condition (RT, PT, CF) and the variety (SI, CI).

		CI	SI
		CF	77 75
Within-stressed	PT	44	19
	RT	45	28
	CF	0	3
Post-stressed	PT	33	52
	RT	35	35
	CF		

Duration

In the analysis, four measures of duration were taken, namely both pre- and post-boundary syllables and vowels. Results show statistical significance as for the NP-final syllable according to the condition: that syllable in PT is lengthened compared to RT (Est: 36.4, $p < .05$; Table 4.6 and Figure 4.18). On the other hand, NP-final vowel and VP-initial syllable and vowel did not result to be significant, and no differences between the varieties were detected.

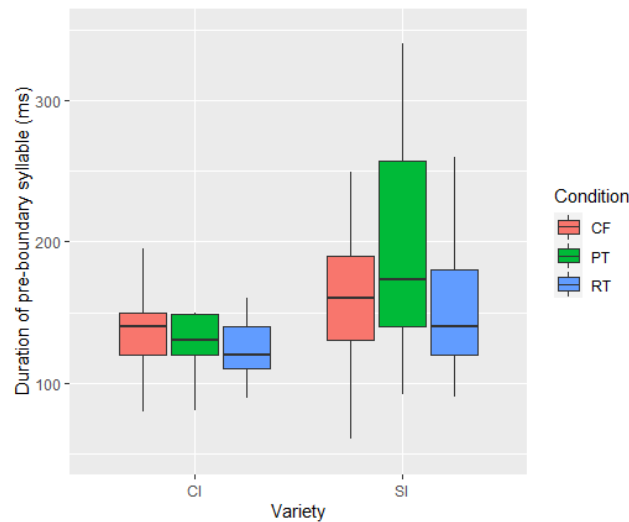
Pre-boundary syllable lengthening suggests the presence of a break between NP and VP in PT condition, as reported for NI, that does not occur in RT condition also in SI and CI;

however, in D’Imperio & Cangemi (2011) a lengthening of also the NP-final vowel was found for NI. As in NI instead, neither VP-initial syllable nor vowel were statistically different according to the conditions in CI and SI.

Table 4.6: Summary of pairwise comparisons among the three levels of experimental condition according to the duration of NP-final syllable (ms).

	Estimate	Std. Error	z value	Pr(> z)
CF - PT	-22.83	19.93	-1.145	0.2945
CF - RT	13.58	10.44	1.301	0.2945
PT - RT	36.40	14.43	2.523	0.0265*

Figure 4.18. Duration in ms of pre-boundary syllable according to the condition (RT, PT, CF) and the variety (SI, CI).



Register compression

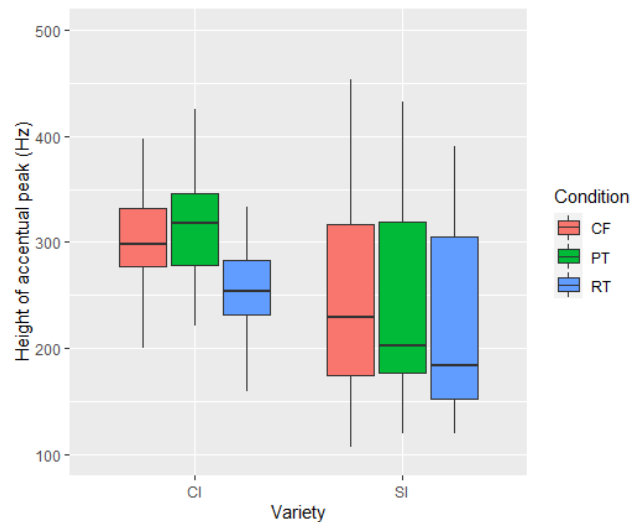
Similarly, the hypothesis of an intermediate register compression after the PT was only partly confirmed. Of the two post-boundary peaks, only H1 resulted to be statistically significant in distinguishing the experimental conditions ($p < .001$). In particular, this difference only concerns SI, where H1 significantly distinguishes CF, showing the maximal compression, as opposed to both PT and RT (Table 4.7). As shown in Figure 4.19, PT is somewhat halfway between the maximal compression of CF and the absence of

range compression in RT. As for CI, there is only a tendency in distinguishing RT from CF and PT. The f_0 height of H2 shows no significant differences according to neither the conditions nor the varieties.

Table 4.7: Summary of pairwise comparisons among the three levels of experimental condition according to f_0 height of H1 (Hz).

	Estimate	Std. Error	z value	Pr(> z)
CF - PT	-14.031	3.394	-4.134	6.70e-05 ***
CF - RT	-11.322	2.223	-5.093	7.02e-07 ***
PT - RT	2.709	3.230	0.839	0.402

Figure 4.19. Height of H1 (Hz) according to the condition (RT, PT, CF) and the variety (SI, CI).



4.4 Discussion

In the present chapter a first investigation devoted to the *realizational* dimension of variation across neighboring Italian varieties is reported. Taking the results of previous studies on NI and SI as a starting point, the aims of this investigation were to explore whether Campania Italian varieties show differences in the realization of pragmatic conditions (sentence-initial RT, PT, CF) and to characterize the phonetic transition across them as of abrupt or continuous nature.

Overall, results show that the three conditions under investigation are phonetically encoded in a similar way in the varieties of Salerno and Cilento and in line with previous studies on Neapolitan Italian (Brunetti, D’Imperio & Cangemi 2010; D’Imperio & Cangemi 2011).

As far as the phonetic properties of the accents, both in Cilento and Salerno, RT and PT accents are realized as a rise, reaching the peak late in the vowel. The difference between these two conditions lies in the dimensions of span and slope of the rise, significantly wider and steeper in PT, respectively. CF, on the other hand, is realized as a rise-fall movement, with the peak aligned earlier than both the topic conditions. For the other parameters, CF is less clearly differentiated from the two other conditions: a steeper slope groups together CF and PT vs RT; however, along the dimension of span, CF is not significantly different from neither PT nor RT.

As regards the parameters analyzed to verify the presence of a phrase break and consequent register compression across the conditions, results on pre-boundary lengthening confirm what was observed in NI: PTs are more likely to be set off in their prosodic phrase, highlighting a difference between contrastive and non-contrastive topic utterances. In line with D’Imperio & Cangemi (2011), the height of post-boundary peaks differentiates CF from both topic conditions, confirming that post-boundary register (in the post-focal VP) is maximally compressed in CF, but do not clearly characterize PT as being followed by an intermediate range compression.

Therefore, the contrast among the three conditions is preserved across the three Campania Italian varieties, since topic and focus categories under investigation are encoded by means of a similar interplay of phonetic cues. In other words, each condition is realized by the combinations of the same phonetic properties in NI, SI and CI. To summarize, in all three varieties:

- a. Non-contrastive topic (RT) shows the lowest values of both accentual span and slope, and the accentual peak is achieved late within the stressed syllable; RT is followed by neither pre- and post-boundary lengthening nor VP register compression.
- b. Contrastive topic (PT) presents an accentual rise characterized by the widest span, a steep slope and a late peak alignment; as for the phrasing, PT shows pre-boundary lengthening but no significant register compression.

- c. Contrastive focus (CF) shows a wide span and a steep slope and has the earliest location of the accentual peak; it presents no boundary lengthening, but it shows the maximal VP register compression.

Accordingly, the three-way distinction between the conditions attested for NI (Brunetti, D’Imperio & Cangemi 2010; D’Imperio & Cangemi 2011) is confirmed also for other closely related Campania varieties, namely both SI and CI.

Moving into the nature of the phonetic transition across the varieties, a substantial difference along the *realizational* dimension in the phonetic implementation of the three-condition contrast was detected in the temporal properties of accentual peaks. Specifically, the phonetic detail of peak alignment significantly distinguishes the three varieties.

Although the difference in the early (CF) and the late (RT and PT) peak alignment is kept constant across SI and CI (hence preserving the contrast), in the latter variety the position of the peaks is overall significantly earlier with reference to SI.

A second difference emerges from the comparison of SI and NI. In SI, PT peaks are more frequently aligned in the post-stressed syllable compared to RT. This data confirms the preliminary observations of Orrico (2020), motivating the annotation of the two topic conditions by employing two different prenuclear accents, namely H* for RT and L*H for PT. This also provides evidence about the difference with regard NI, showing a reversed situation: the peak is aligned within the stressed syllable in PT and in the post-stressed syllable in RT (Brunetti, D’Imperio & Cangemi 2010; D’Imperio & Cangemi 2011). In this light, CI appears to keep the PT-RT contrast, although the general temporal anticipation of peaks implies that both condition peaks are more often aligned within the stressed syllable. The possible difference between RT and PT in CI is not triggered by the categorical assessment of peak location, rather on the basis of peak alignment differences within the same (stressed) syllable.

What can be speculated is that the different encoding of topic accents relies on the interplay of more than one phonetic cue, namely span and slope, while temporal properties of the rise are more variety-specific. As a consequence, the three accentual categories result to be paradigmatically contrastive only in relative terms, namely in the intra-varietal opposition of the three accent, rather than in a cross-variety perspective. Indeed, cross-variety analysis of Campania Italian varieties displays both within-category variability and cross-category overlap (Arvaniti 2019). Specifically, on the one hand, within-category variability is found in the possible phonetic realizations of the same intonational category,

e.g. the same topic accent temporally realized along a phonetic continuum and aligned with different points of the segmental string, namely within the stressed or the post-stressed syllable. On the other hand, cross-category overlap concerns the same phonetic realization traced back to more than one category, e.g. accentual peaks, both aligned in the stressed syllable, for the categories of regular and partial topics. Cross-variety differences in the annotation and the temporal properties of topic accents are summarized in Table 4.8.

Table 4.8: Summary of peak alignment properties and annotations of RT and PT accents in NI, SI and CI.

	NI		SI		CI	
RT	post-stressed syllable	H*	right edge of the stressed syllable or beyond	H*	right edge of the stressed syllable or beyond	H*
PT	stressed syllable	H*	post-stressed syllable	L*H	right edge of the stressed syllable or beyond	H*

On the whole, peak alignment works as a *realizational* distinguishing feature across the varieties. As far as phonetic values of peak latency are concerned, a significant temporal difference distinguishes SI and CI on the two sides of the Eboli-Lucera line, indicating diatopic variation.

To complete the picture by including NI, cross-varietal distinction on the basis of peak alignment can be detected in the realization of RT accents across all three varieties. Indeed, such accents are aligned in the post-stressed syllable in NI, before or after the right edge of the stressed syllable (with no phonological opposition) in SI and, although always within the stressed syllable, significantly earlier in CI. This features a gradual anticipation of accentual targets indicating diatopic variation from one Campania Italian variety to another, namely from the northernmost variety, i.e. NI, to the southernmost ones, i.e. SI and CI.

In this light, it may be concluded that the intonational transition between Campania varieties, at least as far as the examined features are concerned, does not follow the Italo-Romance dialectal continuum. Indeed, an abrupt separation between NI and SI, above the Eboli-Lucera line, and CI, below the line, is not observed. Rather, a continuous phonetic transition across the varieties is observed, featuring a smooth geographic cline from north to south (NI > SI > CI). Such a result is in line with Gili Fivela & Nicora (2018), in which

a transitional area between Italian varieties across the La Spezia-Rimini line was found regarding similar contours distinguished on the basis of the phonetic realization.

Differences detected across Italian varieties on both sides of the La Spezia-Rimini and the Eboli-Lucera dialectal isoglosses are phonetic in nature and no phonological opposition was found. Accordingly, at least for the contrast examined in the present chapter, the Eboli-Lucera line does not represent an abrupt boundary, but, rather, it seems to indicate an area of gradual transition, in which diatopic variation between the varieties is realized along a phonetic continuum.

CHAPTER 5

PHONETIC DETAIL IN BROAD AND NARROW FOCUS STATEMENTS IN CAMPANIA ITALIAN

In the present chapter a further step is made in the exploration of the *realizational* differences leading to intonational transition across Campania Italian varieties. Specifically, the chapter reports a production experiment conducted in order to deepen some features qualitatively detected in Chapter 3 in the realization of broad focus and sentence-final narrow contrastive focus statements in Cilento Italian. To assess whether such features mark inter-variety phonetic variation, the experiment also includes production data of the neighboring variety of Salerno Italian.

The chapter is articulated as follows. In § 5.1, introduction on the ways Romance languages mark the contrast between broad and narrow focus, and the research questions of the chapter are reported. The method adopted for the production experiment in § 5.2 describes the procedure of data collection and parameters of analysis. Results and inter-variety comparison according to the relevant phonetic parameters are presented in § 5.3. Discussion is reported in § 5.4.

5.1 Introduction and research questions

Inter-linguistic differences in the realization of broad and narrow focus statements are reported in a number of studies. Even in languages in which word order and specific syntactic structures can convey different types of sentence focus, phonetic cues and dedicated tunes are found to be employed to express and distinguish the two conditions.

As for phonetics, languages (and language varieties) are attested to employ different phonetic cues to differentiate types of sentence focus. A systematic comparison of the two conditions in different languages is provided in Vanrell et al. (2013) dealing with (Lecce) Italian, (Majorcan) Catalan and (Madrid) Spanish. The study aims at testing the contribution of different parameters and their interplay in the expression of contrastive and non-contrastive accents. Peak alignment, pitch range and syllable duration have been proved to be the main prosodic cues in distinguishing the two conditions as for Italian. Specifically, contrastive accents are aligned earlier than non-contrastive accents and present narrower pitch excursion and longer duration.

The phonological contrast between broad and narrow focus is also generally marked in Romance. For instance, Face (2002) and Face & D'Imperio (2005) report four intonational markers of narrow focus in Castilian Spanish, among which different pitch accents and phrase accents. As far as Italian varieties are concerned, narrow focus statements are realized with the same falling tune employed in broad focus statements. Across the different varieties, contrastive-corrective focus presents two main pitch accent options, namely L+H* and H*+L, although such different annotations correspond to accents with a similar phonetic shape, i.e. a peak accent with a rise within the syllable and a peak aligned early in the stressed vowel (Gili Fivela et al. 2015).

Despite such inter-variety consistency, differences in pitch accent type and/or pitch accent distribution can arise even in varieties sharing the same or neighboring dialectal area. Indeed, Neapolitan Italian (D'Imperio 2001, 2002) and Salerno Italian (Orrico 2020) are both attested to employ H+L* and L+H* pitch accents to intonationally mark broad and narrow focus, respectively; however, the choice to employ regular broad focus tune (H+L* L-L%) also for contrastive-corrective focus is attested as well (Gili Fivela et al. 2015).⁴³

Cilento Italian analysis reported in Chapter 3 pointed to possible phonetic differences in the encoding of focus contrasts in statements with regard to what is attested for its neighboring varieties. Specifically, a remarkable high f_0 movement of unclear interpretation was detected in the pre-stressed region of the utterance in both focus conditions. Actually, a difference could be noticed according to the target word in nuclear position, in that such f_0 movement occurs in the pre-stressed syllable in paroxytone

⁴³ No intonational differences are identified between contrastive and non-contrastive narrow focus in neither Neapolitan Italian (Face & D'Imperio 2005) nor Salerno Italian (Orrico 2020).

trisyllables, and on the first syllable, i.e. two syllables before the stressed syllable, in paroxytone quadrisyllables.

Cross-linguistically, similar realizations, namely early prenuclear f_0 movements, have been noted for other Romance languages or language varieties (Frota & Prieto 2015), working as distinguishing features between closely related varieties of the same language. In many cases such realizations have been analyzed in phonological terms as secondary prominences occurring on lexically unstressed syllables. Crucially, these realizations are registered on the first, unstressed, syllable of quadrisyllables (*mandarinu* ‘tangerine’ in Sardinian) or trisyllables (*taronges* ‘oranges’ in Catalan, *iranges* ‘oranges’ in Occitan, *oranges* ‘oranges’ in French). This additional accent typically occurs in contrastive focus statements elicited via Discourse Completion Task. Since Cilento Italian analysis was based on the same set of stimuli adopted in Frota & Prieto (2015) for other Romance languages, the data from Sardinian, Occitan, Catalan and French are directly comparable to the instances under analysis elicited and analyzed for Cilento Italian in Chapter 3.

In both varieties of Sardinian, i.e., Logudorese and Campidanese, the early prenuclear f_0 movement is considered as an additional prominence and interpreted as a strategy to denote emphasis. This secondary accent is analyzed as a $L+H^*$ rise (Vanrell, et al. 2015). As for Catalan, most varieties show, for contrastive focus statements, the same rising-falling pattern detected for Campania Italian varieties, namely a rising pitch accent ($L+H^*$) followed by a low boundary tone ($L\%$) (Prieto et al. 2015). However, this is not the case for all Catalan varieties that have been investigated so far. In particular, the two varieties of Northern Catalan and Algherese realize this sentence type with an overall falling nuclear configuration, i.e. with a falling nuclear pitch accent (H^*+L) and a low boundary tone ($L\%$), preceded by a rising movement considered an initial rising accent (LHi). Occitan varieties spoken in France, e.g. Lengadocian, present an initial accent on the first syllable of the focalized constituent in contrastive focus statements (Sichel-Bazin, Meisenburg & Prieto 2015). The resulting tune has a high initial accent (Hi), a falling/low nuclear accent (L^*) and a low boundary tone ($L\%$). Again, the use of such a high tone on prestressed/word-initial syllables appears to be a marker of emphasis. No cross-dialectal differences are detected for French, where a pattern like the Occitan one is attested, characterized by a rising f_0 movement associated to the initial syllable of the focused word ($Hi\ L^*\ L\%$; Delais-Roussarie et al. 2015).

Early prenuclear peaks have been observed also in broad focus statements. This is the case of Spanish varieties such as Caribbean Spanish, where a clear H target occurring on the

pretonic syllable of both nuclear and prenuclear accents has been observed in broad focus statements (Hualde & Prieto 2015). It is worth stressing that these cases are not considered secondary prominences, hence not analyzed as independent pitch accents. In contrast, they are interpreted in phonetic terms. The nuclear pitch accent following the early prenuclear peak is analyzed as H+L*.

Table 5.1 summarizes the annotations adopted to analyze the pretonic f_0 movement as well as the entire nuclear tune, i.e. nuclear pitch accent and boundary tone, where such occurrence is detected in the Romance varieties reported above.

Table 5.1: Summary of the tunes employed for contrastive focus statements with prenuclear f_0 movement in Romance varieties.

Language	Variety	Prenuclear accent	Nuclear accent	Boundary tone
Sardinian	Logudorese, Campidanese	L+H*	H*+L	L-
Catalan	Northern Catalan, Algherese	LHi	H*+L	L%
Occitan	Lengadocian	Hi	L*	L%
French	All varieties	Hi	L*	L%
Spanish	Caribbean Spanish	H target	H+L*	L%

The instances reported show a number of points of contact with the phonetic realizations observed for Cilento Italian in: a) the type of f_0 movement (early pretonic H target); b) the position of occurrence, i.e. initial prestressed syllable of trisyllables or quadrisyllables with penultimate lexical stress; c) the sentence type of occurrence, i.e. broad focus and contrastive focus statements; d) the speech type, i.e. semi-spontaneous speech.

All in all, additional/secondary prominences point to differences across languages and language varieties concerning their macro-rhythm (Jun 2012, 2014). Accordingly, varieties presenting extra (pre-stressed/pre-nuclear) tonal events are likely to exhibit a stronger degree of macro-rhythmicity as against those with pitch accent sparseness. Along these lines, the interpretation of pretonic high target in Cilento Italian as an additional pitch accent event may imply that Campania Italian varieties are likely to differ according to the pitch accent density within the intonational phrase, with Cilento Italian displaying a stronger macro-rhythm given by a more frequent alternation of f_0 peaks (H) and valleys (L) compared to Neapolitan and Salerno Italian, where no pre-stressed high targets are attested. In this light, a difference along the *distributional/phonotactic* dimension (Ladd 2008)

might emerge across Italian varieties, as previously noted in varieties of Portuguese (Vigário & Frota 2003).

Nonetheless, results of the production experiment reported in Chapter 4 showed that Neapolitan, Salerno and Cilento Italian can differ in the temporal realization of the same tonal contrasts. The temporal anticipation of accentual peaks appears to work as a diatopic marker of Cilento Italian compared to Salerno and Neapolitan Italian, pointing to a phonetic difference between these varieties as far as declaratives with different sentence-initial topic and focus conditions are concerned. Along this line, early f_0 movement on pre-nuclear stretch can be considered as a phenomenon of phonetic nature, namely an early accentual peak, to be framed within the *realizational* dimension of inter-variety dimension, namely corroborating the phonetic features distinguishing Cilento Italian from other Campania Italian varieties.

In the light of the available evidence concerning differences among Campania varieties in the tune choice (Gili Fivela et al. 2015) on the one hand and in the phonetic implementation of tonal contrasts (Chapter 4) on the other, the present chapter has the aims of

1. Exploring the nature of the phenomenon to be attributed to the phonology (as additional/secondary pitch accent) or phonetics (temporal realization of pitch accents) of the variety of Cilento. Specifically, the chapter wants to verify and quantify the occurrence of pre-stressed H targets in more controlled conditions, including both broad focus and contrastive focus contexts.
2. Better characterizing the intonational transition between varieties across the Eboli-Lucera line. Indeed, the phenomenon is likely to differentiate Cilento Italian with regard to what has been already attested for, e.g. Neapolitan and Salerno Italian, showing *distributional* and/or *realizational* differences across Campania Italian varieties. In particular, the assumption that Campania shows the characteristics of an intonational transitional area needs further evidence.

For this purpose, the qualitative examination of the relevant tunes in Cilento Italian based on Discourse Completion Task data and previous Salerno Italian descriptions is deepened by a further production experiment specifically designed to explore these conditions in a controlled setting. A Reading Task was carried out to systematically compare the two

varieties as regards the phonological encoding and phonetic realization of statements with broad focus and contrastive-corrective focus in sentence-final position.

5.2 Methods

5.2.1 Data collection procedure

For the production task four Salerno Italian (SI) and four Cilento Italian (CI) speakers were selected. They were balanced between males and females and aged 18-45. Participants came from the close surroundings of the city of Salerno and from the upper, coastal area of Cilento, respectively. All Cilento Italian speakers had high school education, while Salerno Italian ones had high school or university level of education (for details of such criterion for speakers' selection cf. § 3.2). Speakers of both varieties had always been exposed to their relative native variety and never lived in other Italian or foreign cities.

Participants were asked to perform a Reading Task designed to elicit sentences with broad focus (BF) and contrastive focus (CF) interpretations. Target sentences were statements consisting of a VP followed by a complement, that could be either a NP, as in example (1), or a PP, as shown in example (2). The complement is in rightmost position and bears the nuclear accent. Given that in Discourse Completion Task productions the most instances of prestressed high target in CI were observed in quadrisyllabic words, for the present Reading Task paroxytone quadrisyllables as target words in nuclear position were chosen. Furthermore, such a choice also allows preventing tonal crowding (Arvaniti, Ladd & Mennen 2006). Target quadrisyllables were composed of voiced sonorants (see (1) and (2)).

- (1) *Vorrei* _{NP} *la bambolina* _{NP}
'I would like the little doll'
(2) *Volevo* _{NP} *dei mandarini* _{PP}
'I wanted tangerines'.

Data collection was remotely conducted using Zencastr. Speakers received materials and instructions before starting each individual recording session. Stimuli were presented to participants via ppt presentation by the experimenter; each target sentence was inserted into a short context presenting a situation intended to elicit the two interpretations (BF and CF) and participants were asked to read the target sentence aloud. Target sentences were

interspersed with fillers. Example of different situational contexts designed to induce the interpretation of BF and CF are given in (3) and (4), respectively. *Mandarini* ‘tangerines’ is in focal position in both sentences; in (3) it conveys new information and the whole sentence is the focus constituent, while in (4) it represents the word in contrast (to be corrected).

(3) Broad focus (BF)

You are at your mother’s house. She asks if you want some fruit for snack. You answer:

Volevo dei mandarini **‘I wanted tangerines’**

(4) Contrastive focus (CF)

You are at your mother’s house. She asks if you want some fruit for snack. You answer you want some tangerines, but you see she is taking clementines instead. You say:

Volevo dei MANDARINI **‘I wanted TANGERINES’.**

The dataset included 192 items: 6 target utterances * 2 focus conditions (BF, CF) * 2 renditions * 4 speakers * 2 varieties (SI, CI). 16 items were excluded due to speakers’ creaky voice.

5.2.2 Analysis

Data were first segmented in syllables and segments using Webmaus (Kisler, Reichel & Schiel 2017) and analyzed in Praat (Boersma & Weenink 2020). Phonetic measures were extracted by means of a set of scripts in Praat.

On the basis of Discourse Completion Task analysis of CI (Chapter 3), in CI productions the anticipated f_0 movement was expected to occur on the first syllable of quadrisyllables selected as target sentences, while no anticipation was expected in SI productions. Accordingly, the first (unstressed) syllable is hypothesized be differently realized from the third (stressed) syllable both in CI, according to different focus conditions, and between CI and SI. Specifically, such difference in the realization of the syllables may deal with both melodic aspects, such as a different pitch excursion, and temporal aspects, such as anticipated H target. Accordingly, for the present experiment, measures were taken for

- the first (unstressed) syllable (Syl1) and the first vowel (V1) of target words ([man] and [a] for *mandarini*);

- the third (stressed and accented) syllable (Syl3) and the first vowel (V3) of target word ([ri] and [i] for *mandarini*).

Time values and f_0 maxima and minima were extracted for both the first syllable (Syl1 and V1) and the third syllable (Syl3 and V3) to calculate the phonetic measures. On the basis of Vanrell et al. (2013), phonetic cues that were found to be employed to mark the contrast between non-contrastive (BF) and contrastive (CF) accents were peak timing, pitch range and duration of accented syllables. Chapter 4 showed that tonal contrasts in the varieties under examination rely on peak timing, pitch range and accentual slope as well. Along these lines, the phonetic parameters taken into account in the analysis of the present sample are:

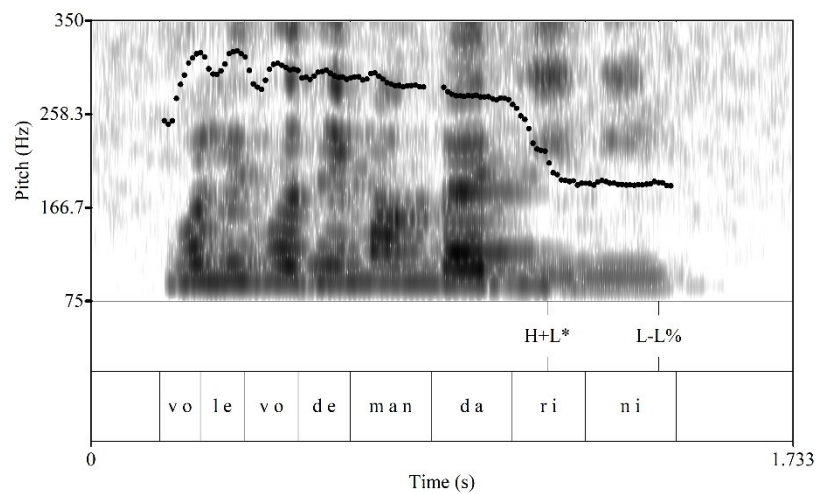
- latency of the H target in milliseconds (ms) from the onset of the stressed syllable, in order to assess the possible anticipated realization of the H target;
- pitch span in semitones (ST), namely the distance between f_0 minimum and f_0 maximum ('t Hart et al. 1990) within the relevant syllables (and vowels);
- slope of the syllables (span in semitones/duration in seconds Peters & Pfitzinger 2008).

Data were statistically analyzed using mixed-effect linear regression models (LMM) in R (R Core Team 2019). The *lmer* function within the package *lme4* (Bates et al. (2015a) was used and for the procedure the criteria reported in Bates et al. (2015b) were followed. Phonetic values (peak latency, span, slope) were set as dependent variables, variety (CI and SI) and focus condition (BF and CF) as interactive independent variables, speaker as random variable.

5.3 Results

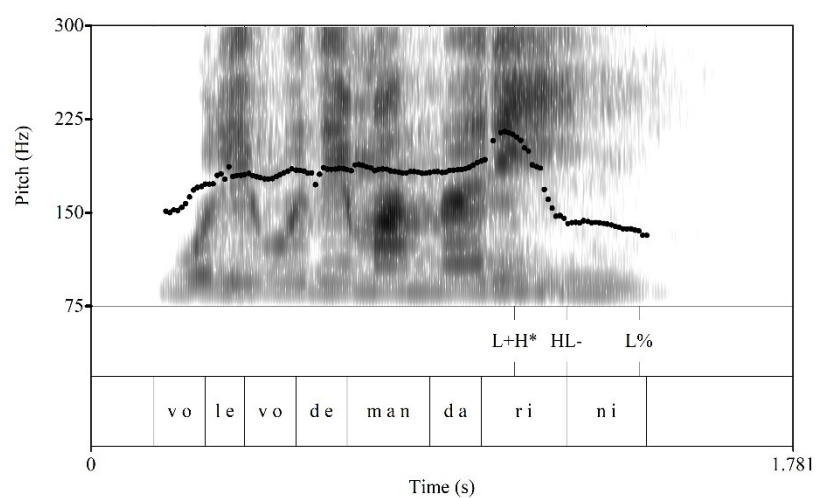
In line with previous descriptions (Gili Fivela et al. 2015; Orrico 2020), BF statements in SI are realized as falls (Figure 5.1), namely with a falling pitch accent (H+L*) followed by low terminals (L-L%). The accentual fall starts around the onset of the stressed vowel (median H latency: 35.72 ms).

Figure 5.1: F_0 contour for SI statements: Volevo dei mandarini 'I wanted tangerines' uttered as a BF statement.



On the other hand, in CF condition the pitch accent is characterized by a rise-fall movement (analyzed as L+H*) with an early H peak alignment (median H latency: 97.85 ms). The nuclear accent is followed by a falling phrase accent (HL-) and a low boundary tone (L%). Latency value of H in SI, namely only positive values, confirm the absence of an anticipated H target on Syll in this variety in both focus conditions. An example of SI CF is provided in Figure 5.2.

Figure 5.2: F_0 contour for SI statements: Volevo dei mandarini 'I wanted tangerines' uttered as a CF statement.



As regards CI, the trend detected for quadrisyllables in the varietal description from Discourse Completion Task data (Chapter 3) was confirmed. Indeed, a remarkable f_0 peak was found on the prenuclear stretch; specifically, such peak occurs on Syll1 in both focus conditions, as shown in Figures 5.3 and 5.4 below. Indeed, latency values are negative in both cases as H is realized within Syll1. As a consequence, the pitch accent region (Syll3) is phonetically realized as a slightly falling stretch in both conditions and the whole nuclear region is falling as well (H+L* L-L%). Therefore, in Cilento Italian read speech, the tune alternation between falls (H+L* L-L%) and rise-falls (L+H* HL-L%) observed in Discourse Completion Task data, and in common with Neapolitan and Salerno Italian, does not occur. Latency values only show a slight difference between CF and BF: H target in Syll1 in CF condition is realized relatively later (median CF: -144.90 ms) compared to BF condition (median BF: -155.74 ms.). On the whole, CI productions consistently selects H+L* as nuclear accent, with the L aligned with the stressed syllable, whereas the H is strongly anticipated (two syllable earlier). Accordingly, the falling phase of the accent (HL) that stretches from Syll1 to Syll3 results to be phonologically relevant, since it is associated to the lexical stress, although not pertinent for the phonological contrast, that is, at least in these production data, absent.

Figure 5.3: F_0 contours for CI statements: Volevo dei mandarini 'I wanted tangerines' uttered as BF statement.

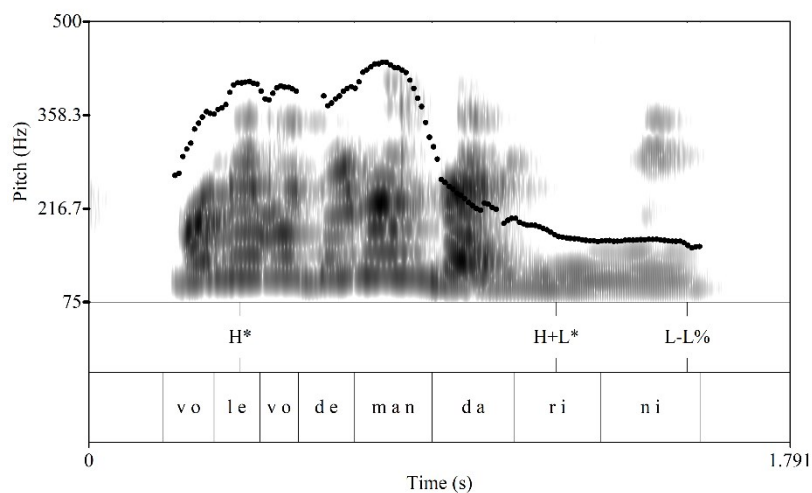
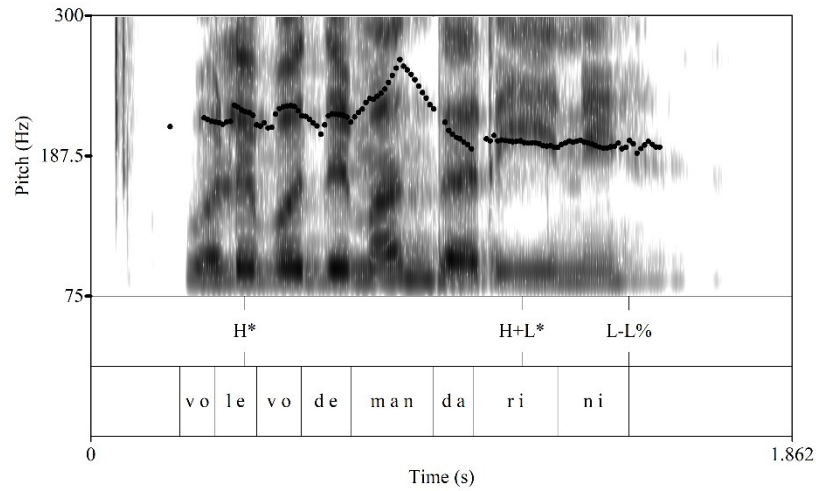
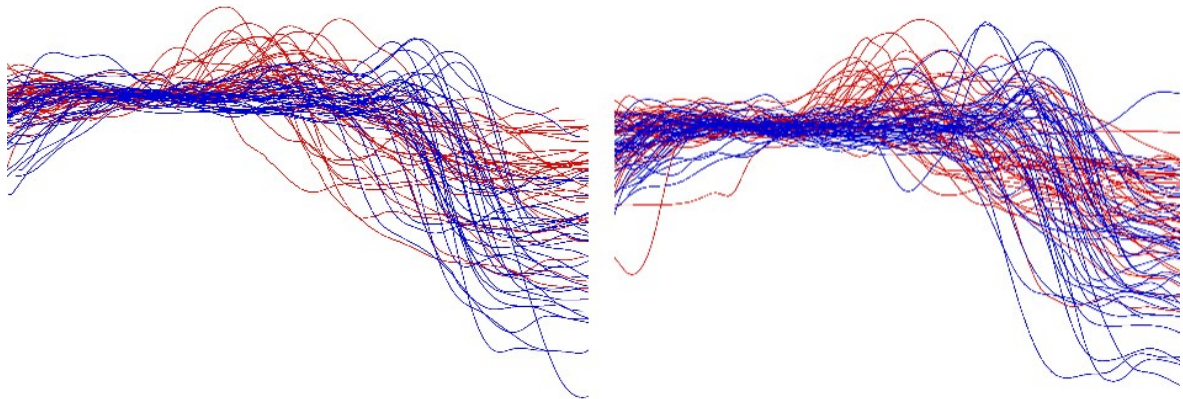


Figure 5.4: F_0 contours for CI statements: Volevo dei mandarini 'I wanted tangerines' uttered as CF statement.



The different realization of statements based on the presence of this early f_0 movement in CI vs SI emerges by the visual comparison presented in Figure 5.5. F_0 contours were smoothed, synthesized, normalized in height and duration using the onset of the quadrisyllable as temporal anchor point, and plotted together using *mousmooth* (Cangemi 2015). SI productions (blue line) are quite flat in the pre-nuclear region and the movement only concerns the last part corresponding to the nuclear pitch accent; by contrast, in CI productions (red line) the most notable f_0 movement is observed remarkably earlier, and followed by a falling nuclear region.

Figure 5.5: F_0 contours for BF (left) and CF (right) statements in CI (red line) and SI (blue line).



Latency

The latency difference was statistically tested. Results, shown in Table 5.2 and Figure 5.6, indicate the presence of both a variety and a condition effect on the peak latency. As for variety, in CI, H target shows negative latency, hence occurring significantly earlier with respect to SI, i.e. on Syll1 (ca 150 ms). As already qualitatively observed, in both varieties H is aligned earlier in BF compared to CF (ca 60 ms).

Despite the significant effect of variety on peak latency, some outliers can be observed in CI, presenting positive latency values, and in SI, presenting negative latency values. In the SI sample in particular, episodic occurrences of early H targets were found. Interestingly, they were all produced by the one SI speaker coming from Pontecagnano, which is the southernmost locale of Salerno, whilst remaining above the Eboli-Lucera line. By way of example, Figure 5.7 shows a production of this “southern SI” speaker, which is halfway between CI and SI productions.

Table 5.2: Significant results yielded by the LMMs having peak latency (ms) as dependent variable, variety and focus condition as independent variable.

	Estimate	Std. Error	t value
varietySI	154.12	21.03	7.328
conditionCF	57.45	14.01	4.099

Figure 5.6: Latency of H target in the two focus conditions (BF, CF) and varieties (CI, SI).

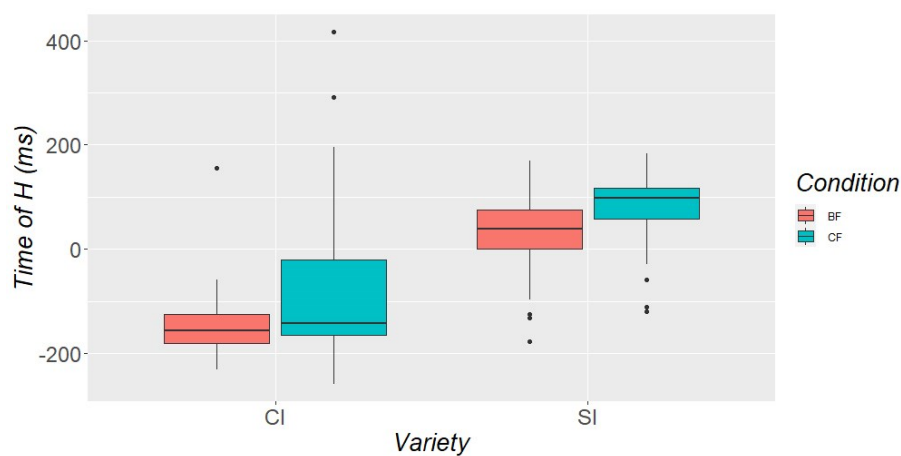
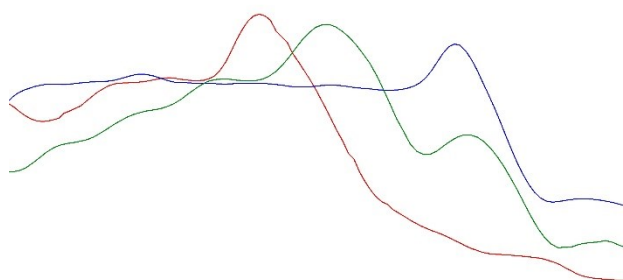


Figure 5.7: F_0 contours for CF statements uttered by a CI (red line), SI (blue line) and southern SI (green line) speaker.



To assess the acoustic features of Syl1 compared to Syl3 in the two varieties at stake, we also measured syllabic duration, and span and slope of the f_0 movement in these syllables. The analysis of these parameters within Syl1 and Syl3 gave mixed results.

Duration

On a first inspection, neither Syl1 nor Syl3 duration show different distributions. They have similar values according to both the varieties and the focus conditions (Syl1 avg values in ms: CI BF: 173.15; CI CF: 175.38; SI BF: 163.44; SI CF: 170.19. Syl3 avg values: CI BF: 248.79; CI CF: 271.15; SI BF: 232.29; SI CF: 249.87). Duration is the most stable correlate of lexical stress in Italian both in production and perception (Bertinetto 1981). Therefore, the lack of statistic difference in Syl1 in CI vs SI indirectly supports the auditory judgement that the anticipated H target does not entail stress shift, i.e. stress retraction from Syl3 to Syl1. On the other hand, it does not provide evidence relating to the difference between contrastive and non-contrastive accents as found in Vanrell et al. (2013) for Italian, i.e. a longer syllabic duration of contrastive accents, neither in CI nor in SI.

Span and slope

As for span and slope values within Syl1 and Syl3, they resulted to be significantly different across varieties, but not across focus conditions.

Significant results of the parameter of span are shown in Table 5.3.

Table 5.3: Significant results yielded by the LMMs having span (ST) within Syl1, Syl3 and V3 as dependent variable and variety as independent variable.

		Estimate	Std. Error	t value
Span Syl1	varietySI	-0.74912	0.28663	-2.614
Span Syl3	varietySI	3.2705	0.5322	6.145
Span V3	varietySI	3.5838	0.4705	7.616

Variety appears to be predictor of span within both Syl1 (Figure 5.8) and Syl3 (Figure 5.9).

Figure 5.8: Pitch span (in ST) within Syl1 in the two focus conditions (BF, CF) and varieties (CI, SI).

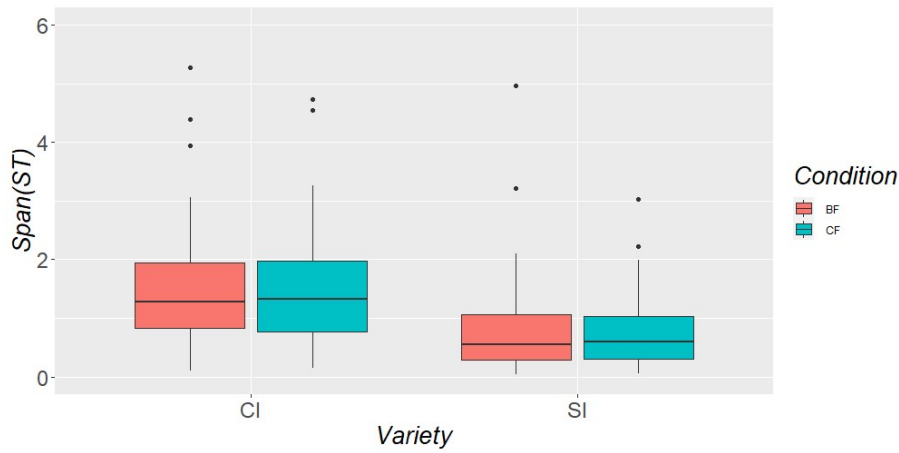
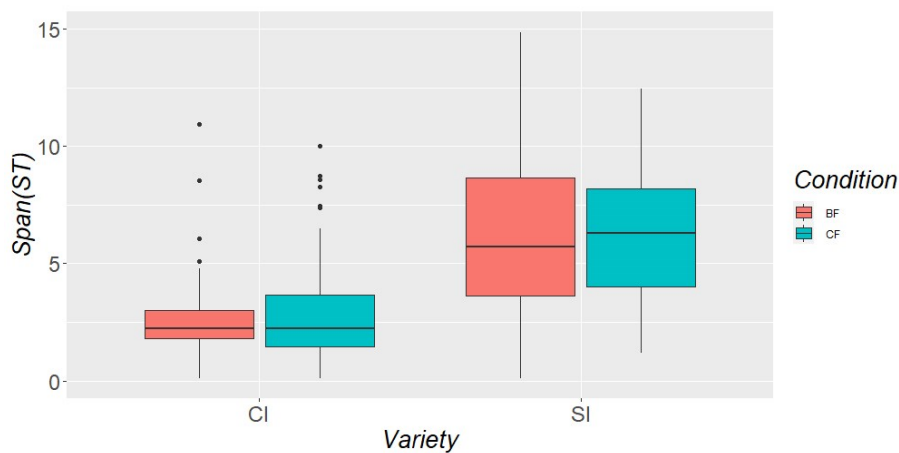


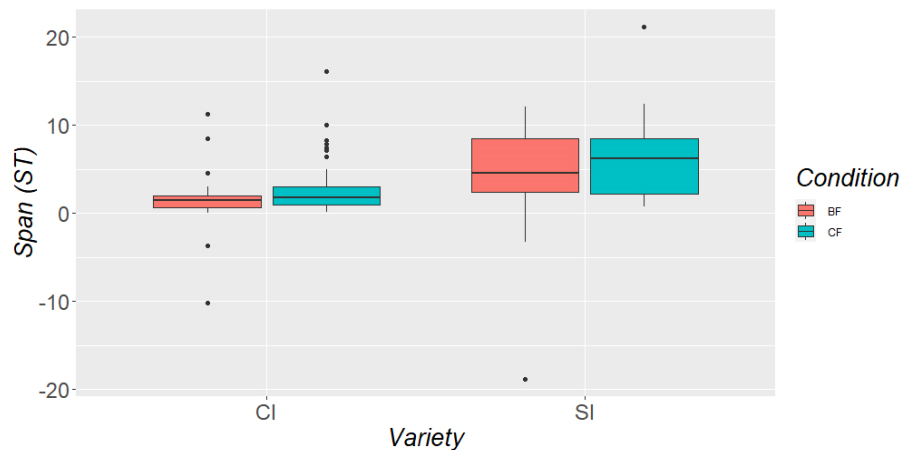
Figure 5.9: Pitch span (in ST) within Syl3 in the two focus conditions (BF, CF) and varieties (CI, SI).



These results reveal a reversed situation: as expected, SI shows a wider pitch span within Syl3 (ca 3.2 ST), i.e. the stressed syllable (SI median: 5.87 ST; CI median: 2.20 ST), while CI within Syl1 (ca 0.7 ST; CI median: 1.32 ST; SI median: 0.56 ST).

As for span within vowels, significant differences were found only in V3 according to the variety (Figure 5.10). Namely, span is significantly wider for V3 in SI compared to CI (ca 3.5 ST; SI median: 5.58 ST; CI median: 1.61 ST). On the other hand, V1 showed no differences according to neither variety nor focus conditions. (SI median: 0.25 ST; CI median: 0.22 ST). The results concerning span in Syl1/Syl3 and V1/V3 may appear contradictory at first sight, since span difference is significant when the syllable is considered, whereas it is not significant when one looks at the vowel. Despite the seeming contradiction, the results indicate that the f_0 movement with wide pitch excursion registered on the first syllable of target words in CI regards the entire Syl1, including sonorant segments of syllabic onset and coda, and not only the vocalic nucleus V1 (cf Figures 5.3 and 5.4).

Figure 5.10: Pitch span (in ST) within V3 in the two focus conditions (BF, CF) and varieties (CI, SI).



In a similar fashion, slope values are not affected by the focus conditions; the significance only regards the varieties (Table 5.4). Syl1 in CI presents a significantly steeper movement compared to SI (Figure 5.11). By contrast, Syl3 is significantly flatter in CI (Figure 5.12).

Table 5.4: Significant results yielded by the LMMs having slope within Syl1 and Syl3 as dependent variable and variety as independent variable.

		Estimate	Std. Error	t value
Slope Syl1	varietySI	-3.7859	1.5966	-2.371
Slope Syl3	varietySI	14.798	1.854	7.980

Figure 5.11: Slope within Syll1 in the two focus conditions (BF, CF) and varieties (CI, SI).

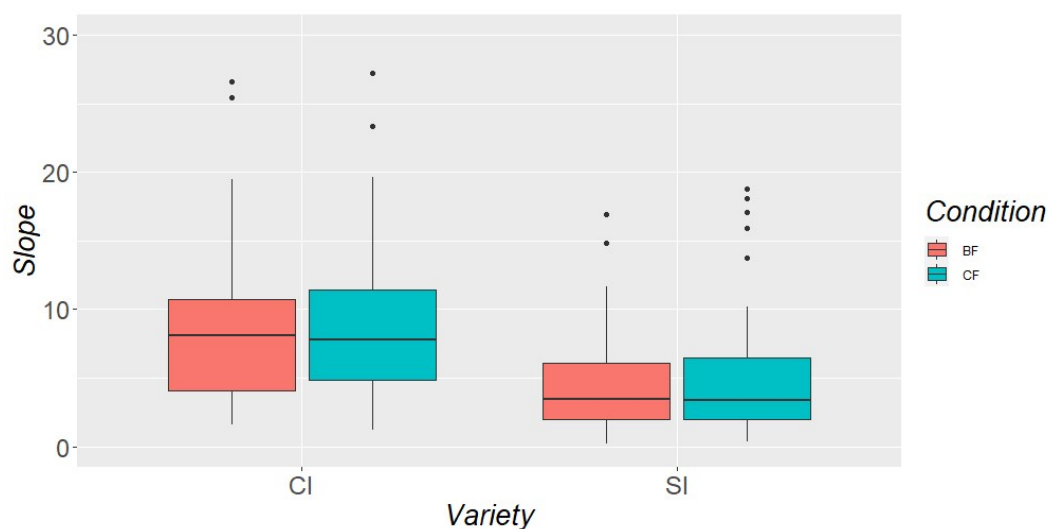
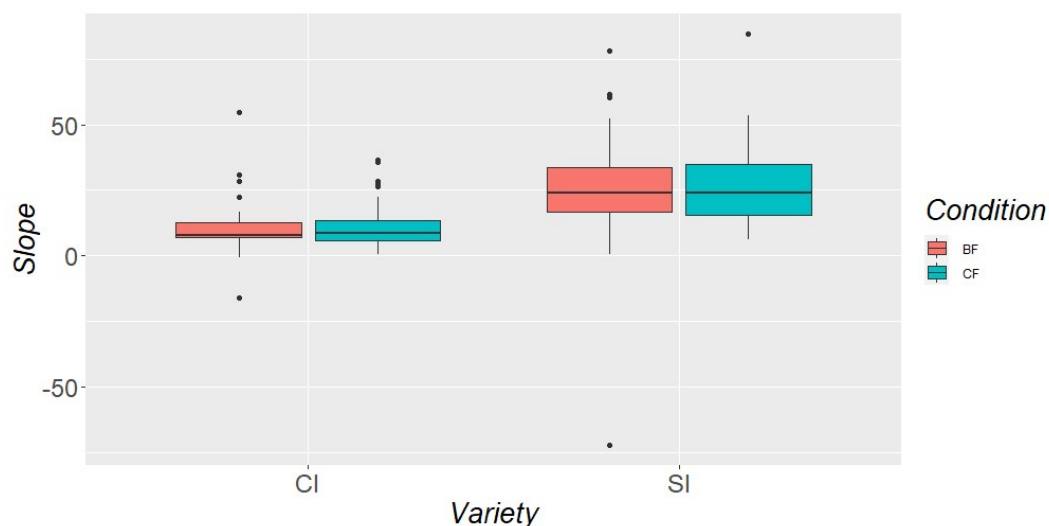


Figure 5.12: Slope within Syll3 in the two focus conditions (BF, CF) and varieties (CI, SI).



To sum up, the two varieties clearly differ according to the realization of statements in both the prenuclear and the nuclear region. A first observation to be made, is that CI systematically selects the fall tune, hence nuclear accent is always realized with a falling movement throughout the stressed syllable. On the other hand, SI preserves the tune contrast, namely fall vs rise-fall, to express broad focus and contrastive focus, respectively. Phonetically, the most striking difference between the varieties (and the only parameter to have a significant condition effect) concerns peak latency, showing that the H target in CI is realized much earlier than in SI, being aligned with Syll1. The absence of significant differences in syllabic duration across the varieties suggests that a stress shift does not occur towards Syll1 in CI. In contrast, the data on span and slope indicate that the accentual

movement H+L* in CI spans over more than one syllable, starting on Syll1 and ending on Syll3. Accordingly, Syll1 is realized with a wider pitch excursion and a steeper movement compared to Sy3 and V3. Instead, in SI the prenuclear region is basically flat, and the most salient f_0 change occurs within Syll3, hence in nuclear position, in both BF and CF.

Results are in line with both the qualitative observations based on Discourse Completion Task data (Chapter 4) and previous evidence of CI early accentual peak (Chapter 4).

5.4 Discussion

In the present chapter the phonetic realization of phonological contrasts in two neighboring varieties of Campania Italian is further explored. The Reading Task aimed at adding production data to investigate the realization of broad focus and corrective-contrastive focus contrast in Cilento Italian to be compared to Salerno Italian. Specifically, the goal was to deepen the qualitative analysis of Cilento Italian productions based on spontaneous and read speech from Discourse Completion Task (Chapter 3) with more controlled speech to quantitatively account for specific intra-varietal realizations in CI and for an inter-varietal comparison with the neighboring variety of SI. On the whole, results confirm that the transition from one Italian variety to the neighboring one can be marked by subtle phonetic differences in the temporal realization of the nuclear pitch accent.

As far as phonology is concerned, pitch accent and boundary tone selection in CI was found to be closely comparable to that attested for other varieties, including other Campania varieties. Specifically, the data from Discourse Completion Task indicate that a falling pitch accent, i.e. H+L*, is employed in BF statements, while CF statements are realized with either a falling or a rising accent, i.e. H+L* and L+H*, respectively; both pitch accent types are followed by low edge tones (L%). The alternation detected between the fall and the rise-fall tune for expressing CF is previously attested in other Campania varieties, namely Neapolitan and Salerno Italian (Gili Fivela et al. 2015; Orrico 2020). Furthermore, CI data based on Discourse Completion Task show no differences linked to the type of speech (read *vs* semi-spontaneous renditions).

The experiment presented in these pages, however, produced results that partially diverge from those obtained with the Discourse Completion Task. In fact, in the present Reading Task, the tune choice in CF condition is reduced to one option: in the examined data, indeed, CI only selects the falling nuclear accent H+L*. As a result, and unlike SI, the tune in both BF and CF conditions is realized with a falling nuclear configuration.

It must be stressed, however, that in CI pitch accent alternation is maintained in CF in other contexts (e.g. it is attested in dialogical and Discourse Completion Task data). Therefore, instead of pointing to a phonological, *systemic*, difference between the varieties in the nuclear pitch accent opposition, the experimental data examined in this chapter suggest that in read speech, CI may have preference for the falling H+L* L-L% tune. Indeed, regardless of variety-specific phonetic implementations, such tune can be employed in CI for expressing broad focus as well as contrastive focus in sentence-final position, as attested for other Italian varieties (Gili Fivela et al. 2015).

Overall, CI does have the H+L* vs L*+H accentual opposition in its inventory, but the frequency of occurrence of falling vs rising-falling tunes for CF statements is likely to be affected by speech style and be different from, e.g. SI and NI. However, this hypothesis calls for further research based on more production data and relying on different types of speech.

As for the phonetic implementation of such tunes, instead, a difference can be detected between the varieties across the Eboli-Lucera line. Globally, the data presented in this chapter point to a difference that deal with the *realizational* dimension between CI and SI as regards the phonetic implementation of the nuclear pitch accent that, however, comes to involve not only the nuclear but also the pre-nuclear region. The main difference concerns the occurrence of a temporal anticipation of tonal targets in CI, in both tune types with respect to SI: an interplay of different phonetic cues, i.e., peak latency, pitch span and slope conspire to realize an early f_0 peak on the first – unstressed – syllable of target words. Indeed, pitch excursion and slope within the nuclear syllable clearly distinguish CI from SI. In particular, the stressed syllable and vowel in SI presents a wider pitch excursion and a steeper slope. On the other hand, CI has only negative latency values, so that the H target of the nuclear accent is aligned before the onset of the stressed syllable, namely in the pre-nuclear stretch; in fact, it is so temporally anticipated to be aligned with the first syllable of the target word, which, accordingly, has wider and steeper f_0 movement compared to the third syllable and to SI.

Such a realization is in line with previous results in that a significant anticipation of accentual peaks in CI compared to SI was already reported in Chapter 4, where an alignment difference of ca. 30 ms was found in trisyllabic paroxytone words in sentence-initial position. Although the anticipation observed in this chapter is more pronounced (2

syllables vs 30 ms), the results of both the production experiments presented in the present thesis converge in pointing to tonal anticipation as a possible feature characterizing CI.

As discussed in the first part of this chapter (§ 5.1), peaks in word-initial position have been observed in several Romance varieties. Such peaks have been analyzed in many cases in phonological terms as additional pitch accents, raising the question whether a similar analysis can also apply to CI. In what follows, a number of arguments are discussed supporting a phonetic rather than phonological analysis of early peaks in CI.

The analysis of the early peak as pitch accents insertion requires to be accounted on the metrical level and functional level. As for the metrical level, in Italian the docking site of pitch accents is lexical stress. However, the fact that Syl1 in CI is not significantly longer than Syl1 in SI, and Syl3 in CI, suggests that no stress shift/retraction is taking place. This result is also confirmed by listening. This is an argument against the analysis of early peak as accentual insertion, as the only available association site in the word remains the stressed syllable, i.e. Syl3.

However, it can be hypothesized that the insertion of a pitch accent is supported, in CI, by a minor metric head, e.g. the head of the first foot of the target word, which is either the strong (quadrisyllabic: *MANDarini*) or the only element (trisyllabic: *LImoni*) of the first foot, or that the additional accent is associated to the left edge of the phonological word (*LImoni*, *MANDarini*). Although the available data do not allow for further speculation on this point, since the experimental context were not controlled to explore association, let us assume for the sake of the argument that the peak is granted a site of metrical association.

It must be noted that, although early peaks appear systematically in the experimental data presented in this chapter, data from Discourse Completion Task and dialogical speech indicate that its presence is optional and therefore is not a systematic feature of CF intonation in CI⁴⁴. Accordingly, the presence of an additional initial accent should be motivated on another ground, i.e. by its function.

In the Romance varieties in which early peaks are interpreted as additional accentual prominences, these accents are pragmatically motivated, as they add emphasis to the utterance. More specifically, pitch accent insertion has a stable function and interpretation across different contexts and utterances. For instance, in Sardinian varieties a pitch accent

⁴⁴ It is worth mentioning that the exploration of early high targets in prenuclear position in CI derives, in the first place, from informal observations of natural speech of people coming from Cilento. However, also in a truly spontaneous context, the anticipation is not systematically realized.

insertion on Syll1 (*man* of paroxytone *mandarinu* ‘tangerine’), is interpreted as a strategy of enhancing emphasis not only in CF condition, but also in other sentence types, e.g. vocatives (Vanrell et al. 2015). In CI, in contrast, no particular semantic nuance is detected that can be attributed to the early peak.

In conclusion, a phonological analysis of early peak in terms of pitch accent insertion seems unwarranted, since the peak is optional, does neither trigger any specific pragmatic interpretation, nor can be linked to such interpretation across different contexts. Instead, a difference merely dealing with the phonetic implementation of the tunes appears to better explain the phenomenon. In these terms, the realization of early accentual peaks appears to involve a gradient dimension of temporal alignment. It could be the case that the degree of temporal anticipation is related to a difference in the amount of phonetic material preceding the stressed and accented syllable, namely in the number of available unstressed syllables preceding lexical stress and pitch accent. In case of trisyllables, where only a prestressed syllable is available (e.g. *Milano* ‘Milan’), pitch accents exhibiting early alignment were found in sentence-final position in Chapter 3 and in sentence-initial position in Chapter 4⁴⁵. Data of the present chapter deal with quadrisyllabic target words. Possibly due to the availability of more prenuclear material, namely two pre-stressed syllables, the temporal anticipation of the f_0 movement achieves the first syllable of the word, as systematically happen in Reading Task data. Therefore, accentual peak with early alignment is considered a possible accentual realization, namely a phonetic variant of the H+L* pitch accent.

Cross-linguistically, other closely related Romance varieties were found to differ in the prenuclear region, e.g. European and Brazilian Portuguese were found not to differ in the realization of the nuclear region, rather in the prenuclear stretch of declaratives (Frota & Moraes 2016). However, the cases detected in other Romance varieties do not provide an uniform consideration, in that the interpretations of prenuclear f_0 movements swing from phonological accounts, i.e. secondary (rising) accent in Sardinian varieties (Vanrell et al. 2015), initial (rising or high) accent in Catalan varieties (Prieto et al. 2015) and Occitan (Sichel-Bazin et al. 2015) varieties, initial accent of the accentual phrase in French (Delais-

⁴⁵ Such an anticipation, although sporadically, was found also in polar questions with trisyllables in nuclear position (e.g. *mandorle* ‘almonds’; cf § 3.3.2). Hence, further investigation is needed to account for this realization in sentence types other than statements and in other contexts possibly triggering its occurrence.

Roussarie et al. 2015), to phonetic accounts, i.e. H target on pretonic syllables in Spanish (Hualde & Prieto 2015). Nevertheless, it is worth noticing that the degree of variation detected across neighboring Campania Italian varieties, namely anticipated f_0 peaks occurring in CI vs SI and NI, have a parallel in the Romance linguistic scenario, and in particular in the case of Spanish, Catalan and Occitan, where only some varieties are characterized by this phenomenon while others diatopically close are not.

Zooming in on our purpose of shedding light on the intonational transition between neighboring Italian varieties, the realization of this anticipated accentual peaks suggests that it might be a peculiar phonetic trait diatopically marked of Cilento Italian intonation, consistently distinguishing it from other neighboring Campania varieties spoken north of the Eboli-Lucera line. The emergence of a feature of cross-varietal distinction points to a parallel transition for dialects and Italian varieties in the Campania area crossed by the Eboli-Lucera line. However, the picture appears to be more complex. Indeed, episodic anticipations found also in Salerno Italian productions, provide further evidence that the transition between Salerno and Cilento is not abrupt at the height of the Eboli-Lucera line. Indeed, such line does not lead to a clear-cut separation between the dialectal areas as far as segmental features are concerned; quite the opposite, it is not equally solid in all its isoglosses, with some features reaching further north than others (Avolio 1989, 2000). For instance, in the dialectal area above the Eboli-Lucera line and including Pontecagnano some “Lucanian” features, namely traits characterizing Cilento vernaculars below the line, are reported, such as the partial development of / -tts- / as outcome of -CJ- (*vrazzə* for *braccio*, ‘arm’; Avolio 2000; cf Chapter 1). In a similar fashion, at least on the basis of the examined feature, phonetic traits characterizing Cilento Italian intonation can be partially shared in the area straddling the isogloss. The frayed picture outlined in dialectological studies on the Campania area and the status of weak border of the Eboli-Lucera line appear to be accordingly confirmed for Campania Italian varieties. Results of the production experiment provide additional evidence of the transitional status of Campanian area at the intonational level. The Eboli-Lucera line does not lead to a strict separation between intonational systems, rather, it points to a gradual phonetic transition from CI to SI.

Since the early peak, i.e. pitch accent H target anticipation is only observed in CI, this feature marks a diatopic difference with respect to SI. Accordingly, it can be presumed that some intonational traits observed in Cilento Italian, e.g. early accentual peaks, might results from interference from dialectal intonation. However, given that the issue of

intonation in Lucanian dialects has not yet been addressed, it is difficult to speculate on this point. Moreover, in their comment on Neapolitan dialect data, Crocco and colleagues (2022; *forthcoming*) suggest that phonetic variability might index a socially (low-)marked speech. Along these lines, Cilento Italian traits can also be interpreted beyond the mere diatopic dimension, possibly dealing with social variation according to different statuses of the variety with regard to e.g. Neapolitan and Salerno Italian. In the Portuguese framework, for instance, the higher density of pitch accents and the stronger macro-rhythm appear to distinguish Standard Portuguese from non-standard and somewhat non-centralized varieties of Portuguese (Jun 2014). In the same way, the difference between Cilento and other neighboring Campania Italian varieties, might be ascribed not only to the belonging to different dialectal area, but also to a different degree of urbanity/rurality of the varieties. Indeed, Neapolitan and Salerno Italian are spoken in urban centers, which are respectively a regional and a provincial capital, while Cilento Italian is spoken in small towns of the province of Salerno, therefore in a provincial, less urban framework.

The present chapter showed that intra-regional intonational variation involves inter-variety differences dealing with the *realizational* dimension (Ladd 2008), identifying local realization-variants along a phonetic continuum of tonal targets temporal alignment.

CHAPTER 6

GENERAL DISCUSSION

The present thesis explored the nature and the extent of the intonational transition across varieties of Italian spoken within the same regional borders. To this aim, three neighboring locales from the coastal area of Campania were identified and selected, namely the cities of Naples and Salerno, and the upper area of Cilento. In these locales the linguistic repertoire includes a variety of Italian broadly diatopically marked as Campanian and substratum dialects belonging to different linguistic groups as well. Indeed, dialects spoken in Naples and Salerno, despite minor differences, are grouped in “proper Neapolitan” dialects, while dialects spoken in the Cilento area are classified as “Lucanian” (Avolio 2000). The area straddling southwards from Salerno to the upper area of Cilento is crossed by the bundle of isoglosses constituting the Eboli-Lucera line (Avolio 1989), separating the two dialectal groups. Since regional varieties of Italian are assumed to be influenced by their relative substratum dialects (Telmon 2016; Cerruti, Crocco & Marzo 2017) also as regards prosody (De Mauro 1970; Canepari 1980; Crocco 2017; Barone *in prep.*; Crocco, Gili Fivela & D’Imperio 2022), the thesis intended to verify whether the dialectal differences distinguishing the area of Naples and Salerno from Cilento are reflected at the intonational level on the regional varieties spoken in the two areas. At the intonational level, Italian pronunciation features high levels of variability (Savino 2012; Crocco 2013; Gili Fivela 2013). The extensive literature on varieties of Italian, however, have little addressed variation in small-range areas, so that knowledge of the intonational transition from one variety to another is still lacking. On account of this, the thesis tackles the issue of intraregional variation of intonation, focusing on Neapolitan, Salerno and Cilento Italian, and taking into consideration different dimensions of variations that, possibly to a different extent, are likely to distinguish geographically close varieties (Ladd 2008).

The intonational analyses carried out in the thesis are couched within the Autosegmental-Metrical approach (Pierrehumbert 1980; Beckman & Pierrehumbert 1986; Pierrehumbert & Beckman 1988) in order to provide a description of phonological events and main phonetic features of intonational contours in the novel variety of (upper-)Cilento, and a cross-variety comparison with previous accounts on other Italian and Campania Italian varieties. More fine-grained phonetic analyses were performed to deepen cross-variety differences in the implementation of tunes and tonal contrasts.

On the whole, the thesis sheds light on the dimensions of inter-variety variation characterizing intonational systems spoken close to each other but on the two sides of a linguistic, namely dialectological, border, showing that the intonational transition between neighboring varieties is not abrupt, rather it features a gradual and continuous change along all the dimensions considered.

The present chapter intends to briefly summarize the main findings of the thesis (§ 6.1), outline the dimensions of variation detected across Campania Italian varieties with regard to other Italian and Romance cross-variety literature (§ 6.2), and narrow in on Campania as a transitional area, focusing on geographical, dialectal and intonational transition within the region (§ 6.3). Some additional issues are then reported, to point out some limits and future directions of the study, mainly related to other dimensions of variation and speech data to be taken into account in order to achieve a more complete picture of intra-regional variation (§ 6.4).

6.1 Main findings

The investigation of Cilento Italian variety and its relationship with other Campania Italian varieties was achieved by relying on three production experiments.

Firstly, a Discourse Completion Task complemented with read renditions was carried out in order to elicit a substantial amount of Cilento Italian speech data which could allow to describe the phonological encoding and the phonetic realizations of main prosodic types in the variety (Chapter 3). Moreover, the choice of this elicitation method had the advantage of permitting direct cross-variety comparison with previous descriptions of a vast number of Italian varieties (Gili Fivela et al. 2015; Gili Fivela & Iraci 2017; Gili Fivela & Nicora 2018; Orrico 2020).

The intonational phonology of Cilento Italian showed that the variety has a phonological inventory in common with other varieties (§ 3.5), including Neapolitan and Salerno Italian in tune types and tonal events (D’Imperio 2002; Gili Fivela et al. 2015; Orrico 2020). Specifically, Cilento Italian presents one prenuclear (H*) and three nuclear pitch accents, one falling (H+L*) and two rising (L+H*, L*+H), low and high phrase accents (L-, H-, HL-) and boundary tones (L%, H%). Tonal events can combine in seven nuclear configurations: H+L* L-L%, H+L* L-H%, L+H* HL-L%, L+H* HL-H%, L*+H HL-L%, L*+H HL-H%, L*+H H-H%.

In line with other varieties (Gili Fivela et al. 2015), in Cilento Italian as well no one-to-one relationship between tunes and pragmatic meanings was found to apply to the majority of prosodic types, leading to high levels of intra-variety variability, especially for the encoding of question intonation. In addition, some phonetic cues broadly shared in Italian intonation were found in Cilento as well, e.g. wide excursion of the nuclear pitch accent region in counter-expectational wh-questions (Crocco & Badan 2016; Badan, Gryllia & Fiorin 2017; § 3.3.3).

On the other hand, results of the intonational analysis suggest the presence of some Cilento variety-specific features. In particular, boundary tone selection in all question types considered, namely polar, partial and alternative questions, appears to be quite marked towards high boundaries (H%). Despite the claim that in southern varieties of Italian high terminals might be related to a reading-style effect (Savino 2012), Discourse Completion Task data showed no differences according to the specific task, namely no differences were found in semi-spontaneous and read productions.

The second part of the analysis of Chapter 3 was dedicated to the relationship between Campania Italian varieties, namely between the variety spoken in Cilento Italian and those spoken in Naples and Salerno, by providing a first detailed cross-variety comparison of question intonation across three neighboring varieties of Italian (§ 3.4). This explorative investigation was aimed at identifying and quantifying intonational features differenced by frequency of occurrence across space. The comparison was carried out by employing productions for the three varieties coming from Discourse Completion Task (Gili Fivela et al. 2015), hence on the basis of highly comparable data samples in terms of elicitation method (task-oriented), speech type (read and semi-spontaneous), question types (information-seeking polar, partial and alternative questions), target sentences and number of renditions (§ 3.2.3).

Despite an Italian and Romance framework characterized by high levels of both intra- and inter-variety variation in question intonation (Frota & Prieto 2015), the comparison allowed to assess that Campania Italian varieties roughly employ the same set of tunes for expressing the question types. Cross-variety perspective on the frequency of occurrence and distribution of tonal events brought to light a number of variety-specific preferences in tune, pitch accent and boundary tone choice. Such preferences in the selection of tonal events and entire nuclear configurations to encode question intonation appear to feature a gradual shift across Campanian area following the geographic arrangement of the varieties. Boundary tone selection represents one of the main features of cross-variety distinctions due to diatopic variation (§ 3.4.4): the northernmost variety of Naples significantly employs fewer high terminals (H%) for interrogatives, regardless of the question type, with respect to the halfway variety of Salerno and the southernmost variety of Cilento, where indeed H% is selected in the vast majority of question productions.

The qualitative analysis performed in Chapter 3 had however allowed to notice possible differences in phonetic details between Cilento on the one hand and Salerno and Neapolitan Italian on the other, for whose exploration two further production experiments based on Reading Tasks were carried out.

To this end, Chapter 4 explored the phonetic realization of different topic and focus conditions in sentence-initial position by replicating the study design of D'Imperio & Cangemi (2011) on Neapolitan Italian in order to verify qualitative observations previously made for Salerno Italian (Orrico 2020) and to include Cilento Italian within the picture of Campania Italian variation. The tonal contrast between regular topic, partial topic and contrastive focus was found to be cross-variety preserved, since Campania Italian varieties employ the same interplay of phonetic cues, namely pitch span, slope, syllabic duration, shape of accents, for the realization of the three conditions. Results highlight a feature of cross-variety variation in the phonetic detail of peak alignment, since Cilento Italian exhibits temporally earlier accentual peaks with regard to the other two in all the experimental conditions. Accordingly, peak timing was recognized as a diatopic distinguishing feature between varieties north and south the Eboli-Lucera line, although the gradualness observed in the intonational transition across the varietal threesome (Chapter 3) was confirmed as far as the phonetic implementation of tonal contrasts is concerned as well. Indeed, the realization of regular topic accents features a peak alignment transition from Neapolitan Italian, having the latest alignment, in the post-stressed syllable, to Salerno, within the stressed syllable, and Cilento, within the stressed syllable but

significantly earlier compared to Salerno. Such prenuclear accent has been analyzed as H* in all three varieties. It is worth noting that the analysis of prenuclear topic accents relies on previous variety-specific descriptions which did not have the aim of providing cross-variety comparison (Neapolitan Italian: D’Imperio 2002; Brunetti, D’Imperio & Cangemi 2010; D’Imperio & Cangemi 2011; Salerno Italian: Orrico 2020). As a consequence, looking at the whole picture of Campania, the phonological analysis of these accents results to exhibit both within-category variability and cross-category overlap (Arvaniti 2019). Indeed, the same category, namely H*, comes to include inter-varietal realizations differing in peak timing and tonal alignment with segmental landmarks such as the stressed syllable boundaries. On the other hand, the two categories of regular and partial topic accents, appear to overlap, in that they refer to accents phonetically implemented in a similar way, namely as a rising movement reaching f₀ peak in the post-stressed syllable.

The Reading Task analysis carried out in Chapter 5 aimed at verifying the occurrence of early accentual peaks in Cilento Italian in the two experimental conditions of broad focus and sentence-final narrow contrastive focus. In this case, Salerno data served as control data, since in this variety no tonal anticipation was previously attested (Orrico 2020) or found (Chapters 3 and 4). Unlike Discourse Completion Task data, where alternation between falling and rising-falling tunes was found in Cilento Italian for the encoding of narrow contrastive focus statements, and in line with both Salerno and Neapolitan Italian (Orrico 2020; Gili Fivela et al. 2015), the production experiment carried out in Chapter 5 presented a different picture. A reduction of tune choice was registered for Cilento Italian, so that both focus conditions were found to be encoded as falls, namely employing a H+L* nuclear accent; on the other hand, tune alternation is preserved in Salerno Italian. It might be argued that the type of speech elicited by the task, namely read speech, has an effect in triggering a different selection of phonological tunes in Cilento Italian, leading to cross-varietal differences according to the frequency of occurrence of tunes. As for phonetics, Salerno and Cilento Italian resulted to show differences in the implementation of focus contrast concerning both the nuclear and the prenuclear region according to parameters of pitch span, slope and peak alignment. In particular, early alignment of accentual peaks is confirmed to be a diatopic feature of Cilento Italian marking the diatopic variation between Cilento and closely related, northernmost Campania varieties.

6.2 Dimensions of variation across Campania Italian varieties

On the basis of the available literature on cross-variety variation and intonational transition between geographically close varieties (Chapter 2), different dimensions of variations were chosen to be taken into account in order to characterize the linguistic scenario of Campania Italian varieties. The present section intends to bring out the ways and the extent to which such dimensions play a role in differentiating Campania Italian varieties.

Four dimensions are proposed by Ladd (2008), and then adopted in a considerable number of cross-linguistic and cross-varietal studies, since they identify different types of differences namely *systemic*, *realizational*, *phonotactic* and *semantic*, that are likely to distinguish languages as well as language varieties.

Systemic variation

Campania Italian varieties displays differences in the phonological inventory with regard to the available tunes for question intonation. Salerno Italian presents four tune types for expressing information-seeking polar questions and four tune type for information-seeking partial questions (§ 3.4.1 and § 3.4.2, respectively). At least on the basis of Discourse Completion Task data, Cilento and Neapolitan Italian appear to have a more limited set of tunes. In particular, Cilento Italian was found to be more similar to the closer variety spoken in Salerno, in that it shares three out of four tune type for polar questions, and less similar to Neapolitan Italian, which employs only L*+H pitch accent, hence selecting only two polar question tunes.

Overall, this dimension identifies minor cross-variety differences, since the phonological inventory of pitch accents and boundary tones is basically shared across Campania Italian varieties at stake. Furthermore, phonological contrasts were found to be encoded in a similar way (Chapters 4 and 5), confirming that “intonation plays an important role in the representation of informational categories, more precisely of Contrast” (Brunetti et al. 2010). By contrast, neighboring varieties of Portuguese show differences in the phonological inventory and in nuclear accent also in statements (Vigário & Frota 2003), which are cross-linguistically attested as encoded in a highly similar way. One point to be taken into account is that Frota and colleagues (2015) analyzed varieties far from each other, namely European and Brazilian varieties of Portuguese. Indeed, neighboring varieties of European Portuguese examined in Cruz (2013) are described as employing the same falling tune for statements.

Realizational variation

The phonetic implementation of tunes allowed to identify differences in regional variety of Italian spoken in different locales of Campania. This dimension appears to play a major role in cross-variety variation showing that diatopically close Campania Italian varieties across a dialectological isogloss preserve phonological contrasts which, however, exhibit local realization-variants along a phonetic continuum of tonal targets temporal alignment. The results are in line with a large body of literature providing quantitative descriptions for phonetic details (Ladd 2006) and highlighting realizational differences among Italian (Gili Fivela & Nicora 2018) as well as non-Italian closely related varieties. Indeed, accentual temporal alignment in both prenuclear and nuclear pitch accent was found to differentiate varieties of English (Ladd et al. 2009; Kalaldehy, Dorn & Ní Chasaide 2009), Irish (Dalton & Ní Chasaide 2005), American English (Arvaniti & Garding 2007; Reed 2020), German (Ulbrich 2002; Atterer & Ladd 2004), Portuguese (Vigário & Frota 2003), Spanish (Elordieta & Calleja 2005).

Phonotactic variation

This variation dimension identifies differences in the combination of pitch accents and boundary tones and in the constraints of tonal events' employment, for example in the compulsory occurrence of a given pitch accent in prenuclear or nuclear position. As far as Campanian intonational variation is concerned, it appears to play a minor role. No differences were found in the tune-text association, but only a slight Neapolitan Italian-specific phonotactic feature, in that, although having the L+H* pitch accent in its tonal inventory, the variety does not allow the combination of this accent with high boundary tones, namely it is not used for question intonation, where only L*+H is selected (§ 3.4.1). Other Romance linguistic scenarios present larger cross-variety differences of this type, for example in the sparseness *vs* density of pitch accents within the intonational phrase across Portuguese varieties (Vigário & Frota 2003; Frota et al. 2015)

Semantic variation

Any sharp difference appears to distinguish Campania Italian varieties in tune-function mapping. Question intonation (Chapter 3) showed that Cilento Italian employs fewer tune types compared to Salerno Italian. Crucially, the tune types that were not identified for expressing information-seeking polar and partial questions, were however present in Cilento Italian phonological inventory, but selected to express other pragmatic sub-functions of polar and partial questions. For example, L+H* HL-L% is employed for

confirmation-seeking and counter-expectational polar questions, and L*+H L-L% tune for counter-expectational and unheard echo questions. On the whole, semantic differences had been regarded as less prevalent also in other cases (Vigário & Frota 2003), since they help to identify slight mismatches, e.g. in the encoding of pragmatic sub-functions of polar questions (Frota et al. 2015; Gili Fivela et al. 2015).

On the basis of studies focusing on transitional areas (§ 2.4.1), evidence of cross-variety variation due to the frequency of occurrence and distribution of intonational features come to light. Accordingly, the present thesis included observations on such dimensions, adopting a compositional approach for tunes analysis allowing to focus on specific tonal events of pitch accents and boundary tones.

Frequency of occurrence

In line with Gili Fivela & Nicora (2018) who explored diatopic variation on the basis of nuclear pitch accent, in the present thesis, the frequency of occurrence of tonal events allows to identify patterns of variation across Campania. The more considerable differences in terms of frequency of occurrence regard tunes and tones in polar questions (Chapter 3) and statements in different focus conditions (Chapter 5). Indeed, despite a common phonological inventory, Campania Italian varieties resulted to be differentiated according to tune, pitch accent and boundary tone selection following a north-to-south direction. Specifically, it was registered a decrease of falling in favor of rising pitch accents and whole nuclear configurations in partial questions and a decrease of low in favor of high boundary tones for polar, partial and alternative questions, following a Neapolitan Italian < Salerno Italian < Cilento Italian pattern. In addition, the exclusive selection of falling tune in Cilento Italian on the one hand, and the tune alternation in Salerno Italian on the other hand for expressing narrow contrastive focus appears to point to cross-variety variation on the two sides of the Eboli-Lucera line linked to the tune frequency of occurrence. Such results are in line with differences related to the variety in the frequency of specific tonal events observed across American English varieties (Clopper & Smiljanic 2011; Burding, Holliday & Reed 2018; Reed 2020) and Dutch varieties (Hanssen 2017) and in tune selection for information-seeking polar question across Catalan varieties (Prieto et al. 2015) and Italian varieties (Savino 2009, 2012; Gili Fivela 2015; Gili Fivela & Iraci 2017).

Distribution

Different cross-variety employment of tonal events allowed to identify geographic-related variation. Regularity in boundary tone was found selection in question intonation as regards the employment of final rises (H%), that resulted to be different in the varieties and to feature a distribution related to diatopic variation from north to south. Neapolitan Italian was proved to employ H% less frequently than both Salerno and Cilento varieties.

6.3 Intonational and geographic transition across neighboring varieties

This study aimed at exploring intonational features and their frequency of occurrence across three neighboring Campania varieties. Broadly, according to El Zarka (2017), cross-variety relations can be framed within a classification that takes into consideration near-universal commonalities, areal commonalities as well as inter-varietal differences. Intonational variation across Campania appears to identify all three types of relationships. Indeed, as expected, the encoding and realization of some prosodic types is in common with other Italian and non-Italian varieties and languages, among which broad focus statements, declarative and interrogative lists, alternative questions (Frota & Prieto 2015).

As far as areal commonalities are concerned, areal grouping according to prosody, unlike other linguistic levels, has been proved to be not feasible in Italy (Savino 2012; Crocco 2013; Gili Fivela et al. 2015). Regional Italian varieties cannot be clustered according to neither their geographic proximity (contra the “southern trend” proposed by Grice et al. 2005), nor their belonging to given dialectological areas bounded by dialectal isoglosses. Up to now no recognition of prosodic features attributable to the Campanian area as such had been outlined.

As a matter of fact, there is a certain amount of difficulty in determining, namely spatially limiting, the linguistic area identifiable as “Campanian” (cf. Chapter 1). Linguistic variability related to space, namely diatopic variability, has its relevance in a classification of linguistic areas, however it is closely intertwined with other social and cultural dynamics being causes of the variability. According to Avolio (2000), citing Ruffino (1992), isogloss-based classifications allow to identify a linguistic discontinuity, to be regarded and accordingly investigated as complex spaces of variability. Moreover, such an approach basically selects one feature leaving other out that could be equally relevant for the classification.

Traditional city-based descriptions have focused on regional varieties spoken in big urban centers, e.g. Naples, Bari, Palermo, nevertheless, diatopic variation can also deal with differences between the typology of settlements (Dal Negro & Vietti 2011) and urban setting size (Berruto 2018). This factor indeed covaries with the use of Italian and dialect, with differences between Campanian speakers from metropolitan areas on the one hand, and from small towns on the other, in the use of only or mainly Italian (69,9% and 42,7% respectively), of only or mainly dialect (4,3% and 11,1% respectively) or both Italian and dialect (18,1% and 40,7% respectively; Berruto 2018; cf. Bianchi, Corbisiero & Maturi 2005; Marcato & De Blasi 2005 on the Neapolitan area). In addition to this, Naples and Salerno are not only urban centers – yet of a different size – but are also linked by a surrounding area forming a complex and chaotic conurbation. The dialect substrate, therefore, may affect in different ways Salerno and Napoli on the one hand, and Cilento on the other.

Such an area is a geographically and linguistically compact area for which an isogloss-like division is not applied. Beyond the ancient Campanian four-lingualism (Etruscan, Oscan, Greek, Latin), synchronic Campania admits the co-presence of more variants, both more dialectal variants across dialectal areas and between substratum dialects and Italian (Radtke 1997; Avolio 2000).

Although intonational variation does not seem to follow dialectal variation, the latter provides a parallel for the interpretation of the data presented in this work. The relationships emerged from the thesis appear to frame Campania Italian varieties in a picture similar to that characterizing Campanian substratum dialects. A certain degree of linguistic continuity could be detected across the varieties, given by the slight differences related to tonal inventories, phonotactic constraints and mapping of tunes and pragmatic meanings. The similar encoding of prosodic types and tonal contrasts shows no internal separation applies in phonological terms. Accordingly, the linguistic scenario of Campania Italian varieties spoken in geographically continuous dialectal areas. appears to present cross-variety consistency on the basis of common features and choices.

Within the broad picture of homogeneity, inter-varietal differences are nevertheless detected. Indeed, as across substratum dialects, the co-presence of more forms and variants can be registered, showing different degrees of complexity and heterogeneity. Evidence comes from the finding that the main differences across the local varieties of Italian deal with the phonetic implementation of tunes and in the frequency of occurrence and

distribution of intonational features. The varieties share the inventory that is concretely/phonetically realized in a variety-specific realization both in the phonetic detail, namely accentual peak alignment, and in the occurrence of a variant over the others.

The results indicate local preferences for specific tunes and suggest, at least for certain tonal features, a “geographic cline”, from north to south, providing a basis for further investigations on a larger scale. Studies on Dutch varieties identified dialect-related differences being part of the cline in tonal timing, accentual movement duration, excursion and slope of the pitch movements, temporal adjustments of compression and truncation (Hanssen, Peters & Gussenhoven 2016, 2022; Hanssen 2017; Hanssen, Gussenhoven & Peters 2019). In this light, the character of weak border attributed to the Eboli-Lucera line in the literature seems mirrored in the examined data. Indeed, with regard to other situations, e.g. the Netherlands, the cline characterized phonetic transition across Campania appears to be limited to temporal timing of accentual peaks. Inter-varietal differences in phonetic details relate to the separation of Naples and Salerno from Cilento, so that they are marked by the Eboli-Lucera border. Peak alignment differences do not concern Neapolitan *vs* Salerno Italian but allow to group Neapolitan *and* Salerno *vs* Cilento Italian. Instead, variation according to the frequency of occurrence of tonal events involve all three varieties. In this way, an actual transition across the three locales can be observed, with variety-specific preferences in the selection, some of which tend to be less selected along a geographic cline. Within this picture, Salerno is a locale both geographically and intonationally representing a bridge between the two extremes of the cline represented north by Naples and south by Cilento. Such a picture notably applies for partial questions in tune (Neapolitan fall and Cilento rise), pitch accent (Neapolitan H+L* and Cilento L*+H) and boundary (increase of H% moving south) selection in a variation pattern moving southwards.

In other frameworks, it is possible to have a clear tonal border, as happens with the tonal isogloss separating between non-tonal Dutch to tonal Franconian and Scandinavian dialects (Gussenhoven 2014). The dialects taken into consideration exhibit a diatopic variation characterized by a phonetic continuum deriving from abrupt phonological changes of different degrees of importance and complexity. From the findings of the present thesis, it follows that neither the Eboli-Lucera line allows to provide a clear-cut separation between intonational systems, nor a bidimensional status, based on the presence/absence opposition of given features, of traditional isoglosses can be applicable to the linguistic Campanian landscape. Variation across Campania Italian varieties does not feature a similar picture, in

that no phonological abruptness can be observed, and the transition from one another features phonetic gradualness following the substratum dialectal continuum. Nevertheless, as suggested in Gili Fivela & Nicora (2018), isogloss boundaries are applicable to Italian situation and can be employed as a starting point to study geographically close varieties. Along this line and within the Italian picture, isogloss-based approach might work as a trace to explore diatopic variation between varieties without representing a necessary linguistic border or line of discontinuity.

Differences in phonetic details due to diatopic variation are indeed detectable between varieties on the two sides of dialectological isoglosses of La Spezia-Rimini line (Gili Fivela & Nicora 2018) and Eboli-Lucera line. Crucially, such variation is not delimited on the basis of these lines, namely they do not provide a linguistic border as they do for dialects, rather they permit to identify area of possible linguistic variation for Italian varieties. In other words, intonational features do not follow the isoglosses identified for vernaculars in opposing Liguria vs Tuscan varieties or Campanian vs Lucanian varieties. Such a variation is, in both Gili Fivela & Nicora and the present study, represented by a gradual change acknowledging the existence of transitional areas between Italian varieties.

As already said, research on Italian prosody relying on city-based analyses and descriptions failed in the effort to identify varietal grouping according to both geographic and dialectal criteria. In the light of the present findings and related works, the outspoken variability characterizing Italian intonation throughout the peninsula appears to be partially limited by investigating smaller-range areas taking into account closer locales. In other words, regional-based rather than city-based research might actually increase the knowledge on Italian intonation and help in characterizing inter-variety variability, moving towards subtler investigations of locales close to each other to get a better understanding of microscopical diatopic dimension. By doing so, patterns of variation distinguishing very distant varieties might be accounted for through the mapping of patterns of variation distinguishing very close varieties. It could be the case that, by doing so, any clear boundary would be noted in prosodic variation, as was noticed for European Spanish varieties by Hualde & Prieto (2015), who abandoned the traditional distinction between Northern-Central and Southern varieties according to dialectological literature in favor of a varietal continuum in European Spanish that can be globally regarded as a transitional area.

The inadequacy of a binary isoglosses in the description of closely language varieties has been pointed out also in other linguistic landscapes in Romance, for which a gradual and

smooth transition appears to better describe cross-varietal relationships. A mismatch between dialectal (segmental) and varietal (prosodic) classification characterizes Catalan varieties description (Prieto et al. 2015). In Portuguese, variation is detected even within the same regional variety, e.g. Alentejo and Algarve belonging to Interior Centre and South Portuguese (Cruz 2013). In a similar fashion, Frota and colleagues (2015) found inconsistencies in the traditional, non-prosodic dialect-based groupings of Portuguese varieties, which pointed to a division between European *vs* Brazilian varieties, while results of prosodic variation studies suggest that the main separation concerns a Northern *vs* Central-Southern split within European Portuguese. Perez (2014) highlights that difference choices, namely forms or variants, indeed exist in the same location as regards European Portuguese dialectal situation. As concerns Asturian, prosodic variation appears to feature a continuum along the varieties, both at the phonological and phonetic level (Alvarellos, Muñiz, Díaz & González 2011).

Such a picture appears to pertain to both Campanian dialects and Campanian Italian varieties. Indeed, Campania has been described as an area which owes its linguistic complexity to a trait of strong polymorphism (Radtke 1997). Such a trait represents a disturbing element of dialectal classification, since it permits the copresence of a wide range of possible linguistic variants. In these terms, a classification is advisable exclusively in a broad sense, to the extent that it gives an outline of different linguistic (dialectal and Italian) varieties present in the same area and of the relationships existing among them. Clearly, it is not sufficient to give an account of the actual development of linguistic features. This is the case of certain dialectal segmental features classified as Lucanian but partially present above the Eboli-Lucera line, e.g. in Pontecagnano (Avolio 1989). Likewise, even between Italian varieties spoken in Salerno and Cilento, the relationship appears to be better explained in terms of frequency of occurrence of given features, rather than according to a presence *vs* absence dichotomy. Typical Cilento Italian temporal anticipation of accentual peaks is gradually less detectable moving north towards the locale of Salerno, where such a feature is not attested. The area in-between is dotted with linguistic islands still presenting anticipated accentual peaks, being a minority variant of non-anticipated ones, featuring a transitional area as much for dialects as for varieties north and south the Eboli-Lucera line.

6.4 Additional issues and future directions

On the basis of the main findings of the present thesis, here some additional issues are reported, in order to discuss the limits of the study and to highlight possible directions for future research.

6.4.1 Social variation

Studies such as the present indicate that zooming in on small-range areas can help identifying specific elements of continuity and discontinuity across neighboring varieties. Although the hypothesis of a geographic cline across Campania Italian varieties is partly confirmed, the present study leaves other questions open requiring further investigations.

As mentioned in the introduction, intonational studies on the “regional varieties” of Italian (cf. Grice et al. 2005) are mainly based on the analysis of regional *standard* varieties. This is the case also for the present study. By definition, regional pronunciations are geographically differentiated; however, they are likely to be less diversified compared to their substrate dialects, since regional varieties are spoken in larger areas than the dialects (Auer 2005). Accordingly, regional standard could be even less diversified compared to less standardizing regional varieties. Less standardizing varieties correspond to lower varieties in the cone according to Auer’s (2005) account of diaglossic standard-dialect configurations, and, in the Italian framework, are more likely to be affected by dialectal influence. Indeed, production experiments carried out in this study, as in many others (among others, D’Imperio & Cangemi 2011; Gili Fivela et al. 2015), namely Discourse Completion Task and reading tasks, involve speech data from young cultivated speakers, namely university-level students whose regional pronunciation is likely to be not socially marked as low within the region. They are indeed speakers of regional *standard* Italian. To achieve a more complete understanding of intra-regional variation in prosody therefore, other social varieties could and should be taken into account. It could be the case that more divergence or different variation patterns might be found by studying less standardizing regional varieties and socially more diverse speakers. Much is still to do in order to get a better knowledge of the intonation of substratum dialects and to accordingly assess the type and degree of influence of dialectal prosody on Italian (regional) prosody.

Cilento-specific realizations of broad and narrow focus statements are clearly different with respect to other Campania Italian varieties, according to both phonological encoding and phonetic implementation of prenuclear and nuclear region. The discrepancy occurs between varieties on the two sides of the Eboli-Lucera line separating Neapolitan and

Salerno Italian from Cilento Italian. The variation is clearly ascribed to the diatopic dimensions, but with possible reasons related to different settlements leading to different patterns of interaction with the substrate dialects between the varieties of Italian spoken in the cities of Naples and Salerno and the less urban variety spoken in the smaller towns of upper Cilento.

Moreover, some traits may help to identify a regional affiliation or, more specifically, a sub-regional affiliation. Future research can involve perception study in order to test the recognition of some intonational traits, e.g. high boundary selection or temporally anticipated accentual peaks, as identifiers of Cilento speakers. Crucially, such an affiliation could also index social dimension, for example identifying, along a socio-geographic dimension, regional standard (*italiano regionale colto*) vs regiolect (*italiano regionale popolare*). At present, virtually nothing is known about the perception and the social value of intonational feature of Campania varieties. Perceptual studies would foster our understanding of the interaction between social factors and geographic affiliation.

6.4.2 Production data and speech type

The role played by the elicitation method in the gaining of production data has been proved to have an effect in prosodic variation (Face 2003; Savino 2012; Arvaniti 2019). Discourse Completion Task provided a common framework adopted for Italian and other Romance varieties. Clearly, it has its advantages, in eliciting semi-spontaneous speech while controlling several parameters (Arvaniti 2016). Moreover, it has the advantage of allowing inter-variety comparison, as it has been employed for the description of an extensive number of Italian (and Romance) varieties, by relying on the same prosodic types, number of renditions, situational contexts. For example, the will to investigate Cilento Italian declarative patterns arose from naive observation on natural speech and on preliminary exploration of the variety based on dialogic speech. In “Spot-the-difference” dialogues (Pean, Williams & Eskenazy 1993) performed by Cilento Italian speakers, instances of accentual peak anticipation were noticed on paroxytone quadrisyllables (e.g. *il monumento* ‘the monument’). Such phenomenon was then registered in Discourse Completion Task data (Chapter 3) and then quantified by means of an ad hoc a laboratory-based data collection in order to control the focus conditions and the target words to elicit, in addition to criteria for speakers’ selection, namely speakers with similar education level (educated), age (young) and socio-economic level (middle-class). However, similar elicitation methods

do not provide a “pure”, real life-like speech even in the renditions which are designed to be “spontaneous” and with situational contexts designed to induce specific interpretation of target sentences. Undoubtedly, laboratory settings have their impact on speech productions. Speakers are likely to reduce what they consciously or unconsciously perceive as too regionally marked (and low-socially marked), possibly converging towards a speaking style in which certain diatopic differences might be somewhat levelled.

Accordingly, future research also needs to open not only to other varieties different from regional standards, since further insight into spatial variation in intonation may come from a close comparison between Italian and dialectal intonation in small areas, but also to the analysis of spontaneous speech produced by socially diverse speakers.

- Alessio, Giovanni. 1980. Normandismi e francesismi nei dialetti romanzi e romaici dell'Italia meridionale. In *Bollettino del Centro di studi filologici e linguistici siciliani* 14. 5-36.
- Alfano, Iolanda. 2019. *Methodological and practical issues in studying intonation. The case of requests in Italian and Spanish task-oriented dialogues*. Studi AISV 5. Milano: Officinaventuno.
- Alvarellos, Mercedes, Muñiz, Carmen, Díaz, Liliana & González, Ruth. 2011. La entonación en las variedades lingüísticas de Asturias: estudio contrastivo. *Revista internacional de lingüística iberoamericana* 17. 111-120.
- Alvord, Scott M. 2009. Disambiguating declarative and interrogative meaning with intonation in Miami Cuban Spanish. *Southwest Journal of Linguistics* 28(2). 21-66.
- Ammon, Ulrich. 2004. Standard variety. In Ammon, Ulrich, Dittmar, Norbert, Mattheier, Klaus J. & Trudgill, Peter (eds.), *Sociolinguistics*, Vol. 1. 273–283. Berlin: Walter de Gruyter.
- Arvaniti, Amalia. 2019. Crosslinguistic variation, phonetic variability, and the formation of categories in intonation. In *Proceedings of the 19th international congress of phonetic sciences*, Melbourne. 1– 6.
- Arvaniti, Amalia. 2016. Analytical decisions in intonation research and the role of representations: Lessons from Romani. *Laboratory Phonology: Journal of the Association for Laboratory Phonology* 7(1):6. 1-43. DOI: <http://doi.org/10.5334/labphon.14>
- Arvaniti, Amalia & Fletcher, Janet. 2021. The Autosegmental-Metrical Theory of Intonational Phonology. In Gussenhoven, Carlos & Chen, Aoju (eds.), *The Oxford Handbook of Language Prosody*. <https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780198832232.001.0001/oxfordhb-9780198832232-e-4>

- Arvaniti, Amalia & Garding, Gina. 2007. Dialectal variation in the rising accents of American English. *Papers in laboratory phonology* 9. 547-576.
- Arvaniti, Amalia & Ladd, D. Robert. 1995. Tonal alignment and the representation of accentual targets. *Proceedings of the 13th International Congress of Phonetic Sciences* 4, 220-223.
- Arvaniti, Amalia, Ladd, D. Robert & Mennen, Ineke. 2006. Phonetic effects of focus and “tonal crowding” in intonation: Evidence from Greek polar questions. *Speech Communication* 48(6). 667-696.
- Arvaniti, Amalia, Ladd, D. Robert & Mennen, Ineke. 2000. What is a starred tone? Evidence from Greek. In Broe, Micheal B. & Pierrehumbert, Janet (Eds.), *Papers in laboratory phonology V: Acquisition and the lexicon*, 119-131. Cambridge: Cambridge University Press.
- Arvaniti, Amalia, Ladd, D. Robert & Mennen, Ineke. 1998. Stability of tonal alignment: the case of Greek prenuclear accents. *Journal of phonetics* 26(1). 3-25.
- Atterer, Michaela & Ladd, D. Robert 2004. On the phonetics and phonology of ‘segmental anchoring’ of F0: evidence from German. *Journal of Phonetics* 32(2). 177-197.
- Auer, Peter. 2011. Dialect vs. standard: a typology of scenarios in Europe. In Kortmann, Bernd & Auwera, Johan V. D. (eds.), *The languages and linguistics of Europe*. 485-500. Berlin: Mouton de Gruyter.
- Auer, Peter. 2005. Europe’s sociolinguistic unity, or: A typology of European dialect/standard constellations. *Perspectives on variation: Sociolinguistic, historical, comparative* 7. 7-42.
- Auer, Peter, Gilles, Peter, Peters, Jörg & Selting, Margret. 2000. Intonation regionaler Varietäten des Deutschen. Vorstellung eines Forschungsprojekts. In: Stellmacher, Dieter (ed.), *Dialektologie zwischen Tradition und Neuansätzen. Beiträge der internationalen Dialektologentagung*, 222–239. Stuttgart: Franz Steiner Verlag.
- Avesani, Cinzia. 1995. ToBIIt: un sistema di trascrizione per l’intonazione italiana. *Atti delle 5e Giornate di Studio del Gruppo di Fonetica Sperimentale (AIA)*. 85-98.
- Avolio, Francesco. 2000. Ma nuje comme parlamme? Problemi di descrizione e classificazione dello spazio dialettale “campano”. *Romance Philology* 54(1), 1-28.

- Avolio, Francesco. 1996. Il “neutro di materia” nei dialetti centro-meridionali: fonti, dati recenti, problemi aperti. In *Contributi di Filologia dell'Italia Mediana* 10. 291-337.
- Avolio, Francesco. 1995. *Bommèspræ. Profilo linguistico dell'Italia centro-meridionale*. San Severo: Gerni.
- Avolio, Francesco. 1989. “Il limite occidentale dei dialetti lucani nel quadro del gruppo ‘altomeridionale’: considerazioni a proposito della linea Salemo-Lucera”. *L'Italia dialettale* 52, 1-22.
- Avolio, Francesco & Romano, Antonio. 2006. La prosodia degli enunciati dichiarativi e interrogativi in tre aree dialettali dell'Italia centro-meridionale (Abruzzo, Basilicata e Campania). In Savy, Renata & Crocco, Claudia (eds.), *Atti del convegno AISV*. 76-77. Torriana: EDK editore.
- Badan, Linda, Gryllia, Stella & Fiorin, Gaetano. 2017. Italian echo-questions at the interface. *Studia Linguistica*, 71(3). 207-240.
- Barone, Marco. *In prep. Intonation in Pescara: the description of two languages in contact*. Ph.D thesis, Universitat Pompeu Fabra & Università del Salento.
- Bates, Douglas, Mächler, Martin, Bolker, Ben & Walker, Steve. 2015a. Fitting Linear Mixed-Effects Models Using lme4. *Journal of Statistical Software* 67(1). 1-48.
- Bates, Douglas, Kliegl, Reinhold, Vasishth, Shravan & Baayen, Harald. 2015b. Parsimonious mixed models, *arXiv*, preprint arXiv:1506.04967. 1–27.
- Beckman, Mary, Díaz-Campos, Manuel, McGory, Julia T. & Morgan., Terrell A. 2002. Intonation across Spanish, in the Tones and Breack Indices framework. *Probus* 14. 9-36. <https://doi.org/10.1515/prbs.2002.008>
- Beckman, Mary & Pierrehumbert, Janet. 1986. Intonational Structure in Japanese and English. *Phonology* 3, 255-309.
- Berruto, Gaetano. 2018. The languages and dialects of Italy. In Wendy Ayres-Bennett and Janice Carruthers (eds.), *Manual of Romance Sociolinguistics*, 494-525. Berlin: de Gruyter.
- Berruto, Gaetano. 2012 [1987]. *Sociolinguistica dell'italiano contemporaneo*. Roma: Carocci.

- Berruto, Gaetano. 2005. Dialect/standard convergence, mixing, and models of language contact: the case of Italy. *Dialect change. Convergence and divergence in European languages*, 81-97.
- Berruto, Gaetano. 1998. Notarelle di teoria della variazione sociolinguistica. In Werner, Edeltraud, Liver, Ricarda, Stork, Yvonne & Nicklaus, Martina (eds.), *Et multum et multa. Festschrift für Peter Wunderli zum 60. Geburtstag*. 17-29. Tübingen: Narr.
- Berruto, Gaetano. 1989. Tra italiano e dialetto. In Holtus, G, Metzeltin, M & Pfister, M (eds.), *La dialettologia italiana oggi. Studi offerti a Manlio Cortellazzo*. 107-22. Tübingen: Narr.
- Bertinetto, Pier Marco. 1981. *Strutture prosodiche dell'italiano. Accento, quantità, sillaba, giuntura, fondamenti metrici*. Firenze: Accademia della Crusca.
- Bertinetto, Pier Marco & Loporcaro, Michele. 2005. The sound pattern of Standard Italian, as compared with the varieties spoken in Florence, Milan and Rome. *Journal of the International Phonetic Association* 35(2), 131-151.
- Besch Werner, Knoop Ulrich, Putschke Wolfgang, Wiegand, Herbert E. (eds), *Dialektologie. Ein Handbuch zur deutschen und allgemeinen Dialektforschung*, Vol. 2. Berlin/New York: Walter de Gruyter.
- Bianchi, Patricia, Corbisiero, Fabio, Maturi, Pietro. 2005. Gli usi del dialetto nell'area metropolitana: un'indagine a Napoli. In Marcato, Gianna (ed.), *Dialetti in città*. 123-129. Padova: Unipress.
- Bianchi, Patricia, De Blasi, Nicola & Librandi, Rita. 1992. La Campania. In Bruni, Francesco (ed.), *L'italiano nelle regioni*. 629-684. Torino: UTET.
- Bianchi, Patricia, De Blasi, Nicola & Maturi, Pietro. 2007. Un'indagine sugli usi linguistici a Napoli e in Campania. In *Actes du XXIV Congrès de Linguistique et Philologie Romane*, Vol. 3. 15-28. Tübingen: Niemeyer.
- Billmyer, Kristine & Varghese, Manka. 2000. Investigating instrument-based pragmatic variability: Effects of enhancing discourse completion tests. *Applied linguistics* 21(4). 517-552.
- Blommaert, Jan. 2005. *Discourse: Key topics in sociolinguistics*. Cambridge: Cambridge University Press.

Blum-Kulka, Shoshana, House, Juliane & Kasper, Gabriele. 1989. Investigating crosscultural pragmatics: an introductory overview. In Shoshana Blum-Kulka, Juliane House & Gabriele Kasper (eds.), *Cross-Cultural Pragmatics: Requests and Apologies*, 1-34. Norwood, NJ: Ablex.

Bocci, Giuliano. 2013. *The Syntax–Prosody Interface: A Cartographic Perspective with Evidence from Italian*. Amsterdam: Benjamins.

Boersma, Paul & Weenink, David 2020. *Praat: doing phonetics by computer* [Computer program]. Version 6.1.40, retrieved 27 February 2021 from <http://www.praat.org/>

Bruce, Gösta. 1977. *Swedish word accents in sentence perspective*, Vol. 12. Malmö: LiberLäromedel/Gleerup.

Brunetti, Lisa, D'Imperio, Mariapaola & Cangemi, Francesco. 2010. On the prosodic marking of contrast in Romance sentence topic evidence from Neapolitan Italian. In *International Conference on Speech Prosody*. 1-4.

Burdin, Rachel S., Holliday, Nicole & Reed, Paul. 2018. Rising above the standard: Variation in L+ H* contour use across 5 varieties of American English. In *Proceedings of the 9th international conference on speech prosody*, 354-358.

Büring, Daniel. 1997. *The Meaning of Topic and Focus – the 59th Street Bridge Accent*. London: Routledge.

Bürkner, Paul-Christian. 2017. brms: An R package for Bayesian multilevel models using Stan. *Journal of statistical software* 80. 1-28.

Canepari, Luciano. 1980. *Italiano standard e pronunce regionali*. Padova: CLEUP.

Cangemi, Francesco. 2015. mausmooth. Retrievable online at <http://phonetik.phil-fak.uni-koeln.de/fcangemi.html>.

Cangemi, Francesco. 2014. *Prosodic detail in Neapolitan Italian*. Berlin: Language Science Press.

Cangemi, Francesco, Delucchi, Rachele, Loporcaro, Michele & Schmid, Stephan. 2010. Vocalismo finale atono “toscano” nei dialetti del Vallo di Diano (Salerno). In Cutugno, Francesco, Maturi, Pietro, Savy, Renata, Abete, Giovanni & Alfano, Iolanda (eds.), *Parlare con le persone, parlare alle macchine*. 477-490. Torriana: EDK editore.

- Cangemi, Francesco & Grice, Martin. 2016. The importance of a distributional approach to categoriality in autosegmental-metrical accounts of intonation. *Laboratory Phonology* 7(1). 1-20.
- Caputo, Maria Rosaria. 1997. The intonation of vocatives in spoken Neapolitan Italian. In *EUROSPEECH-1997*. 775-778.
- Caputo, Maria Rosaria. 1996. Presupposizione, fuoco, modalità e schemi melodici. In *Atti del XXIV Convegno Nazionale dell'Associazione Italiana di Acustica (AIA)*. 49-54. Padova: Arti Grafiche Padovane.
- Cataldo, Violetta, Orrico, Riccardo & Savy, Renata. 2017. Phonetic variations of f_0 range in L1 and L2: a comparison between Italian, English and Spanish native and non-native speakers. In Bertini, Chiara, Celata, Chiara, Lenoci, Giovanna, Meluzzi, Chiara & Ricci, Irene (eds.), *Fattori sociali e biologici nella variazione fonetica [Social and biological factors in speech variation]*, Studi AISV 3. 227-256. Milano: Officinaventuno.
- Castellani, Arrigo. 1982. Quanti erano gl'italofoni nel 1961?. In *Studi linguistici italiani* XII. 105-29.
- Cerruti, Massimo. 2019. La formazione di varietà intermedie tra dialetti di base e standard in situazioni europee. Alcune considerazioni dall'angolatura italiana. *Rivista Italiana di Dialettologia* 42, 79-100.
- Cerruti, Massimo. 2011. Regional Varieties of Italian in the Linguistic Repertoire. In *International Journal of the Sociology of Language*, 210. 9-28.
- Cerruti, Massimo. 2009. *Strutture dell'italiano regionale: Morfosintassi di una varietà diatopica in prospettiva sociolinguistica*. Frankfurt am Main: Peter Lang.
- Cerruti, Massimo, Crocco, Claudia & Marzo, Stefania (eds.). 2017. *Towards a new standard: theoretical and empirical studies on the restandardization of Italian*. Berlin/New York: Mouton de Gruyter.
- Cerruti, Massimo & Regis, Riccardo. 2015. The interplay between dialect and standard: evidence from Italo-Romance. In Torgersen, Eivind, Hårstad, Stian, Mæhlum, Brit & Røyneland, Unn (eds.), *Language Variation. European Perspectives V*. 55-68. Amsterdam/Philadelphia: John Benjamins.

- Cerruti, Massimo & Regis, Riccardo. 2014. Standardization Patterns and Dialect/Standard Convergence: A Northwestern Italian Perspective. *Language in Society* 43(1). 83–111.
- Cintra, L. F. Lindley. 1971. Nova proposta de classificação dos dialectos galego-portugueses, *Boletim de Filologia* 22, 81-116.
- Clopper, Cynthia G., & Rajka Smiljanic. 2011. Effects of gender and regional dialect on prosodic patterns in American English. *Journal of Phonetics* 39(2). 237–45.
- Coseriu, Eugenio. 1980. Los conceptos de ‘dialecto’, ‘nivel’, y ‘estilo de lengua’ y el sentido propio de la dialectología. *Lingüística Española Actual* 3(1). 1-32.
- Crocco, Claudia. 2006. Prosodia e funzioni delle domande polari in napoletano. In Renata Savy & Claudia Crocco (eds.), *Atti del II convegno dell'Associazione Italiana Scienze della Voce (AISV)*, 30/11- 2/12 2005, Università di Salerno.
- Crocco, Claudia. 2017. Everyone has an accent: standard Italian and regional pronunciation. In Cerruti, Massimo, Crocco, Claudia & Marzo, Stefania (eds.), *Towards a new standard: theoretical and empirical studies on the restandardization of Italian*, 89-117. Berlin/New York: Mouton de Gruyter.
- Crocco, Claudia. 2013. Is Italian Clitic Right Dislocation grammaticalised? A prosodic analysis of yes/no questions and statements. *Lingua* 133. 30-52.
- Crocco, Claudia. 2011. Profili melodici della varietà genovese. In *Atti del VII Convegno AISV 2011 - Contesto comunicativo e variabilità nella produzione e percezione della lingua*. 188-199.
- Crocco, Claudia. 2009. Topic accent and prosodic structure. In Lunella Mereu, Artemis Alexiadou & Timothy Hall (eds.), *Interface Explorations* 19, 15–49. Berlin: De Gruyter.
- Crocco, Claudia & Badan, Linda. 2016. ‘L’hai messo dove il focus? ’Un’analisi prosodica delle domande eco wh. In Savy, Renata & Alfano, Iolanda (eds.), *La fonetica nell'apprendimento delle lingue [Phonetics and language learning]*. Studi AISV 2. 191-207. Milano: Officinaventuno.
- Crocco, Claudia & Cataldo, Violetta. *To appear*. The intonation of neighboring varieties. *Sociolinguistica*. Berlin: Walter de Gruyter. DOI: 10.1515/soci-2022-0021

Crocco, Claudia, Gili Fivela, Barbara & D'Imperio, Mariapaola. *Forthcoming*. How far are dialectal and Italian prosody: The case of Neapolitan.

Crocco, Claudia, Gili Fivela, Barbara & D'Imperio, Mariapaola. 2022. Comparing prosody of Italian varieties and dialects: data from Neapolitan. In *Speech Prosody 2022*, Lisbon. 140-144.

Cruz, Marisa. 2013. *Prosodic variation in European Portuguese: phrasing, intonation and rhythm in central-southern varieties*. PhD dissertation, Universidade de Lisboa, Portugal.

D'Ascoli, Francesco. [1972] 2004. *Lingua spagnuola e dialetto napoletano*. Napoli: Gallina.

D'Imperio, Mariapaola. 2003. Tonal structure and pitch targets in Italian focus constituents. *Catalan Journal of Linguistics*. 55-65.

D'Imperio, Mariapaola. 2002. Italian intonation: An overview and some questions. *Probus* 14(1). 37-69. DOI: <http://dx.doi.org/10.1515/prbs.2002.005>

D'Imperio, Mariapaola. 2001. Focus and tonal structure in Neapolitan Italian. *Speech Communication* 33(4), 339–356.

D'Imperio, Mariapaola. 2000. *The role of perception in defining tonal targets and their alignment*. Ph.D thesis, Ohio State University. DOI: [http://dx.doi.org/10.1016/S0167-6393\(00\)00064-9](http://dx.doi.org/10.1016/S0167-6393(00)00064-9).

D'Imperio, Mariapaola. 1999. Tonal structure and pitch targets in Italian focus constituents. In John Ohala (Ed.), *Proceedings of the 14th International Congress of Phonetic Sciences (ICPhS '99)*, vol. 3. 1757–60.

D'Imperio, Mariapaola. 1997. Narrow focus and focal accent in the Neapolitan variety of Italian, In *Intonation: Theory, Models and Applications, INTERSPEECH-1997*. 87-90.

D'Imperio, Mariapaola. 1995. Timing differences between prenuclear and nuclear pitch accents in Italian. *The Journal of the Acoustical Society of America* 98(5). 2894-2894.

D'Imperio, Mariapaola & Cangemi, Francesco. 2011. Phrasing register level downstep and partial topic constructions in Neapolitan Italian. In Christoph Gabriel & Conxita Lleó

(eds.), *Intonational phrasing in Romance and Germanic: Crosslinguistic and bilingual studies*, 75–94. Amsterdam: John Benjamins.

D'Imperio, Mariapaola, Cavone, Rossana & Petrone, Caterina. 2014. Phonetic and phonological imitation of intonation in two varieties of Italian. *Frontiers in psychology* 5. 1226. DOI: <http://dx.doi.org/10.3389/fpsyg.2014.01226>

D'Imperio, Mariapaola & House, David. 1997. Perception of questions and statements in Neapolitan Italian. In *Proceedings of Eurospeech '97*, Vol. 1, 251–254.

Dal Negro, Silvia & Vietti, Alessandro. 2011. Italian and Italo-Romance dialects. *International Journal of the Sociology of Language* (210). 71-92.

Dalton, Martha & Ní Chasaide, Ailbhe. 2007. Nuclear accents in four Irish (Gaelic) dialects. *Proc. XVIth ICPhS*, Saarbrücken. 965-968.

Dalton, Martha & Ní Chasaide, Ailbhe. 2005. Tonal alignment in Irish dialects. *Language and speech* 48(4). 441-464.

Dalton, Martha & Ní Chasaide, Ailbhe. 2003. August). Modelling intonation in three Irish dialects. In *Proceedings of the 15th international congress of phonetic sciences*, Vol. 1. 1073-1076.

De Blasi, Nicola. 2006a. *Profilo linguistico della Campania*. Bari/Roma: Laterza.

De Blasi, Nicola. 2006b. Perché a Napoli non tutti parlano il napoletano. Riflessione sulle implicazioni linguistiche del ruolo di capitale. In De Blasi, Nicola & Marcato, Carla (eds.), *La città e le sue lingue. Repertori linguistici urbani*. 219-235. Napoli: Liguori.

De Blasi, Nicola & Fanciullo, Franco. 2002. La Campania. In Clivio, Gianlorenzo P., Cortelazzo, Manlio, De Blasi, Nicola & Marcato, Carla (eds.), *I dialetti italiani. Storia, struttura, uso*. 628-678. Torino: UTET.

De Mauro, Tullio. 2017 [1963]. *Storia linguistica dell'Italia unita*. Bari/Roma: Laterza.

De Mauro, Tullio. 2014. *Storia linguistica dell'Italia repubblicana dal 1946 ai giorni nostri*. Roma/Bari: Laterza.

De Mauro, Tullio. 1970. *Minima linguistica*. Bologna: Il Mulino 19(5). 380-0

De Pascale, Stefano & Marzo, Stefania. 2016. Gli italiani regionali. Atteggiamenti linguistici verso le varietà geografiche dell'italiano. *Incontri. Rivista europea di studi italiani* 31(1). 61-76.

De Pascale, Stefano, Marzo, Stefania & Speelman, Dirk. 2017. Evaluating regional variation in Italian: towards a change in standard language ideology?. In Cerruti, Massimo, Crocco, Claudia & Marzo, Stefania (eds.), *Towards a new standard: Theoretical and empirical studies on the restandardization of Italian*. 118-142. Berlin: De Gruyter.

Del Puente, Patrizia & Fanciullo, Franco. 2004. Per una Campania dialettale. In Fanciullo, Franco (ed.), *Dialetti e non solo*. 148-175. Alessandria: Edizioni dell'Orso.

Delaïs-Roussarie, Elisabeth, Post, Brechtje, Avanzi, Mathieu, Buthke, Carolin, Di Cristo, Albert, Feldhausen, Ingo, Jun, Sun-Ah, Martin, Philippe, Meisenburg, Trudel, Rialland, Annie, Sichel-Bazin, Rafèu, & Yoo, Hiyon 2015. Intonational phonology of French: Developing a ToBI system for French. In Frota, Sonia & Prieto, Pilar (eds.), *Intonation in Romance*. Oxford: Oxford University Press. 63-100.

Delaïs-Roussarie, Elisabeth & Turco, Giuseppina. 2019. Intonation of alternative constructions in French. *Romance Languages and Linguistic Theory 15: Selected papers from 'Going Romance'30*, Frankfurt. 135.

Dorta, Josefa & González Rodríguez, María José. 2019. Tonal Proximity Relationship in the Spanish of the Canary Islands in the Light of Dialectometry. *Languages* 4(2). 29.

El Zarka, Dina. 2017. Arabic intonation. In *Oxford handbooks online*. 1–37. Oxford: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199935345.013.77>

Elordieta, Gorka & Calleja, Nagore 2005. Microvariation in accentual alignment in Basque Spanish. *Language and Speech* 48(4). 397-439.

Elvira-García, Wendy, Balocco, Simone, Roseano, Paolo & Fernandez-Planas, Ana Ma. 2018. ProDis: A dialectometric tool for acoustic prosodic data. *Speech Communication* 97. 9-18.

Endo, Reiko & Bertinetto, Pier Marco. 1997. Aspetti dell'intonazione in alcune varietà dell'italiano. In Cutugno, Francesco (ed.), *Atti delle VII Giornate di studio del Gruppo di fonetica sperimentale*, Naples. 27–49.

- Estebas-Vilaplana, Eva. 2009. *The Use and Realization of Accentual Focus in Central Catalan with a Comparison to English*. Munich: Lincom Europa.
- Face, Timothy L. 2003. Intonation in Spanish declaratives: differences between lab speech and spontaneous speech. *Catalan Journal of Linguistics* 2. 115-131.
- Face, Timothy L. 2002. Local intonational marking of Spanish contrastive focus. *Probus* 14. 71-92.
- Face, Timothy L., D'Imperio, Mariapaola. 2005. Reconsidering a Focal Typology: Evidence from Spanish and Italian. *Italian Journal of Linguistics / Rivista di linguistica* 17 (2). 271-289.
- Fanciullo, Franco. 1997. *Raddoppiamento sintattico e ricostruzione linguistica nel Sud italiano*. Pisa: ETS.
- Fanciullo, Franco. 1991. Tra Greco e romanzo nell'Italia meridionale. *L'Italia dialettale* 54. 15-56.
- Feldhausen, Ingo. 2010. *Sentential form and prosodic structure of Catalan*. Amsterdam: John Benjamins.
- Félix-Brasdefer, J. César. 2010. Data collection methods in speech act performance. *Speech act performance: Theoretical, empirical and methodological issues* 26(41). 69-82.
- Font-Rotchés, Dolors. 2007. *L'entonació del Català*. Barcelona: Publicacions de l'Abadia de Montserrat.
- Frota, Sónia (coord.). 2012-2015. *InAPoP- Interactive Atlas of the Prosody of Portuguese* (Funded by FCT, PTDC/CLE-LIN/119787/2010. Web page of the InAPoP web platform: <http://labfon.lettras.ulisboa.pt/InAPoP/>).
- Frota, Sónia. 2000. *Prosody and focus in European Portuguese*. New York: Garland Press.
- Frota, Sónia, Cruz, Marisa, Svartman, Flaviane, Collischonn, Gisela, Fonseca, Aline, Serra, Carolina, Oliveira, Pedro & Vigário, Marina. 2015. Intonational variation in Portuguese: European and Brazilian varieties. In Frota, Sonia & Prieto, Pilar (eds.), *Intonation in Romance*. 235-283. Oxford: Oxford University Press.

Frota, Sónia & Moraes, João Antônio. 2016. Intonation of European and Brazilian Portuguese. In Wetzels, W. Leo, Costa, João & Menuzzi, Sergio (eds.), *The Handbook of Portuguese Linguistics*. Willey-Blackwell. 141-166.

Frota, Sónia & Pilar Prieto (eds.). 2015. *Intonation in Romance*. Oxford: Oxford University Press.

Frota, Sónia & Vigário, Marina. 2000. Aspectos de prosódia comparada: ritmo e entoação no PE e no PB. *Actas do XV Encontro da Associação Portuguesa de Linguística* 1. 533-555.

Gili Fivela, Barbara. 2008. *Intonation in Production and Perception. The case of Pisa Italian*. Torino: Edizioni dell'Orso.

Gili Fivela, Barbara. 2002. Tonal alignment in two Pisa Italian peak accents. In Fodor, Janet Dean, Bernard, Bel & Isabelle, Marlien, (eds.), *Proceedings of the Speech Prosody 2002 Conference*, Aix-en-Provence. 339-342.

Gili Fivela, Barbara, Avesani, Cinzia, Barone, Marco, Bocci, Giuliano, Crocco, Claudia, D'Imperio, Mariapaola, Giordano, Rosa, Marotta, Giovanna, Savino, Michelina & Sorianello, Patrizia. 2015. Intonational phonology of the regional varieties of Italian. In Sonia Frota & Pilar Prieto (eds.), *Intonation in Romance*, 140-197. Oxford: Oxford University Press.

Gili Fivela, Barbara & Iraci, Massimiliano M. 2017. Variation in intonation across Italy: the case of Palermo Italian. In Chiara Bertini, Chiara Celata, Giovanna Lenoci, Chiara Meluzzi & Irene Ricci (eds.), *Fattori Sociali e Biologici nella Variazione Fonetica [Social and Biological Factors in Speech Variation]*, 169-190. Studi AISV. Milano: Officinaventuno.

Gili Fivela, Barbara & Nicora, Francesca. 2018. Intonation in Liguria and Tuscany: checking for similarities across a traditional isogloss boundary. In Vietti, Alessandro, Spreafico, Lorenzo, Mereu, Daniela & Galatà, Vincenzo (eds.), *Il parlato nel contesto naturale*, Studi AISV. 131-156. Milano: Officinaventuno,

Gili Fivela, Barbara & Savino, Michelina. 2000). Segments, syllables and tonal alignment: a study on two varieties of Italian. In *Proceedings of ICPhS 2003 (International Conference on Phonetic Sciences)*, Barcelona. 2933-6.

Gilles, Peter. 2005. *Regionale Prosodie im Deutschen: Variabilität in der Intonation von Abschluss und Weiterweisung*. Berlin: Walter de Gruyter.

Giordano, Rosa. 2006. The intonation of polar questions in two central varieties of Italian. In *Proceedings of the Third International Conference on Speech Prosody*, Dresden. 10-155.

Giordano, Rosa & Claudia Crocco. 2005. Sul Rapporto Tra Intonazione e Articolazione Informativa. In Albano Leoni, Federico & Giordano, Rosa (eds.), *Italiano Parlato. Analisi Di Un Dialogo*, Vol. 1. 158–88. Napoli: Liguori.

Giordano, Rosa & Savy, Renata. 2003. The intonation of instruct and explain in Neapolitan Italian. In *Proceedings of The XVth International Congress of Phonetic Sciences (ICPhS)*. 603–6. Barcelona: Causal Productions.

Goebel, Hans. 1981. Eléments d'analyse dialectométrique (avec application à l'AIS). *Revue de Linguistique Romane* 45. 349–420.

Goldsmith, John. 1976. *Autosegmental phonology*. PhD thesis. London: MIT Press.

Grabe, Esther. 2004. Intonational variation in urban dialects of English spoken in the British Isles. In Gilles, Peter & Peters, Jörg (eds.), *Regional variation in intonation*. 9–31. Tübingen: Niemeyer.

Grabe, Esther. 1998. Pitch accent realization in English and German. *Journal of Phonetics* 26(2). 129-143.

Grabe, Esther, Nolan, Francis & Farrar, Kimberley. 1998. IViE - A comparative transcription system for intonational variation in English. In *Proceedings of the 5th Conference on Spoken Language Processing (ICSLP)*, Sydney. 1259-1262.

Grabe, Esther & Post, Brechtje. 2002. Intonational variation in the British Isles. In *Speech prosody 2002, international conference*, Aix-en-Provence. 343-346.

Grabe, Esther, Post, Brechtje, Nolan, Francis & Farrar, Kimberley. 2000. Pitch accent realization in four varieties of British English. *Journal of Phonetics* 28(2). 161-185.

Grassi, Corrado, Sobrero, Alberto A. & Telmon, Tullio. 1997. *Fondamenti di dialettologia italiana*. Bari: Laterza.

Grice, Martine. 1995. *The Intonation of Interrogation in Palermo Italian: Implication for Intonation Theory*. Tübingen: Niemeyer.

Grice, Martine, D'Imperio, Mariapaola, Savino, Michelina & Avesani, Cinzia. 2005. Strategies for intonation labelling across varieties of Italian. In Jun Sun-Ah (ed.), *Prosodic typology: The phonology of intonation and phrasing*, 362-389. Oxford: Oxford University Press.

Grice, Martine & Savino, Michelina. 1997. Can pitch accent type convey information status in yes-no questions?. In *Proceedings of the ACL Workshop 'Concept-to-Speech Generation Systems'*, Madrid. 29–38.

Grice, Martine & Savino, Michelina. 1995. Low tone versus 'sag' in Bari Italian intonation: a perceptual experiment. In *Proceedings of the XIII International Congress of Phonetic Sciences*, Vol. 4, Stockholm. 658–61.

Grice, Martine & Savino, Michelina. 2003. Map tasks in Italian: asking questions about given, accessible and new information. *Catalan Journal of Linguistics* 2. 153–80.

Gussenhoven, Carlos. 2014. Complex intonation near the tonal isogloss in the Netherlands. In Jun, Sun-Ah (ed.), *Prosodic Typology II: The New Developments in the Phonology of Intonation and Phrasing*, 324-364. Oxford: Oxford University Press.

Gussenhoven, Carlos. 2004. *The phonology of tone and intonation*. Cambridge: Cambridge University Press.

Gussenhoven, Carlos. 1991. The English rhythm rule as an accent deletion rule. *Phonology* 8(1), 1-35.

Hanssen, Judith E. G. 2017. *Regional variation in the realization of intonation contours in the Netherlands*. Utrecht: LOT.

Hanssen, Judith, Gussenhoven, Carlos, & Peters, Jörg. 2019. Geographical clines in the realization of intonation in the Netherlands. In Zhang, H & Qian, Y (eds.), *Prosodic Studies: Challenges and Prospects*. 111-140. New York: Routledge.

Hanssen, Judith, Peters, Jörg, Gussenhoven, Carlos. 2022. Responses to time pressure on phrase-final melodies in varieties of Dutch and West Frisian. *Journal of Phonetics* 93. 101150.

- Hanssen, Judith, Peters, Jörg & Gussenhoven, Carlos. 2016. Phonetic effects of focus in five varieties of Dutch. In *Proceedings of Speech Prosody 2016*. Boston. 736–740.
- Hart, ‘t Johan, Collier, René & Cohen, Antonie. 1990. *A Perceptual Study of Intonation. An Experimental-phonetic Approach to Speech Melody*. Cambridge: Cambridge University Press.
- Hellmuth, Sam. 2020. Contact and variation in Arabic intonation. In Lucas, Christopher & Manfredi, Stefano (eds.), *Arabic and contact-induced change*. 583-601. Berlin: Language Science Press.
- Hellmuth, Sam. 2018. Variation in polar interrogative contours within and between Arabic dialects. In *Proceedings of Speech Prosody 2018*, Poznań, Poland.
- Hirschberg, Julia & Avesani, Cinzia. 1997. The role of prosody in disambiguating potentially ambiguous utterances in English and Italian. In Botinis, Antonis (ed.), *Intonation. Analysis, Modelling and Technology*. 87–96. Dordrecht: Kluwer Academic.
- Hualde, José Ignacio & Prieto, Pilar. 2015. Intonational variation in Spanish: European and American varieties. In Frola, Sonia & Prieto, Pilar (eds.), *Intonation in Romance*. Oxford: Oxford University Press. 350-391.
- Jitcă, Doina, Apopei, Vasile, Păduraru, Otilia & Maruşca, Samuil. 2015. Transcription of Romanian intonation. In Sonia Frola & Pilar Prieto (eds.), *Intonation in Romance*, 284-316. Oxford: Oxford University Press.
- Jun, Sun-Ah. 2014. Prosodic typology: By prominence type, word prosody, and macro-rhythm. In Jun, Sun-Ah (ed.), *Prosodic typology II: The phonology of intonation and phrasing*. Oxford: Oxford University Press. 520-539.
- Jun, Sun-Ah. 2012. Prosodic typology revisited: Adding macro-rhythm. *Proceedings of the 6th International Conference on Speech Prosody 2012*. Shanghai, China. 535-538.
- Jun, Sun-Ah. 2005. *Prosodic typology: the phonology of intonation and phrasing*. Oxford: Oxford University Press.
- Kalaldehy, Raya, Dorn, Amelie & Ní_Chasaide, Ailbhe. 2009. Tonal alignment in three varieties of Hiberno-English. In *Tenth Annual Conference of the International Speech Communication Association*.

Kisler, Thomas; Reichel, Uwe & Schiel, Florian. 2017. Multilingual processing of speech via web services. *Computer Speech & Language* 45. 326–347.

Kügler, Frank. 2007. *The Intonational Phonology of Swabian and Upper Saxon*. Tübingen: Niemeyer.

Ladd, D. Robert. 2008 [1996]. *Intonational phonology*. Cambridge: Cambridge University Press.

Ladd, D. Robert. 2006. Segmental anchoring of pitch movements: Autosegmental association or gestural coordination?. *Italian Journal of Linguistics* 18(1). 19-38.

Ladd, D. Robert, Faulkner, Dan, Faulkner, Henneke, & Schepman, Astrid. 1999. Constant “segmental anchoring” of F₀ movements under changes in speech rate. *Journal of the Acoustical Society of America* 106. 1543–1554.

Ladd, D. Robert, Mennen, Ineke & Schepman, Astrid. 2000. Phonological conditioning of peak alignment in rising pitch accents in Dutch. *Journal of the Acoustical Society of America* 107. 2685–2696.

Ladd, D. Robert & Morton, Rachel. 1997. The perception of intonational emphasis: continuous or categorical?. *Journal of phonetics* 25(3). 313-342.

Ladd, D. Robert & Schepman, Astrid. 2003. “Sagging transitions” between high pitch accents in English: Experimental evidence. *Journal of Phonetics* 31(1). 81-112.

Ladd, D. Robert, Schepman, Astrid, White, Laurence, Quarmby, Louise May & Stackhouse, Rebekah. 2009. Structural and dialectal effects on pitch peak alignment in two varieties of British English. *Journal of Phonetics* 37(2). 145-161.

Ledgeway, Adam. 2016. The dialects of southern Italy. In Ledgeway, Adam & Maiden, Martin (eds.). 2016. *The Oxford guide to the Romance languages*, Vol. 1. 245-269. Oxford: Oxford University Press.

Ledgeway, Adam. 2009. *Grammatica diacronica del napoletano*, Berlin/New York: Max Niemeyer Verlag.

- Ledgeway, Adam, Schifano, Norma & Silvestri, Giuseppina. 2019. Differential Object Marking and the properties of D in the dialects of the extreme south of Italy. *Glossa: a Journal of general linguistics* 4(1):51. 1-25. DOI: <https://doi.org/10.5334/gjgl.569>
- Lepschy, Anna Laura & Lepschy, Giulio. 1977. *The Italian language today*. London: Hutchinson.
- Liberman, Mark. 1975. *The intonational system of English*. PhD thesis, Massachusetts Institute of Technology.
- Liberman, Mark & Prince, Alan. 1977. On stress and linguistic rhythm. *Linguistic inquiry* 8(2). 249-336.
- Lipski, John M. 2012. Geographical and social varieties of Spanish: An overview. *The handbook of Hispanic linguistics*. 1-26.
- Loporcaro, Michele. 2016. L'Italia Dialettale. In Lubello, Sergio (ed.), *Manuale di linguistica italiana*. 275-300. Berlin: De Gruyter.
- Loporcaro, Michele. 2015. *Vowel length from Latin to Romance*, Vol. 10. Oxford: Oxford University Press.
- Loporcaro, Michele. 2009. *Profilo linguistico dei dialetti italiani*. Roma/Bari: Laterza.
- Loporcaro, Michele. 1997. *L'origine del raddoppiamento fonosintattico: saggio di fonologia diacronica romanza*. Basel/Tübingen: Francke Verlag.
- Magistro Giuseppe. *Forthcoming*. *Prosodic cues to syntactic reanalysis. Experimentally tracking Jespersen's cycle in progress*. PhD thesis, Ghent University.
- Magistro, Giuseppe. 2021. Speech prosody and remote experiments: a technical report. ARXIV. <https://doi.org/10.48550/arXiv.2106.10915>
- Magistro, Giuseppe & Crocco, Claudia. 2022. Rising declaratives in Veneto dialects. In *Proceedings of Speech Prosody 2022*. 175-179. doi: 10.21437/SpeechProsody.2022-36
- Marcato, Carla & De Blasi, Nicola. 2005. Lo spazio del dialetto in città. Il napoletano a Napoli. In Marcato, Gianna (ed.), *Dialetti in città*. 115–121. Padova: Unipress.

Marcato, Carla. 2001. Italiano regionale: qualche appunto sulla formazione e sull'articolazione del concetto. In Fusco, Fabiana & Marcato, Carla (eds.), *L'italiano e le regioni: atti del Convegno di studi* 8, Udine. 15.

Marcato, Gianna. 1990. Italiano d.o.c. Sagra delle etichette o categorizzazione linguistica?. In Cortellazzo, Michele A. & Mioni, Alberto (eds.), *L'italiano regionale*, Atti del XVIII Congresso internazionale di studi della Società di Linguistica Italiana. 79-88. Padova-Vicenza. Roma: Bulzoni.

Marotta, Giovanna & Sorianello, Patrizia. 2001. La teoria autosegmentale dell'intonazione nell'analisi del parlato toscano. In Albano Leoni, Federico, Sornicola, Rosanna, Eleonora S. Krosbakken & Stromboli, Carolina (eds.), *Dati empirici e teorie linguistiche: Atti del XXIII Congresso internazionale di studi della Società di linguistica italiana*. 177-204. Roma: Bulzoni,

Marotta, Giovanna & Sorianello, Patrizia. 1999. Question intonation in Siense Italian. In *Proceedings of the 14th International Congress of Phonetic Sciences*, San Francisco, Vol. 2. 1161-4.

Maturi, Pietro. 1996. *Dati sperimentali sull'intonazione nell'italiano di Napoli e nei dialetti campani*. In Radtke, Edgar & Thun, Harald (eds.), *Neue Wege der romanischen Geolinguistik. Akten des Symposiums zur empirischen Diaalektologie* (Heidelberg/Mainz 21-24.10.1991), Westensee, Kiel. 493-518.

McNeish, Daniel. 2016. On using Bayesian methods to address small sample problems. *Structural Equation Modeling: A Multidisciplinary Journal* 23(5). 750-773.

Muljačić, Žarko. 2011. Le vicende delle sei lingue medie d'Italia più notevoli dal Cinquecento al secondo Ottocento. In Burr, Elisabeth (eds.), *Tradizione & Innovazione. Integrando il digitale, l'analogico, il filologico, lo storico e il sociale*. 183-191. Firenze, Franco Cesati.

Orrico, Riccardo. 2020. *Individual variability in intonational meaning identification: The role of cognitive and sociolinguistic variables*. PhD thesis, University of Salerno & University of Aix Marseilles.

Orrico, Riccardo, Cataldo, Violetta, Savy, Renata & Barone, Linda. 2016. Transfer, fossilization and prosodic drift in Foreign Language Learning. In Savy, Renata & Alfano,

Iolanda (eds.), *La fonetica nell'apprendimento delle lingue [Phonetics and language learning]*. Studi AISV 2. 117-132. Milano: Officinaventuno.

Orrico, Riccardo & D'Imperio, Mariapaola. 2020. Tonal specification of speaker commitment in Salerno Italian wh-questions. In *Speech Prosody 2020*. 361-365.

Orrico, Riccardo, Cataldo, Violetta & D'Imperio, Mariapaola. 2020. The effect of early exposure in the production of Salerno Italian question intonation. In Romito, Luciano (ed.), *La variazione linguistica in condizioni di contatto: contesti acquisizionali, lingue, dialetti e minoranze in Italia e nel mondo [Language change under contact conditions: acquisitional contexts, languages, dialects and minorities in Italy and around the world]*, Studi AISV 7. 361-382. Milano: Officinaventuno.

Orrico, Riccardo, Savy, Renata & D'Imperio, Mariapaola. 2019a. Salerno Italian: Intonational phonology and dimensions of variation. In Duccio Piccardi, Fabio Ardolino & Silvia Calamai (eds.), *Gli archivi sonori al crocevia tra scienze fonetiche, informatica umanistica e patrimonio digitale [Audio archives at the crossroads of speech sciences, digital humanities and digital heritage]*. Studi AISV. 309-328. Milano Officinaventuno.

Orrico, Riccardo, Savy, Renata & D'Imperio, Mariapaola. 2019b. The perception of speaker certainty in Salerno Italian intonation. In *Proceedings of the 19th International Congress of Phonetic Sciences*. 2946-2950.

Pean, Vincent, Williams, Sheila M. & Eskenazy, Maxine. 1993. The design and recording of ICY, a corpus for the study of intraspeaker variability and the characterisation of speaking styles. In *3rd European Conference on Speech Communication and Technology (Eurospeech '93)*, Berlin. 627-630.

Pellegrini, Giovanni Battista. 1977. *Carta dei dialetti d'Italia*. Pisa: Pacini.

Pérez, Xosé A. Á. 2014. European Portuguese dialectal features: a comparison with Cintra's proposal. *Journal of portuguese linguistics* 13(1). 29-62.

Peters, Benno & Pfitzinger, Hartmut R. 2008. Duration and F0 interval of utterance-final intonation contours in the perception of German sentence modality. *INTERSPEECH-2008*, Brisbane, Australia, September 22-26, 2008.

Peters, Jörg, Gilles, Peter, Auer, Peter & Selting, Margret. 2002. Identification of regional varieties by intonational cues. An experimental study on Hamburg and Berlin Germans. *Language and Speech* 45(2). 115-139.

Peters, Jörg, Hanssen, Judith & Gussenhoven, Carlos. 2015. The timing of nuclear falls: Evidence from Dutch, West Frisian, Dutch Low Saxon, German Low Saxon, and High German. *Laboratory Phonology* 6(1). 1-52.

Peters, Jörg, Hanssen, Judith & Gussenhoven, Carlos. 2014. The phonetic realization of focus in West Frisian, Low Saxon, High German, and three varieties of Dutch. *Journal of Phonetics* 46. 185-209.

Petrone, Caterina. 2005. Effects of Raddoppiamento Sintattico on Tonal Alignment in Italian. In *Ninth European Conference on Speech Communication and Technology*. 1425-1428.

Pierrehumbert, Janet. 2000. Tonal elements and their alignment. In *Prosody: Theory and experiment*. 11-36. Springer, Dordrecht.

Pierrehumbert, Janet. 1980. *The phonology and phonetics of English intonation*. Ph.D. thesis, MIT.

Pierrehumbert, Janet & Beckman, Mary. 1988. Japanese Tone Structure. *Linguistic Inquiry Monograph* 15. Cambridge: MIT Press.

Pierrehumbert, Janet & Steele, Shirley A. (1989). Categories of tonal alignment in English. *Phonetica* 46(4). 181-196.

Pitrelli, John F., Beckman, Mary E. & Hirschberg, Julia. 1994. Evaluation of prosodic transcription labeling reliability in the tobi framework. In *Proceedings of the 1994 International Conference on Spoken Language Processing (Icslp)* Vol. 1. 123-126.

Portes, Cristel & German, James S. 2019. Implicit effects of regional cues on the interpretation of intonation by Corsican French listeners. *Laboratory Phonology: Journal of the Association for Laboratory Phonology* 10(1): 22. 1-26. DOI: <https://doi.org/10.5334/labphon.162>

- Prieto, Pilar. 2014. The intonational phonology of Catalan. In Jun, Sun-Ah (ed.), *Prosodic Typology II: The Phonology of Intonation and Phrasing*. Oxford: Oxford University Press, 43–80.
- Prieto, Pilar, Aguilar, Lourdes, Mascaró, Ignasi, Torres-Tamarit, Francesc J. & Vanrell, Maria del Mar. 2009. L'etiquetatge prosòdic Cat_ToBI en català. *Estudios de fonética experimental* XVIII. 287-309.
- Prieto, Pilar, Borràs-Comes, Joan, Cabré, Teresa, Crespo-Sendra, Verònica, Mascaró, Ignasi, Roseano, Paolo, Sichel-Bazin, Rafèu & Vanrell, Maria del Mar. 2015. Intonational phonology of Catalan and its dialectal varieties. In Frota, Sonia & Prieto, Pilar (eds.), *Intonation in Romance*. Oxford: Oxford University Press. 9-62.
- Prieto, Pilar, D'Imperio, Mariapaola & Gili Fivela, Barbara. 2005. Pitch accent alignment in Romance: primary and secondary associations with metrical structure. *Language and speech* 48(4). 359-396.
- Prieto, Pilar & Roseano, Paolo (eds.). 2010. *Transcription of Intonation of the Spanish Language*. Munich: Lincom Europa.
- Pruitt, Kathryn & Roelofsen, Floris. 2013. The interpretation of prosody in disjunctive questions. *Linguistic inquiry* 44(4). 632-650.
- R Core Team 2019. R: *A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing. URL <https://www.R-project.org/>
- Radtke, Edgar. 1997. *I dialetti della Campania*, Roma: Il Calamo.
- Radtke, Edgar. 1988. Areallinguistik, IX: Kampanien, Kalabrien. In Holtus, Günter, Metzeltin, Michael & Schmitt, Christian (eds.), *Lexikon der romanistischen Linguistik* Vol. 4: *Italienisch, Korsisch, Sardisch*. 652-661. Tübingen: Niemeyer.
- Reed, Paul E. 2020. Inter-and intra-regional variation in intonation: An analysis of rising pitch accents and rootedness. *The Journal of the Acoustical Society of America* 147(1). 616-626.
- Regis, Riccardo. 2018. Formazione di varietà territoriali. In Krefeld, Thomas & Bauer, Roland (eds.), *Lo spazio comunicativo dell'Italia e delle varietà italiane*. (www.kit.gwi.uni-muenchen.de/?p=12794&v=2).

- Regis, Riccardo. 2017. How standard regional Italians set in: the case of standard Piedmontese Italian. In Massimo Cerruti, Claudia Crocco, & Stefania Marzo (eds.), *Towards a new standard: theoretical and empirical studies on the restandardization of Italian*, 145-175. Berlin/New York: Mouton de Gruyter.
- Rizzi, Luigi. 1997. The fine structure of the left periphery. In Haegeman, Liliane (ed.), *Elements of Grammar*. 281-337. Dordrecht: Springer.
- Romano, Antonio, & De Iacovo, Valentina. 2019. Intonation of Sicilian among Southern Italo-romance dialects. In *19th International Congress of Phonetic Sciences*, Melbourne. 2700-2704.
- Roseano, Paolo, Vanrell, Maria del Mar & Prieto, Pilar. 2015. Intonational phonology of Friulian. In Frota, Sonia & Prieto, Pilar (eds.), *Intonation in Romance*. 101-139. Oxford: Oxford University Press..
- Ruffino, Giovanni. 1992. L'osservazione della dinamica linguistica. *Rivista Italiana di Dialettologia* 15. 113-136.
- Russo, Michela & Barry, William John. 2008. Measuring rhythm: a quantified analysis of southern Italian dialects stress-time parameters. *Language design: journal of theoretical and experimental linguistics*, Vol. 9(2). 315-322.
- Sabatini, Francesco. 1963. *Riflessi linguistici della denominazione longobarda nell'Italia mediana e meridionale*. Firenze: Olschki.
- Sardelli, Elena. 2006. *Prosodiatopia: alcuni parametri acustici per il riconoscimento del parlante*. PhD thesis, Università degli studi di Pisa.
- Sardelli, Elena & Marotta, Giovanna. 2007. Prosodic parameters for the detection of regional varieties in Italian. In *Proceedings of ICPHS 2007*. 1281-1284.
- Savino, Michelina. 2012. The intonation of polar questions in Italian: where is the rise?. *Journal of the International Phonetic Association* 42 (1). 23-4889-117. DOI: <http://dx.doi.org/10.1017/S002510031100048X>
- Savino, Michelina. 1997. *Il ruolo dell'intonazione nell'interazione comunicativa: analisi strumentale delle domande polari in un corpus di dialoghi spontanei (varietà di Bari)*. Ph.D thesis, Università/Politecnico di Bari.

Savino, Michelina, Grice, Martine, Gili Fivela, Barbara & Marotta, Giovanna. 2006. Intonational cues to discourse structure in Bari and Pisa Italian: perceptual evidence. In *Speech Prosody 2006*. Dresden: TUDpress. 144–7.

Savino, Michelina & Refice, Mario. 1996. L'intonazione dell'italiano di Bari nel parlato letto e in quello spontaneo. In *Fonetica e fonologia degli stili del parlato: Atti delle VII Giornate di studio del Gruppo di fonetica sperimentale dell'Associazione italiana di acustica*, Naples. 79–88.

Savy, Renata & Cutugno, Francesco. 2009. Diatopic, diamesic and diaphasic variations in spoken Italian. In *Proceedings of the 5th Corpus Linguistics Conference: CL2009*. 20-23. [Corpus available at www.clips.unina.it].

Savy, Renata & Luque Moya, José A. 2015. Aspectos prosódicos de las interrogativas en aprendientes italianos de ELE. *NORMAS* 7. 283-296.

Sichel-Bazin, Rafèu, Meisenburg, Trudel & Prieto, Pilar. 2015. Intonational phonology of Occitan. In Frota, Sonia & Prieto, Pilar (eds.), *Intonation in Romance*. Oxford: Oxford University Press. 198-233.

Silverman, Kim, Beckman, Mary, Pitrelli, John, Ostendorf, Mari, Wightman, Colin, Price, Patti, Pierrehumbert, Janet, Hirschberg, Julia. 1992. TOBI: a standard for labeling English prosody. In *2th International Conference on Spoken Language Processing (ICSLP-1992)*, Banff. 867-870.

Sorianello, Patrizia. 2010. Il tipo esclamativo: analisi e percezione delle risorse prosodiche. In Cutugno, Francesco Maturi, Pietro, Savy, Renata, Abete, Giovanni & Alfano, Iolanda (eds.), *Parlare con le persone, parlare alle macchine*. 85-104. Torriana: EDK.

Sorianello, Patrizia. 2001. Modelli intonativi dell'interrogazione in una varietà di italiano meridionale. *Rivista italiana di dialettologia* 25. 85-108.

Sornicola, Rosanna. 1997. Campania. In Maiden, Martin & Parry, Mairs (eds.), *The Dialects of Italy*. 330-337. London/New York: Routledge.

Stella, Antonio. 2007. *La fonologia dell'intonazione: l'italiano e il tedesco nelle produzioni di parlanti dell'area leccese*. Thesis, Università del Salento.

- Stella, Antonio & Gili Fivela, Barbara. 2009. L'intonazione nel parlato dell'area leccese: prime osservazioni dal punto di vista autosegmentale-metrico. In *Atti del IV Convegno AISV (Associazione italiana scienze della voce)*. 260–93. Torriana: EDK.
- Telmon, Tullio. 2016. Gli italiani regionali. In Lubello, Sergio (ed.), *Manuale di linguistica italiana*. 301-327. Berlin: De Gruyter.
- Telmon, Tullio. 1993. Varietà regionali. In Alberto A. Sobrero (ed.), *Introduzione all'italiano contemporaneo. La variazione e gli usi*, 93-149. Roma: Laterza.
- Ulbrich, Christiane. 2002. A comparative study of intonation in three standard varieties of German. In *Proceedings of Speech Prosody 2002*, Aix-en-Provence. 671-674.
- Van Leyden, Klaske. 2004. *Prosodic characteristics of Orkney and Shetland dialects: An experimental approach*. Netherlands Graduate School of Linguistics.
- Vanrell, Maria del Mar, Ballone, Francesc, Schirru, Carlo & Prieto, Pilar. 2015. Sardinian intonational phonology. In Frota, Sonia & Prieto, Pilar (eds.), *Intonation in Romance*. Oxford: Oxford University Press. 317-349.
- Vanrell, Maria del Mar, Feldhausen, Ingo & Astruc, Lluïsa. 2018. The Discourse Completion Task in Romance prosody research: Status quo and outlook. In Feldhausen, Ingo; Fliessbach, Jan & Vanrell, Maria del Mar (eds.), *Methods in prosody: A Romance language perspective*. Berlin: Language Science Press. 191–227.
- Vanrell, Maria del Mar, Stella, Antonio, Gili Fivela, Barbara & Prieto, Pilar. 2013. Prosodic manifestations of the Effort Code in Catalan, Italian and Spanish contrastive focus. *Journal of the International Phonetic Association* 43(2). 195-220.
- Veny, Joan. 1982. *Els parlars catalans*. Mallorca: Moll.
- Vigário Marina & Sónia Frota. 2003. The intonation of Standard and Northern European Portuguese. *Journal of Portuguese Linguistics* 2:2. 115-137.
- Zencastr, available at <https://zencastr.com/>=

