Sardinian intonational phonology: Logudorese and Campidanese varieties

MARIA DEL MAR VANRELL, FRANCESC BALLONE, CARLO SCHIRRU, AND PILAR PRIETO

9.1 Introduction

9.1.1 The status of Sardinian

Sardinian is a Romance language spoken by approximately one million speakers on the island of Sardinia, the second largest island in the Mediterranean Sea. Many scholars consider it to be the most conservative of the Romance languages, mainly because it preserves many archaic features from Latin like the velar /k/ even when it is followed by a palatal vowel (e.g. centum > chentu [’kentu] ‘hundred’) or the -s of the singular nominative in some neutral words of the third declension (e.g. tempus > tempus ‘time’). The absence of any significant influence from languages other than Romance has also been claimed to be one of the factors behind the presence of conservative language traits (Jones 1988). Sardinian also exhibits a number of phonetic innovations.

Although Sardinian for at least 100 years has been claimed to be a different language from Italian (Meyer-Lübke 1901), it was not until 1997 that the regional...
government of this island officially recognized it as such (Grimaldi and Remberger 2001). It took a further two years before the Italian central government followed suit in recognizing Sardinian’s separate status through the Norme in materia di tutela delle minoranze linguistiche storiche, which allowed the use of Sardinian in schools for the first time. Besides Sardinian and Italian, of the languages in use on the island, Catalan is spoken in the northwestern city of l’Alguer; on the islands of San Pietro and Sant’Antioco (in the community of Calasetta) on the southwest coast, people speak Tabarchin (a variety of Ligurian); and two varieties of Southern-Corsican (yet influenced by Sardinian) are found in the far north of Sardinia, i.e. Gallurese (spoken in the east) and Sassarese (spoken in the west).

Sardinian is traditionally divided into two macro-varieties: Logudorese, spoken in the center and north of the island, and Campidanese, spoken in the southern regions (see Fig. 9.1, in which the boundary between Logudorese and Campidanese is marked by a broken line). However, other subclassifications have been proposed by dividing, for example, Logudorese into three subvarieties: northern Logudorese, “common” Logudorese, and central Sardinian or Nuorese (with this last subvariety being spoken in the central-eastern regions of the island). For the purpose of the current study we will limit ourselves to the broad distinction between Logudorese and Campidanese. Although important differences can be found in terms of lexicon, morphology, and segmental phonetics between Logudorese and Campidanese, it is important to note that these two macro-varieties are mutually intelligible. Since 2006 the Limba Sarda Comuna (LSC) has existed, which is a written variety of the Sardinian language intended to be used by the Regione Autônoma de sa Sardigna in some official documents.

4 According to Maxia (2010), during the Middle Ages until the last few centuries the northernmost part of Sardinia was repopulated by Corsican immigrants, whose language was later modified by elements of Logudorese Sardinian. The main difference between Sassarese and Gallurese is that the former is “più intaccata da elementi sardi che non il gallurese” [more affected by Sardinian linguistic elements than Gallurese] (Maxia 1999: 52). An alternative view on the genealogy of Sassarese is suggested by other authors according to which it has to be considered as a new language resulting from the interaction between Pisan and Genoese merchants with the Logudorese-speaking population of Torres, capital of the eponymous “Giudicato”, after Pisa and Genoa had helped defeat the Saracen forces led by Mugahid in 1016 (see Sanna 1975 and Sole 2003).
5 See Spano (1995[1840]).
6 See Campus (1901), Wagner (1984[1941]), and Contini (1987). For further dialectal taxonomies for Logudorese and Campidanese, see Ballone (2003, especially §2.1) and Virdis (1978), respectively.
7 According to Oppo et al. (2007: table 8.14), Italian is gaining ground as the lingua franca used by Sardinians to communicate with compatriots coming from other regions of the island. This phenomenon might be due not so much to actual difficulties in understanding—our personal experience with the two macro-varieties clearly suggests that they are mutually comprehensible—but rather to the fact that using Sardinian with non-locals is still not considered “polite.”
FIG. 9.1 Map showing the geographic distribution of varieties of Sardinian. Based on Contini (1987: table 110/2)
9.1.2 Relevant non-intonational features

In the light of minimal pairs such as aìna ‘female donkey’–aìna ‘tool’ and tràinux ‘towing’–tràinux ‘brook’, it can be said that word stress assignment is distinctive in Sardinian. However, stress position is subject to positional constraints, such as a clear dispreference for words with final stress.8 Basing himself on Porru’s dictionary (1832/1866) for the Campidanese dialect, Bolognesi (1998) quantified the distribution of stress patterns and documented a 85.2% of words showing penultimate stress, 13.7% showing antepenultimate stress, and 1.1% showing final stress. Similar patterns were found by Lai (2002) for Logudorese in a corpus of 4,000 entries: 88% of words presented penultimate stress, 11.84% showed antepenultimate stress, and 0.13% of words had final stress. This unbalanced situation is exacerbated by the fact that words with final stress tend to be repaired by means of epenthesis.9 In Sardinian varieties, two different types of vowel epenthesis are attested (Jones 1988; Bolognesi 1998; Lai 2002; Torres-Tamarit et al. submitted). The motivation of type I epenthesis, which involves a vowel insertion after a final consonant (e.g. lùnis [‘lunizil] ‘Monday’, piageth [pi’ayeðe] ‘s/he likes’), is to prevent the presence of a consonant in word-final coda position. Type II epenthesis, which consists of vowel insertion after a final stressed vowel (e.g. caffè [ka’fi:ei] ‘coffee’, mercè [ma’tsx:ei] you.2sg.formal, also in toponyms like Marganai, Muzei, Gavoi), is motivated by the need to prevent words with final stress. The domain of application of both types of epenthesis is the right edge of the word (e.g. rosas sardas [ˌrɔza’zardaza] ‘Sardinian roses’, gatò sardu [gaˌtɔu’zaðru] ‘Sardinian cake’ for Campidanese Sardinian). According to a recent survey in Torres-Tamarit et al. (submitted), the insertion of both types of epenthetic vowel does not always take place. Type I epenthesis is robust in pre-pausal contexts (i.e. utterance-finally). However, in utterance-medial position an epenthetic vowel is not always found. Instead, consonant deletion/fusion is used as a repair strategy to avoid the word-final coda (rosas sardas [ˌrɔza’zardaza] ‘Sardinian roses’). We are still skeptical concerning what factors drive this variation. The selection of either vowel insertion or consonant deletion/fusion could be due to register, language variety, or speech rate, or could stand in free variation. With respect to type II epenthesis, a considerable degree of variation is also found, and some words, especially in utterance-medial

8 According to Pittau (1972), the only two noun exceptions in Nuorese Sardinian are gaiìk (the adverb gai ‘in this way’ + the complementizer chi ‘that’) ‘therefore’ and bostè (‘you.polite’ Catalan loan, [fu’stèi] in Campidanese). Roca (1999) claims that this restriction is less severe in Nuorese for toponyms (Lòdè, Tòrpè, Alà, Bari), but apparently still holds for common nouns. Logudorese appears to be freer with respect to final stress (e.g. caffè) but still disfavors the pattern.

9 The term ‘epenthesis’ is used in this chapter in a general sense to refer to vowel insertion, be it in word-internal position or not. The more precise term for the Sardinian examples discussed here is ‘epithesis’.
position, do not show epenthesis (caffè sardu [kafːˈzaːdru] ‘Sardinian coffee’). In any case, more studies are needed to identify the source for this variation.  

As for the phonetic realization of stress in Sardinian, duration has been shown to be an important correlate. Most scholars (Bolognesi 1998 and Kim and Repetti 2013 for Campidanese Sardinian, Canepari 1980 and Schirru 1993 for Campidanese regional Italian) agree, first, that stressed vowels are longer when they are in open syllables than in closed syllables, and second, that penultimate stressed vowels are longer than antepenultimate stressed vowels. This situation is very similar to that described for Italian (D’Imperio and Rosenthal 1999).

Main sentence or nuclear stress tends to be located on the clause-final word (Bolognesi 1998), coinciding with its word stress. The coalescence of word stress and phrasal stress forces a syllabic length increase in the penultimate position. By contrast, no lengthening takes place when the syllable is in antepenultimate position. Moreover, when a monosyllabic word (e.g. diis ‘days’, est ‘s/he is’, dius ‘two’) including clitics (mi ‘me’) receives stress, an epenthesis is added so that phrasal stress is on the penultimate syllable (e.g. diis [ˈdiːzɪ], est [ˈɛt], dius [ˈduːzɪ], mi /ˈmiːri/). In stress-clash situations like in Fait unu meri fridu ‘It was a cold evening’, the first stress is retracted to the preceding syllable of the same word Fait unu meri fridu. According to Bolognesi (1998), secondary sentence stress is very noticeable and, like main stress, tends to coincide with word stress. However, in the absence of stressed syllables, secondary sentence stress is assigned to any disyllabic trochee which can be formed from right to left starting from the main sentence stress (e.g. Cun mulleri mia [ˈkʊmmyːriːˈmiːa] ‘With my wife’, O a setti o a ses [ˈɔːsɛːs] ‘Either at seven or at six’).

Another interesting phenomenon found in Sardinian is stress shift in verb + enclitic sequences, which is subject to dialectal variation. According to Atzori (1982), stress shift with verb + one enclitic is found in Campidanese varieties (e.g. nara ‘tell’ but [naraˈmiː]). In the case of two enclitics, following Kim and Repetti (2013), which refers to data in Atzori (1982) and Blasco Ferrer (1986; 1988), stress shift seems to be general to all the Sardinian varieties (e.g. nara-mi-lyu ‘tell it to me’ [naraˈmiːlu] for Logudorese/Nuorese and nara-mi-ddu [mɑːɾ miːˈddu] for Campidanese). For an interpretation of this phenomenon not as a change in the word-level stress but rather in terms of a different association of the pitch accent, see Kim and Repetti (2013).  

10 According to Bolognesi (1998), another repair strategy documented in Campidanese is that seen in infinitive forms with final stress (e.g. bessi ‘to leave’, drommi ‘to sleep’), which in clause-final position exhibit an epenthetic syllable [iː] (e.g. Prepara-mi tutti ca cras ne torru a bessi[ri] ‘Prepare all my stuff, because tomorrow I will leave again’, Issa non podiat drommi[ri] ‘She could not sleep’). This type of epenthesis could be subsumed under type II (vowel insertion after final stressed vowel). A possible analysis (Francesc Torres-Tamarit, p.c.) is that a coronal consonant epenthesis ([i]) would be inserted to avoid the hiatus resulting from the insertion of an adjacent identical vowel, in this case [i].
The canonical word order for Sardinian is SVO and it is assumed that nuclear stress falls on clause-final position (Nuclear Stress Rule: Halle and Vergnaud 1987; Jones 2013). Sardinian typically uses syntactic strategies to mark focus, namely dislocation (or placement of a constituent at the left/right edge of a sentence with a resumptive pronoun indicating the grammatical function of the constituent dislocated: Pane, non nd’appo comoratu or Non nd’appo comoratu, de pane ‘I have not bought bread’), fronting (or movement of a constituent to sentence-initial position without a resumptive pronoun: Custu libru appo lessu ‘It is this book that I have read’), as well as inversion of the subject (frequent with verbs of existence, arrival, disappearance, etc.: Sunt vènnitos tres òmines ‘Three men came’) (see Jones 1988). There are two exceptions to the assignment of the nuclear accent to the rightmost element in the sentence: (a) right dislocations, in which the nuclear accent is assigned to the final element within the core sentence (e.g. Non nd’appo comoratu de pane ‘I have not bought bread’); and (b) constituent fronting, in which the nuclear stress falls on the rightmost element of the fronted constituent (e.g. Custu libru appu lessu ‘It is this book that I have read’). These exceptions are accounted for differently by different scholars. While Zubizarreta (1998) proposes the concept of “metrical visibility,” Jones (2013) argues that the Nuclear Stress Rule operates within a Nuclear Domain and that both right-dislocated elements and the material following the fronting constituents are outside the Nuclear Domain within which the Nuclear Stress Rule applies. In this chapter we will provide some examples of the exceptions to the assignment of the nuclear accent to the rightmost element in the clause.

In Sardinian a variety of lexical markers can be found which are mainly related to question marking but are also found in other sentence types such as declaratives (Blasco Ferrer 1984; Jones 1993; Puddu 2000; Cruschina and Remberger 2008; Mensching 2010; Remberger 2010; Virdis 2012). They include the interrogative particle a (e.g. Su chi appo nadu, a l’as intesu? ‘Did you understand what I said?’); the grammaticalized form of the wh-pronoun itte ‘what’ as a question particle (e.g. Itte at bintu sas eletziones Berlusconi? ‘Has Berlusconi won the elections?’); the marker ello (e.g. Ello, tue puru benis? ‘So you are also coming?’); and the evidential marker nachi with the variants nanchi, naca, nanca, etc. (e.g. Custas columbas nachi s’abbaidant e ant comintzadu a faeddare “These pigeons looked at each other and started talking, they say’). As for the meaning related to these lexical markers, the particle a has been described as being predominantly (but not exclusively) used in questions which are to be interpreted as requests, invitations, and offers (Jones 1993), while according to Remberger (2010: 571) a can be defined as “encoding positive polarity.” Ello can introduce questions (be they yes/no or wh-questions) as well as declaratives associated with different meanings: positive biased questions and reiterative questions but also emphatic/obvious statements (Virdis 2012). Nachi is generally treated as an evidential marker indicating that the source of information was aural (Cruschina and Remberger 2008).
Alternatively, yes/no questions in Sardinian can also present constituent fronting (Sa lìttera as mandadu? ’Have you sent the letter?’) (Mensching 2010; Jones 2013). For a unified account of constituent fronting in Sardinian, in declaratives or in yes/no questions, see Jones (2013).

9.1.3 Previous work on Sardinian intonation

Work on Sardinian intonation has been mainly devoted to dialectal variation (Contini 1992; Lai and Zucca 2004; Zucca 2005), intonational differences related to different sentence types or pragmatic nuances (Contini 1976, 1984; Bolinger 1989; Lai 2002; Jones 1993; Zucca 2005; Vanrell and Cabré 2011; Kim and Repetti 2013; Cabré and Vanrell 2013), or the intonation of regional varieties of Italian within Sardinia (Canepari 1980; 1992; Schirru 1981–2; 1992). These works are grounded in different frameworks: a descriptive/impressionistic approach (Canepari 1980; 1992; Jones 1993), an experimental-phonetic approach (Schirru 1976; 1981–2; 1992; Contini 1984; 1992; Lai 2002; Lai and Zucca 2004; Zucca 2005), the tune approach (Bolinger 1989), or work done within the Autosegmental Metrical framework (Vanrell and Cabré 2011; Kim and Repetti 2013; Cabré and Vanrell 2013). The present chapter represents an addition to the body of research which is grounded in the Autosegmental Metrical framework, and which has the goal of describing the intonation and phrasing patterns found in a variety of sentence types (statements, questions, commands and requests, and vocatives), as well as the lexicosyntactic markers used to convey specific pragmatic meanings associated with these sentence types for both the Logudorese and Campidanese varieties.

Most of the studies investigating the role of the F0 in differentiating yes/no questions from declaratives in Sardinian or regional Italian spoken in Sardinia (Schirru 1981–2; 1992; Contini 1984; Lai and Zucca 2004) agree that both statements and yes/no questions are characterized by falling intonation. Interestingly, what seems to be key in distinguishing statements from yes/no questions is the pitch height of the final pre-accentual syllable, which in the case of questions is realized with an extra high tone. This is true in yes/no questions which are introduced by the particle a (e.g. A times? ‘Are you scared?’) or yes/no questions with no specific lexical/syntactic marker (e.g. A s’abba? ‘To the water?’). By contrast, yes/no questions presenting constituent fronting (e.g. Bidu l’as? ‘Have you seen him?’) tend to be characterized by a rising–falling intonation pattern (Contini 1984). As for vocatives, they can be pronounced in two alternative ways: (a) by means of the truncation process—e.g. a truncation process consisting of the deletion of all the material after the stressed vowel: Gòsamu > Go’, Bainzu > Bai’, Bèrtulu > Be’)11 (Vanrell and Cabré 2011; Cabré and Vanrell 2013)—together with an emphatic rising accent aligned with

11 The apostrophe is used to indicate the deletion of one or more segments.
the first syllable of the name (see §9.3.6); or (b) with the so-called ‘vocative chant’, when the base name is not truncated (Vanrell and Cabré 2011; Cabré and Vanrell 2013). Dialectal variation in intonation is still an unresolved issue in Sardinian. While it seems that the terminal F0 patterns found for statements and yes/no questions in Nuoro (Logudorese) are very similar to those of Cagliari (Campidanese) (Lai and Zucca 2004), there are still peculiarities in the prenuclear F0 or in duration, which might be further evidence for dialectal variation (Lai and Zucca 2004).

As far as we know, there are no studies about prosodic phrasing or pitch accent distribution in Sardinian. As for prosodic phrasing, some descriptive notes are found in Jones (1993). As it was seen in the previous section, Sardinian is a language in which changes in word order occur mainly due to topicalization (left dislocation), focus (constituent fronting, right dislocation), or question marking (constituent fronting). According to Jones (1993), changes in word order are manifested at the prosodic level through pauses (more evident in left dislocation than in right dislocation or constituent fronting) or the presence of an “unstressed with flow, fairly flat intonation contour” following right dislocations or fronted constituents (Jones 1993: 318, 332). The descriptive notes taken from Jones (1993) as well as the intuitions of two of the co-authors of this chapter (native speakers of Sardinian) allow us to posit an intermediate prosodic constituent between the Prosodic Word (PW) and the Intonational Phrase (IP). Our argument in favor of the existence of the intermediate phrase (ip) is that native speakers can perceive a level of juncture that is looser than the one existing between words, but tighter than that between independent tonal units. Regarding pitch accent distribution in Sardinian and relying again on the intuitive judgments of native speakers, we consider that Sardinian has a dense pitch accent distribution, since prosodic words are frequently accented and when they are not, this is due to differences in the information structure packaging. However, it is important to highlight that studies on Sardinian intonational phonology are still recent, starting just a few years ago. Thus, more studies are needed before giving a concluding character to our assertions.

9.2 Methodology

The corpus analyzed in this chapter was obtained by means of the Discourse Completion Task methodology (Blum-Kulka et al. 1989; Billmyer and Varghese 2000; Félix-Brasdefer 2010), using a prompted response questionnaire based on that used by Prieto (2001). The DCT is an inductive method in which the researcher presents the subject with a series of situations and then asks him or her to respond accordingly (e.g. “You are supposed to take your younger sister to the football field, but you are in a hurry. Ask a friend if he would take her”). The different situations were designed to elicit different sentence types (statements, questions, commands and requests, and vocatives) uttered with different pragmatic intents (to express
contradiction, degree of certainty, incredulity, etc.). The full questionnaire is made up of 31 common situations across languages. Readers can access sound files from this chapter from the OUP companion website: www.oup.co.uk/companion/frota_prieto. The whole questionnaire used to collect the Sardinian data is also available from the online Interactive Atlas of Romance Intonation (Prieto et al. 2010–14).

Nine speakers participated in this study: five were from the Logudorese area (three female speakers were from Íttiri, one male speaker was from Òschiri, and one male speaker was from Lodè) and four were from the Campidanese area (one male speaker was from Biddecrèsià and three female speakers were from Sinnia). Sardinian was their dominant language. They had no prior training in linguistics and no history of hearing disability.

The interviews were conducted by native speakers of each variety,12 and each questionnaire was adapted to the linguistic characteristics of each locale (phonetic, lexical, or morphological). Descriptions of the prompt situations were read aloud randomly to the participants by the Sardinian interviewers, and speakers were then asked to respond appropriately to the situation as spontaneously as possible. The language register used by the interviewers was always that of a casual conversation between interlocutors sharing a high degree of familiarity with each other. Sentences were recorded only once, but when speech disfluency, breaks, or difficulty in understanding the situation occurred, the prompt situation was described a second time at the end of the full interview session and the subject’s response recorded again.

Participants were recorded using a Marantz Professional PMD660 digital recorder and Rode NTG-2 microphone.

Since the process of orthographic normalization of Sardinian is still in progress, we adopted a system that attempts to find a compromise between the need to reflect dialectal variation and the need to make it clear that we are dealing with dialects of the same language. In doing so, we decided to adopt the graphic solutions which are most widely accepted by scholars. However, when inconsistencies on specific issues were found in the literature, our solutions were based on the following general criteria:

(a) Respect for the principle of invariance. Many Sardinian words may be pronounced in different ways according to their position in the phrase: tre[zə] but tre[s] canes ‘three dogs’ or tre[l] canes, or tre[xː]anes, and so on. However, the orthographic form will always be rendered as tres.

(b) Conservation of some etymological consonants. In Sardinian some etymological consonants such as the final -t in the third person plural of the present

12 Francesc Ballone and Gianni Muroni were the interviewers for the Logudorese area and Amos Cardia for the Campidanese area. However, both the first and second authors of the chapter were present at all the recording sessions to help set up the equipment.
indicative are deleted in the Logudorese variety whereas they are maintained in the Campidanese variety (e.g. *Ma beru est, chi t’an[a] dadu petta de gattu? ‘But they really served you cat meat?’ for Logudorese Sardinian). Voiced intervocalic stops undergo a process of lenition which may lead, in some cases, to deletion (e.g. *una tatza de binu > [una,daʃæieinu] ‘a glass of wine’) in all the Sardinian varieties, though to different degrees (Jones 1988). These deletions will not be reflected in the orthography.

(c) Accentuation. Considering that the vast majority of Sardinian words are words with penultimate stress (see §9.1.2), many scholars have found it most practical to write a graphic accent only on words with final and antepenultimate stress, and this is the convention adopted here. Strangely enough, neither LSC (*Regione Autonoma della Sardegna 2006*) nor the proposal for Campidanese Sardinian (VV.AA. 2009), which claim to use the criteria described in this section, applies them in words like *[fidiʒu] ‘son’, which is transcribed with a graphic accent (*figiu*) in spite of being a word with penultimate stress. We have decided to avoid such inconsistencies and write *[fidiʒu] as *figiu*, with no graphic accent, and follow the same principle throughout.

(d) Geminated consonants. Scholars are often divided over the issue of the graphic transcription of certain intervocalic consonants (e.g. /l/, /p/, /f/). On the one hand, both the official guidelines for LSC (*Regione Autonoma della Sardegna 2006*) and VV.AA. (2009) suggest not using double graphemes in those cases where lengthening is not contrastive (i.e. where it does not generate any minimal pair, hence *late* and not *latte* ‘milk’, *afetu* and not *affettu* ‘affection’). On the other hand, some scholars claim that using double graphemes would be consistent with the intuitive perception of these consonants as geminated. Although these sounds may not be as long as those forming minimal pairs like *mannu* ‘big’ vs. *manu* ‘hand’—and granted that proper experimental studies are needed on this issue—we followed somewhat more phonetic criteria and transcribed the word for ‘milk’ as *latte* ‘milk’, ‘affection’ as *affettu*, and so on.

These criteria were used throughout the chapter not solely for the orthographic transcription of the intonation corpus but also for Sardinian productions taken from other sources. Our intention was to offer a standardized orthographic transcription to facilitate the reading and comprehension of Sardinian utterances.

9.3 Intonation and phrasing

9.3.1 Statements

9.3.1.1 Broad-focus statements In all the Sardinian varieties analyzed here, broad-focus sentences tend to be characterized by a prenuclear L+H* accent and a nuclear H+L* accent followed by a low boundary tone. The utterance exemplified in Fig. 9.2
corresponds to the utterance *Una pitzinna mandicande arantzu* ‘A girl eating an orange’ which is pronounced by a speaker of Logudorese Sardinian from the town of Lodè. The prenuclear accent L+H∗ is aligned with the stressed syllable of *pitzinna* ‘girl’ whereas the nuclear accent H+L∗ is associated to the stressed syllable of *arantzu* ‘orange’. The final boundary tone is low (L%) but may be produced with a slight rise, which could be related to a high degree of spontaneity. When the sentences are longer, and also depending on various factors such as speech rate or the prosodic weight of the constituents, the intonational phrase can be divided into different intermediate phrases. Fig. 9.3 illustrates a broad-focus statement including two different tonal units: *So bidende custa pisedda* ‘I am seeing this girl’ and *chie s’est biende una tatza de binu nieddu* ‘who is drinking up a glass of red wine’. The downstep tone ((!H−)) indicates continuation, non-finality in Sardinian.

**9.3.1.2 Narrow-focus statements** In the previous situation speakers were asked to respond what was going on by looking at a picture, and they produced an expression in which there was no particular constituent that was focalized, which is equivalent to saying that the entire expression was the focus constituent. On the other hand, narrow focus marks a particular constituent which introduces new information in the discourse. The intonational pattern found in Sardinian narrow-focus statements is the same as that found in nuclear position for broad-focus statements, i.e. a H+L∗ nuclear accent followed by a L% boundary tone. However, previous research (Cruschina 2011; Jones 2013) has pointed out that narrow focus (also called
information focus) in Sardinian can be marked syntactically through constituent fronting (e.g. A chie at telefonadu Zuanne? ‘Who has Zuanne telephoned?’ [A su duttore] at telefonadu (Zuanne) ‘Zuanne has telephoned the doctor’). Further research is needed to determine the role of prosody in distinguishing information focus from contrastive focus when both are marked through constituent fronting.

Contrastive focus involves the selection of one alternative among several different ones. The felicitous condition for contrastive focus is that there must be an antecedent or a previously uttered member of this set of possible alternatives with which the focused constituent contrasts. In Sardinian, contrastive-focus statements tend to be expressed by means of constituent fronting (e.g. [Su babbu de Zuanne] appo vistu ‘I saw [John’s father]’). This syntactic strategy is accompanied by the use of a rising-falling pitch accent (H*+L) on the constituent that is focalized (and associated with its primary stressed syllable) and followed by a low phrase accent. As stated in §9.1.2, in the case of constituent fronting, the nuclear accent falls on the rightmost element of the fronted constituent (i.e. Zuanne). Tonal compression is applied to the postfocal material. Fig. 9.4 illustrates the main pattern that can be found in Sardinian produced by a speaker Logudorese Sardinian from Ìttiri. We observe a H*+L accent on the constituent MANDARINU followed by a low phrase accent. In addition, a rising secondary accent (L+H*) is associated with the first syllable of MANDARINU. This is a common strategy in Sardinian to denote emphasis, and is also found in vocatives (see §9.3.6). The material that is in postfocal position shows a compressed pitch
range. This intonational pattern for contrastive focus is also found in European Portuguese (see Chapter 7, this volume).

Contrastive focus in Sardinian can also be marked prosodically in situ especially when it is in sentence-final position. Fig. 9.5 shows this strategy produced by a speaker of Campidanese Sardinian from Sinnia. As can be observed, the intonational pattern is the same that we found in focus fronting, i.e. a $H^*+L$ nuclear accent preceding a final $L\%$ boundary tone.

9.3.1.3 Epistemically biased statements By “epistemically biased statements” we mean statements which express the speaker’s degree of certainty about the truth-value of his/her proposition. Within this category we find different types of statement such as contradiction statements, in which the speaker expresses his/her conviction about the untenability of what has been previously asserted by the interlocutor; uncertainty statements, which reveal that the speaker is doubtful or uncertain about what he/she is saying; and statements of the obvious, which serve to manifest that what is being said is patently obvious despite having apparently passed unnoticed by the interlocutor. Contrary to what has been found for other languages such as Catalan or Spanish (see Chapters 2 and 10, this volume), Sardinian does not use a different nuclear configuration to mark differences in the perceived level of certainty. This is accomplished by means of a variety of lexical expressions/adverbs.

For example, *mi paret* ‘I guess’ or *mancai/mancari* ‘maybe’ mark uncertainty, so
I am sure or tengo rexoni deu ‘I am right’ denote certainty, and l’ischint tottu or b’est totta sa bidda piena ‘everybody knows it’ express an obvious meaning. As for the intonational pattern, speakers tend to use the most common nuclear configuration to denote emphasis, namely H*+L L%. Fig. 9.6 shows an example of an uncertainty statement produced by a speaker of Logudorese Sardinian from Lodè containing a prenuclear rising accent (L+H*) and a rising–falling nuclear configuration (H*+L L%). Uncertainty statements are often produced with a decrease in the speech rate.

9.3.2 Exclamatives

In Sardinian, exclamatives can be expressed in a number of ways. They can be uttered with neutral word order and a special intonation as in (1), or they can be headed by a wh-word as in (2), or they can present word order changes as in (3).

(1) *Deo appo fàmine!* ‘I am starving!’
(2) *Itte fàmine chi appo!* ‘I am starving!’
(3) *Fàmine appo!* ‘I am starving!’

Fig. 9.7 shows an example of an exclamative introduced by the exclamative particle arratza ‘what a sort of’ produced by a speaker of Logudorese Sardinian from Ìttiri. From an intonational point of view, exclamatives are characterized by a succession of rising accents (L+H*) on every content word in an upstep pattern followed by a low
Fig. 9.6 Waveform, spectrogram, and F0 contour of the uncertainty statement *Mancari non l’agradat* ‘Maybe he/she does not like it’, produced by a speaker of Logudorese Sardinian.

Fig. 9.7 Waveform, spectrogram, and F0 contour of the exclamative *Arratza de fiagu bonu de cavatza, chi ch’at!* ‘What a wonderful smell of focaccia!’, produced by a speaker of Logudorese Sardinian.
phrase accent. The phrase introduced by the complementizer *chi* ’that’ is realized in a compressed tonal range.

### 9.3.3 Yes/no questions

Yes/no questions are those questions whose expected answer is either “yes” or “no,” which is to say that they are restricted to just two possible answers (hence they are also called “polar questions”). However, although in the standard theory of speech acts (Searle 1976) interrogatives have been considered “petitions” (since the speaker is making a petition and the listener is expected to provide relevant and correct information to fulfill this petition), they can be pronounced with different intentions (the speaker may be confirming previous assumptions, formulating an offer, expressing surprise, etc.).

In Sardinian, yes/no questions involve a wide range of possible left-peripheral structures. They can be formulated through the declarative sentence strategy as in (4), the constituent fronting strategy as in (5), the a question particle strategy as in (6), or the itte strategy as in (7) (Mensching 2010).

1. **As intoppadu unu pitzinnu chin sos pilos ruios?** ‘Have you found a red-haired boy?’
2. **Ammentatos bos sei ammentatos, de imbiare sa lìttera?** ‘Have you remembered to send the letter?’
3. **Itte at a progher cras?** ‘Will it rain tomorrow?’

#### 9.3.3.1 Information-seeking questions

Productions obtained through the context designed to elicit questions for which the speaker had no particular bias with respect to the answer he/she expected were headed by the particle *a* (when the speakers were from the Logudorese area, e.g. *Mandarinu, a che nd’at?* ’Do you have tangerines?’) or they were not (if they were produced by Campidanese speakers), e.g. *Mandarinu, teneis?* ’Do you have tangerines?’). However, both strategies were undoubtedly accompanied by a falling nuclear pitch accent (H+L*) whose leading tone was realized in an extra-high tone, thus contrasting with the pattern found in declaratives (H+L*). Fig. 9.8 illustrates an example of an information-seeking question produced by a speaker of Logudorese Sardinian from Ìttiri. The utterance is divided into two

---

13 According to one of the authors of the current study, who is a native speaker of Campidanese, and according also to a personal communication with Amos Cardia, the particle *a* is not common in Campidanese yes/no questions. However, the particle exists, and Campidanese speakers are not surprised when they hear it even from fellow Campidanese speakers. Other particles such as *o* [ɔ] have been attested in question-final position in Campidanese locales like Serrenti (e.g. *Mandarinu, ndi tenis o?* ’Do you have tangerines?’, *Benis immoi o?* ’Are you coming?’).
different tonal units. The first unit contains the left dislocated element mandarinu and the second unit, the core sentence introduced by the particle a. Both units are characterized by an upstepped falling pitch accent followed by a low boundary tone (L- and L%). Although the first tonal unit contains a more prominent pitch accent, the nuclear accent is located on the last element of the main clause, which is the verb (at have.pres.3sg).

These data agree with the results obtained in Vanrell et al. (2014). This study analyses the lexicosyntactic and intonational marking of evidential (evidence available in the current discourse situation) and epistemic bias (the speaker’s belief/expectation or what he/she takes to be a norm) in Sardinian yes/no questions. Sardinian data were collected in Ìttiri (Logudorese area) via a survey based on the DCT and on Sudo’s (2013) proposal about evidential and epistemic biases in questions. The results clearly confirmed that unbiased Sardinian yes/no questions (called “information-seeking questions” in the present chapter) are headed by the particle a and are also characterized by the jH+L* L% nuclear configuration. The lexicosyntactic/intonational marking of biased Sardinian yes/no questions (see §9.3.3.2) depends on the polarity of the bias. Thus, positive epistemic/evidential bias is marked through fronted constituents and jH*+L intonation, whereas negative epistemic/evidential bias is expressed by means of negation but also the same intonational pattern. In addition, the combination of opposite polarity biases yields the production of incredulity markers such as de aberu or beru est ‘really’.

![Waveform, spectrogram, and F0 contour of the information yes/no question Mandarinu, a che nd'at? ‘Do you have tangerines?’ produced by a speaker of Logudorese Sardinian](image)
9.3.3.2 *Echo yes/no questions* In the literal sense, echo questions involve the repetition of what was said in an immediately preceding conversational move. However, speakers can have different reasons to echo in this way, i.e. a speaker may have not heard or understand his/her interlocutor clearly and seek clarification, but he/she may also want to express his/her incredulity at what he/she heard. In the former case, Sardinian speakers have a clear preference for constituent fronting and the use of a rising–falling tonal configuration (¡H*+L L-). The use of the diacritic “¡” indicates that there is a phonological distinction in pitch height between the H*+L pitch accent found in contrastive-focus declaratives and the upstepped version that is found in yes/no questions. In the ¡H*+L the peak is realized in a higher pitch compared to the H*+L variant. The material following the fronted constituent is generally characterized by tonal compression. A slight rise may be found at the end of the contour, which might be related to a higher degree of involvement by the speaker. Fig. 9.9 shows an example containing two intonational phrases characterized by constituent fronting, namely *[male] appo intesu* and *[sa una] est*. We will concentrate on the second one, since it is the one directly related to the echo question. The nuclear ¡H*+L accent is aligned with the accented syllable of *una*, and then the rest of the material undergoes tonal compression. The contour was produced by a speaker of Logudorese Sardinian from Ìttiri.

![Figure 9.9](image_url)

*Fig. 9.9* Waveform, spectrogram, and F0 contour of the echo yes/no question *Ma male appo intesu. Sa una est?* ‘I did not understand you properly—Is it one o’clock?’, produced by a speaker of Logudorese Sardinian
When the speaker seeks to express incredulity at what has been stated previously, he/she uses incredulity markers such as beru est/est beru or abberu/diaderus ‘really’. These markers generally precede a declarative sentence which represents the proposition whose truth value the speaker seeks to check. The most common intonational pattern is the upstepped rising–falling accent \((\text{\textasciicircum H}+\text{L})\) on the rightmost element of the interrogative part of the sentence or on the fronted constituent if it is the case (e.g. beru est) followed by a low phrase accent. The declarative sentence presents a steady high pitch until the last accented syllable, which bears a falling pitch accent followed by a low boundary tone. From a perceptual point of view, what is especially prominent here is the presence of the incredulity marker, which has the function of expressing disbelief of this new inference (see Fig. 9.10 for an example of the pattern described in this paragraph produced by a speaker of Logudorese Sardinian).

When the speaker seeks to express incredulity at what has been stated previously, he/she uses incredulity markers such as beru est/est beru or abberu/diaderus ‘really’. These markers generally precede a declarative sentence which represents the proposition whose truth value the speaker seeks to check. The most common intonational pattern is the upstepped rising–falling accent \((\text{\textasciicircum H}+\text{L})\) on the rightmost element of the interrogative part of the sentence or on the fronted constituent if it is the case (e.g. beru est) followed by a low phrase accent. The declarative sentence presents a steady high pitch until the last accented syllable, which bears a falling pitch accent followed by a low boundary tone. From a perceptual point of view, what is especially prominent here is the presence of the incredulity marker, which has the function of expressing disbelief of this new inference (see Fig. 9.10 for an example of the pattern described in this paragraph produced by a speaker of Logudorese Sardinian from Lodè).

9.3.3.3 Confirmation yes/no questions Confirmation yes/no questions can be defined as those questions in which the speaker has some bias based on beliefs, expectations, world knowledge, or information that has become available in the discourse context (see Bolinger 1989; Büring and Gunlogson 2000). In the intonation survey we had one situation designed to elicit a biased yes/no question based on information available in the discourse context (“You know that it is cold outside. Someone enters wrapped up warm and you ask him/her whether he/she is cold”) and
another one based on beliefs ("Giagu told you that he might come for lunch. Ask him for confirmation"). In Sardinian, confirmation yes/no questions that are based on information that is present in the discourse display a very regular pattern, namely constituent fronting pronounced with the upstepped rising–falling intonational pattern (¡H*+L L-). Again, the material that appears after the fronted constituent undergoes tonal compression. Fig. 9.11 illustrates this prosodic and syntactic pattern produced by a speaker of the Campidanese variety from Sinnia. Attention should be paid to the second sentence, Frius tenis? ‘Are you cold?’, which is the confirmation yes/no question. As we can observe, the fronted constituent frius ‘cold’ is characterized by a ¡H*+L L- pattern followed by a rather flat pattern.

An alternative possibility (the more common one in the data collected for yes/no questions based on beliefs) would be to have a disjunctive yes/no question (i.e. E insandus, benis ou no a pappai? ‘Are you coming for lunch or not?’). The intonational pattern is completely different here, corresponding to a rising accent followed by a downstepped phrase accent (L+H* !H-) and then a falling nuclear pitch accent and low boundary tone (H+L* L%). This pattern is also found in disjunctive declaratives or between the penultimate and final items of an enumeration.

9.3.4 Wh-questions

Wh-questions are questions asking about the word or phrase the wh-word replaces (e.g. Itte naras? ‘What are you saying?’). In Sardinian, as in other European languages,
wh-questions begin with the wh-word (chie 'who', itte 'what', cando 'when', cale 'which', in ue 'where', comente 'how'). In wh-questions, the wh-word is the focus of the question, although it does not normally bear the most prominent accent (Ladd 2008a). In Sardinian we find a situation very similar to the one described by Ladd (2008a) for Romanian, in that the most prominent accent in wh-questions is on the wh-word when the sentence is short, but later if the sentence is longer (see also Chapter 8, this volume).

9.3.4.1 Information-seeking wh-questions Short information-seeking wh-questions in Sardinian are characterized by a H*+L tone on the wh-word and a L* tone on the last content word of the utterance followed by a L% boundary tone. This pattern is parallel to the one found in sentences with constituent fronting (see §§9.3.1.2, 9.3.2.2, and 9.3.3.3), which is why native speakers agree that the main prominence in short information-seeking wh-questions falls on the wh-expression (which is also the informative focus of the sentence). Our data suggest that there is a difference in the alignment of the L trailing tone of the (H)*+L accent between information wh-questions on the one hand and other sentences with constituent fronting on the other hand (contrastive-focus sentences, echo yes/no questions, and confirmation yes/no questions). Thus, whereas L tone is aligned at the right-edge of wh-expressions in information-seeking wh-questions, it is aligned at the right edge of the accented syllable in the rest of the sentences. This is just a preliminary observation, but seems consistent in the data collected for this chapter.

When the utterance is longer (when the wh-question contains more than two acceptable syllables), the nuclear accent moves on the last prosodic word. As can be observed in Fig. 9.13, longer wh-questions show a steady high tone which extends from the beginning of the sentence to the last accented syllable, with a falling pitch movement aligned with the last accented syllable in the utterance (e.g. comparare ‘to buy’). The contour of long information-seeking wh-questions in Sardinian is found in many other Romance languages such as Catalan (Chapter 2, this volume), European Portuguese (Chapter 7), and Spanish (Chapter 10). Both the utterances illustrated in Figs 9.12 and 9.13 were produced by a speaker of Logudorese Sardinian from Ittiri.

9.3.4.2 Echo wh-questions As observed in §9.3.3.2, echo questions are repetitions of what has been said in the previous discourse. Echo wh-questions present the same syntactic characteristics of wh-questions, since they display wh-movement to the left periphery of the sentence. Yet they show the same intonational pattern as information yes/no questions. This is not surprising, since the expected answer of an echo wh-question is the same as that of a yes/no question, i.e. either yes or no. Fig. 9.14 contains the utterances Itte m’as dimandatu? A in ue so andande? ‘What did you ask me? Where I was going?’ produced by a speaker of Logudorese Sardinian from Lodè. As shown in the second sentence represented in Fig. 9.14, echo wh-questions are characterized by a falling nuclear accent with the H tone realized at an extra pitch
FIG. 9.12 Waveform, spectrogram, and F0 contour of the wh-question *E a in ue andas?* 'And where do you go?', produced by a speaker of Logudorese Sardinian

FIG. 9.13 Waveform, spectrogram, and F0 contour of the wh-question *Itte li potto comparare?* 'What could I buy for him/her?', produced by a speaker of Logudorese Sardinian
height. This extra high tone contrasts phonologically with the plain high tone found in declaratives. This difference in pitch height within the same falling accent H+L* is expressed by means of the upstep diacritic (¡).

Though uncommon, true echo wh-questions or even multiple wh-expressions, both without wh-movement, are possible in Sardinian:

\[ \text{Si amus a andare a inue? 'If we are going where?' or Chie at basadu a chie? 'Who kissed whom?' However, more data should be collected in order to adequately describe the intonation pattern found in this type of wh-question.} \]

9.3.5 Imperatives: commands and requests

Positive imperatives are expressed through the imperative forms of the verb, which in some cases can be truncated (see §§9.1.3 and 9.3.6) (e.g. \textit{abbaida} ‘look’ > \textit{abba}, \textit{mira} ‘look’ > \textit{mi}, \textit{tene} ‘take it’ > \textit{te}, \textit{intende} ‘listen’ > \textit{inte}). These truncated forms tend to be used as interjections rather than as genuine imperative forms (Contini 1989; Corda 1994). On the other hand, in negative commands, the second person subjunctive is used (e.g. \textit{Beni a inoche} ‘Come here!’ but \textit{Non benzas a inoche} ‘Do not come here!’). Interjections like \textit{aiò!} ‘come on’, \textit{aisu/aisal} ‘come on, back up’, or \textit{tocca!} ‘come along’ are very frequent in requests or invitations.

9.3.5.1 Commands

Commands present the same intonational pattern found in declaratives: a prenuclear rising pitch accent L+H* and then a falling nuclear accent.
H+L*. The boundary tone is always low (L%). Besides this intonation pattern, other phonetic characteristics allow listeners to identify this specific speech act. Some of these characteristics are faster speech rate, broader tonal range, and higher intensity. Fig. 9.15 exemplifies a command produced by a speaker of Logudorese Sardinian from Òschiri. The sentence is uttered in two intonational units. The first intonational unit is composed of a rising prenuclear pitch accent which is associated with beni ‘come’ and a nuclear falling accent which is associated with inoghe ‘here’. The second intonational unit reproduces the same pattern on the accented syllables of in cue ‘there’ and periculosu ‘dangerous’.

9.3.5.2 Requests Sardinian speakers make an extensive use of interjections and imperative forms for the expression of requests. This is accompanied by the preference for what seems to be the emphatic accent in Sardinian, the rising–falling pitch accent (H*+L). Fig. 9.16 exemplifies a request produced by a speaker of Campidanese Sardinian from Sinnia. As we can see, the contour is characterized by a series of four rising–falling pitch accents on the accented syllables of tocca, beni, cumpangia, and impari, each one being the nuclear pitch accent of an intermediate phrase.

9.3.6 Vocatives The vocative chant, characterized by a rising pitch accent followed by a sustained boundary tone, is probably one of the most frequent intonational patterns found for
the expression of vocatives in the European languages. However, other intonational patterns are possible, depending on factors such as the degree of insistence of the call, or the degree of politeness (Prieto and Cabré 2007–12 for Catalan; Borràs-Comes et al. 2013 for Catalan). In Sardinian, but also in other Romance varieties such as Algherese Catalan, Corsican, or Southern varieties of Italian, vocatives are characterized not solely by a specific intonation pattern but also by a truncation process (Floricic 2002). This truncation process in Sardinian involves deleting all the segmental material following the stressed vowel of the name as seen in Iesperàntzia > Ispera', Zùlia > Zu', Rosària > Rosa', Fortunadu > Fortuna'. As can be observed in these examples, the surface phonological material as well as the deleted sequence exhibit different lengths, depending on the distance from the beginning of the base to the stressed vowel, and from the stressed vowel to the end of the base. However, it should be noted that the vocative truncation process has nothing to do with truncated hypocoristics, which are driven by a disyllabic trochee which includes one prominent position: the initial (e.g. Valentina > Vale, Francesca > France) or the stressed syllable (e.g. Roberto > Berto, Eleonora > Nora). On the other hand, truncated vocatives are pronounced with two prosodically prominent positions: the initial syllable and the word stress (e.g. Fortunadu > Fortuna', Gòsamu > Go'). Interestingly, vocative truncation seems not to be generally applied to truncated hypocoristics (e.g. Vale > *Va, Nora > *No).
9.3.6.1 Initial call  In Sardinian initial calls, we find two different patterns depending on the dialectal variety. Logudorese speakers have a preference for truncation, whereas Campidanese speakers seem to avoid this process. The avoidance of truncation could be related to the resistance that this latter variety has for words with final stress (see §9.1.2), which is less rigid in Logudorese. The intonational pattern applied to the truncated or non-truncated base is the same: a secondary stress produced with a rising pitch accent (L+H*) aligned with the first syllable of the base, and a low pitch accent (L*) aligned with the stressed syllable of the name. The boundary tone is always low. One could hypothesize that what we have in Sardinian vocatives is stress shift to the first syllable. We discard this hypothesis basing ourselves on the following evidence. First, secondary stress tends to be characterized by a rising pitch accent and an increment in intensity, but lexical stress is still cued by duration (as in the case of emphatic stress vs. lexical stress described in Schirru 1997–9 for regional Italian spoken in Piedmont and by Nadeu and Hualde 2012 for Central Catalan). The second argument is illustrated in a language other than Sardinian, Algherese Catalan, that exhibits the same phenomenon presented here and is also spoken in the island of Sardinia (see Chapter 2, this volume). Algherese Catalan has a vowel system of seven stressed vowels /a ɛ e i o ɔ u/ reduced to three [a i u] in unstressed position. One would expect that in case of stress shift, the vocative form of the name Esteve [as’teva] would become [‘esta] or [‘estava], which are not possible outcomes. Moreover, our claim is consistent with that of Kim and Repetti (2013) regarding a similar phenomenon found in Sardinian imperatives (see §9.1.2). Fig. 9.17 illustrates the L+H* L* L% pattern with a truncated vocative produced by a speaker of Logudorese from Ìttiri. We observe a rising secondary pitch accent aligned with the first syllable of the name (Eleonora) and then a low pitch accent aligned with the stressed syllable of the name (Eleonora) followed by a low boundary tone.

In Logudorese Sardinian, the L+H* L* L% pattern can also be produced on a monosyllabic truncated base, as can be observed in Fig. 9.18 with the name Gòsamu > Go’. Vocatives with just one syllable are too short from a prosodic point view, since it is assumed that a content word, not a functional word, must contain minimally a metrical foot, i.e. two light syllables or a heavy syllable, which correspond to two open syllables or one closed syllable respectively in languages which do not have differences in vowel quantity (McCarthy and Prince 1993; 1995). The claim defended in Vanrell and Cabré (2011) and Cabré and Vanrell (2013) is that the vocative intonation, the bitonal L+H* L* pattern, forces the lengthening of the monosyllabic vocatives, i.e. the insertion of one extra mora which hosts the L* pitch accent. This lengthening effect would compensate for the prosodic shortness of the syllable caused by the truncation process.
FIG. 9.17 Waveform, spectrogram, and F0 contour of the initial call `Eleono?`, produced by a speaker of Logudorese Sardinian

FIG. 9.18 Waveform, spectrogram, and F0 contour of the initial call `Go?`, produced by a speaker of Logudorese Sardinian
9.3.6.2 **Insistent call**  The melody for insistent or second calls tends to be the same as that found for the first call but with an increase in pitch range. Thus, speakers produce insistent vocatives with a rising pitch accent aligned with the first syllable in the vocative and a low pitch accent associated with the stressed syllable followed by a low boundary tone. In insistent calls this pattern tends to be produced on a non-truncated base in both dialects. Alternatively, we also find the chanted tune, i.e. a rising pitch accent aligned with the stressed syllable of the name and a sustained boundary tone (L+H* !H%) but always produced on a non-truncated base. Fig. 9.19 illustrates the chanted tune produced by a speaker of Logudorese Sardinian from Ìttiri. A rising accent is aligned with the stressed syllable of *Eleonora* and then a downstepped boundary tone is found.

9.3.7 **Intonational analysis: summary**

9.3.7.1 **The pitch accents**  Table 9.1 offers a list of the different pitch accents found in Sardinian, their schematic representation as well as a description of their phonetic realization, and some examples of sentences in which these units are attested. In the data collected we attested two monotonal pitch accents (H* and L*) and five bitonal pitch accents (L+H*, H*+L, ¡H*+L, H+L* and ¡H+L*). This inventory is consistent with the results proposed by other researchers in previous works (Schirru 1981–2; Contini 1984; Lai 2002; Lai and Zucca 2004) and the pitch accents are commonly found in other Romance languages such as Catalan, Friulian, Spanish, etc.
### Table 9.1 Inventory of pitch accents in Sardinian

<table>
<thead>
<tr>
<th>Accent</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H^*$</td>
<td>This pitch accent is phonetically realized as a steady high tone on the accented syllable. It is very marked in Sardinian and only appears in the initial plateau of long wh-questions.</td>
</tr>
<tr>
<td>$L^*$</td>
<td>This pitch accent is phonetically realized as a steady low tone on the accented syllable. It is very frequent in Sardinian after the fronted constituents in contrastive focus, echo yes/no questions and confirmation yes/no questions. It is also attested in nuclear position in vocatives and on the last word of short information-seeking wh-questions.</td>
</tr>
<tr>
<td>$L^<em>+H^</em>$</td>
<td>This pitch accent is phonetically realized as a rise starting at the beginning of the accented syllable and ending at the end of the accented syllable. This is mainly attested in prenuclear position in declaratives, contrastive-focus statements with neutral order, and uncertainty statements, but it also occurs as a secondary accent aligned with the first accented syllable of the word in fronted contrastive focus and vocatives. It can also appear in nuclear position in exclamatives.</td>
</tr>
<tr>
<td>$H^*+L$</td>
<td>This pitch accent is realized as a rise–fall with the peak aligned broadly at the midpoint of the vowel. It is very common in the data collected in the nuclear position of contrastive focus and uncertainty statements.</td>
</tr>
<tr>
<td>$¡H^*+L$</td>
<td>This pitch accent is realized as a rise–fall with an extra high peak aligned broadly at the midpoint of the vowel. It commonly attested in the data collected in the nuclear position of yes/no questions with fronted constituents (echo yes/no questions and confirmation yes/no questions) and on the wh-word in short information-seeking wh-questions.</td>
</tr>
<tr>
<td>$H+L^*$</td>
<td>This pitch accent is realized as a fall with the peak aligned at the beginning of the accented syllable. It is especially frequent in nuclear position in declaratives, long wh-questions, and commands.</td>
</tr>
<tr>
<td>$¡H+L^*$</td>
<td>This pitch accent is realized as a fall with a preaccentual extra-high tone and the peak aligned at the beginning of the accented syllable. It characterizes information yes/no questions and echo wh-questions.</td>
</tr>
</tbody>
</table>
The boundary tones

Table 9.2 offers a list of the different boundary tones found in Sardinian, their schematic representation as well as a description of their phonetic realization, and some examples of sentences in which these units are attested. Two different boundary tones were attested which can be associated with the end of ips (IH- and L-) or with the end of IPs (IH% and L%). Interestingly, we do not find high boundary tones, which may be striking at first, especially in the case of questions, but that seems not to be uncommon in Romance languages such as Catalan, Italian, and Romanian.

Nuclear configurations

Table 9.3 shows the output of the combination of the different pitch accents and boundary tones in nuclear position in Sardinian. As we can observe most of the possible combinations are possible in Sardinian with the exception of the downstepped boundary tones combined with nuclear accents other than L+H*. It is important to note that the use of IH*+L accent tends to involve a change in the default location of the nuclear stress due mainly to constituent fronting (in echo yes/no questions and confirmation yes/no questions).

9.4 Conclusion

In this chapter, we have analyzed the intonation and phrasing patterns found in different sentence types (statements, questions, commands and requests, and vocatives) and looked at how intonation interacts with the lexicosyntactic structure to convey certain specific pragmatic meanings associated with these sentence types for both the Logudorese and Campidanese varieties. Using the DCT methodology, we obtained 279 utterances (9 speakers × 31 situations) collected in the Sardinian locales of Ìttiri, Oschiri, Lodè, Biddecèsia, and Sinnia. This method has been proven to be very useful to investigate intonational categories, because on the one hand it allows
controlling for sentence type and associated meaning as well as the segmental/prosodic structure of the target words while, on the other, the interviewee feels free to express him/herself spontaneously and with the lexical/syntactic structure that is more natural to him/her.

### Table 9.3 Inventory of nuclear configurations in Sardinian

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H+L* L%</td>
<td>Broad-focus sentences, long information-seeking wh-questions, and commands</td>
</tr>
<tr>
<td>H*+L L%</td>
<td>Contrastive-focus sentences, uncertainty statements, and requests.</td>
</tr>
<tr>
<td>L+H* L%</td>
<td>Exclamative sentences</td>
</tr>
<tr>
<td>¡H+L* L%</td>
<td>Yes/no questions and echo wh-questions</td>
</tr>
<tr>
<td>¡H*+L L%</td>
<td>Echo yes/no questions, confirmation yes/no questions, and short information-seeking wh-questions</td>
</tr>
<tr>
<td>L+H* !H%</td>
<td>Vocatives with non-truncated bases</td>
</tr>
<tr>
<td>L* L%</td>
<td>Vocatives with truncated or non-truncated bases</td>
</tr>
</tbody>
</table>
Our results reveal important findings that will surely contribute not only to the linguistic understanding of this relatively little-studied language from the intonational point of view but also to the understanding of the principles involved in the expression of different pragmatic meanings through prosodic mechanisms across Romance languages. An important issue concerns the absence of H boundary tones in Sardinian. First, Sardinian does not use a H tone (H-) to mark non-finality or continuation, but a downstepped tone (!H-). Thus, whereas low endings mark finality, non-low endings signal continuation. This finding is also related to the absence of rising/high boundary tones in questions. Alternatively, Sardinian uses an extra high feature (¡H) associated to the pre-accentual nuclear syllable (¡H+L*) in information-seeking yes/no questions or to the accented nuclear syllable in echo or confirmation yes/no questions (¡H*L). It is also important to highlight that falling questions are not rare in Romance languages, since they are found in Catalan (Chapter 2, this volume), Italian (Chapter 5), and Romanian (Chapter 8). The absence of H boundary tones and a fairly reduced inventory of nuclear configurations (just seven different nuclear configurations are found in Sardinian) might be compensated for by a more extensive use of the sentential left periphery (constituent fronting and the use of particles such as the question particle a, the grammaticalized form of the wh-pronoun itte, the discourse marker ello: see §9.1.2). Our results thus underscore the importance of looking not just at tonal events but also at how these tonal events interact with lexicon and syntax.

Another very interesting issue is the quite frequent presence of secondary accents (or initial prominences) in Sardinian. Secondary accents can be found in contrastive-focus statements and vocatives and have contact points with the secondary accents or initial prominences existing in languages like Catalan (Chapter 2), French (Chapter 3), Occitan (Chapter 6), and Spanish (Chapter 10). Secondary accents in Sardinian seem to be markers of emphasis, although they are not solely related to the language of the media or public speech as they are in Catalan or Spanish (Chapters 2 and 10). In French and Occitan (Chapters 5 and 6), initial accents may also be used as markers of emphasis like in Sardinian, or they can just be used to mark the left edge of an Accentual Phrase.

We have provided evidence in favor of the existence of exceptions to the assignment of the nuclear accent to the rightmost element in the sentence; two of those were already pointed out by Jones (2013) (right dislocation and constituent fronting) and one (short wh-questions), to our knowledge, has not previously been mentioned. It would be worth accounting for these exceptions in a unitary way. However, since the goals of our work do not allow us to go in depth into this, we will leave this issue for further research.

As for dialectal differences, on the basis of the results presented in this chapter, we can affirm that intonation seems not to be enough to distinguish between the
two macro-varieties of Sardinian. We could not detect any difference between Campidanese and Logudorese in intonation patterns across sentence types. However, we found differences in the use of particles such as a to introduce yes/no questions (Campidanese speakers tend not to use this particle) and also in the application of the truncation process in vocatives. From the results obtained, we conclude that Campidanese speakers avoid truncating vocatives; this can be explained by the stronger resistance that the Campidanese variety exhibits to words with final stress (see §9.1). Therefore, we conclude that the dialectal differences found in our data on Sardinian have mainly a morphosyntactic character.

Acknowledgments

A preliminary version of this work was presented at the Workshop on Romance ToBI (June 2011, Tarragona, Spain) and the Sardinian Network Meeting (September 2012, Konstanz, Germany). We are grateful to the audience at these talks for their comments and suggestions. All the speakers who participated unselfishly in the interviews, as well as friends from Sardinia who put us in contact with potential participants, deserve a special mention for their time and dedication. We are particularly indebted to Amos Cardia and Gianni Muroni for help with the collection of the Logudorese and Campidanese data, as well as for their comments on the data. Many thanks to Eduardo Blasco Ferrer, Teresa Cabré, Franck Floricic, Guido Mensching, Lucia Molinu, Eva-Maria Remberger, and Francesc Torres-Tamarit, who were always ready to send their comments or impressions of the Sardinian data. We thank two anonymous reviewers for their comments and suggestions. Thanks also to Joan Borràs-Comes for providing the maps. This research has been funded by project BFU2012-31995 (awarded by the Spanish Ministry of Science and Innovation) and 2014 SGR-925 (awarded by the Generalitat de Catalunya). We are, finally, grateful to our hosts in the following two short research stays subsidized under the Life-Long Learning Programme (ERASMUS), namely the Università degli Studi di Sassari and Università degli Studi di Cagliari.