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Intonational phonology of Occitan: towards a prosodic transcription system

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6.1 Introduction

6.1.1 Geographical location of Occitan and sociolinguistic background

Occitan is spoken in 32 French départements corresponding roughly to the southern third of France, in the Aran Valley in Catalonia, Spain, and in a dozen of Alpine valleys in the region of Piedmont, Italy. Together with French (and the other Oïl dialects) and Francoprovençal (or Arpitan), Occitan belongs to the Gallo-Romance subfamily. It occupies a central position within Romance, neighboring with Ibero-Romance in the southwest and Italo-Romance in the east. Occitan is subdivided in three supradialectal areas, as shown in Fig. 6.1: Northern Occitan, which includes, from West to East, the Limousin, Auvernhat, and Vivaro-Alpine dialects (Cisalpine is chosen as a denomination for the subdialects of Vivaro-Alpine spoken in Italy); Gascon in the West (with Aranese as a subdialect of Gascon spoken in Catalonia); and Southern Occitan, including Provençal in the East and Lengadocian in the central southern part of the linguistic domain (Bec 1963). Fig. 6.1 shows the thirteen Occitan locales included in this study, which are distributed across the six main dialectal areas.

Occitan was declared an official language in Catalonia in 2006, and benefits from legal protection in the Italian Alpine valleys where it is spoken. However, it does not have any legal status in the main part of its territory, namely in France, where all languages but French were banned from official usage following the Ordonnance de Villers-Cotterêts of 1539 (Martel 2001). In the emerging diglossic situation, Occitan became restricted to private uses, whereas French was employed in all public and prestigious situations (Ferguson 1959; Lafont 1971a; Meisenburg 1998). As a
consequence, Occitan became more and more marginalized, and during the first half of the 20th century generational transmission stopped: speaking the local language—labeled as a multitude of useless, disturbing patois—was prohibited at school and regarded as the sign of a lack of education and an impediment to social advancement. In spite of all the activities that have been undertaken more recently to revive and reinvigorate Occitan, the language continues to decline, ceding its place to French in all domains (Schlieben-Lange 1993). It was estimated in the late 1960s that between 1 and 2 million people (out of 11.8 million inhabitants of the region) spoke Occitan regularly, another 1–2 million used it occasionally, 1 million could be considered potential speakers, while 6–9 million did not speak Occitan at all (Lafont 1971b: 56–7). The situation has worsened since: Héran et al. (2002) put the number of native speakers at approximately 526,000, and Bernissan (2012) 110,000. Whatever their current level of

Fig. 6.1 Dialectal areas of Occitan and points of data collection
proficiency, it is clear that Occitan speakers are now few in number and dispersed over a large territory, and that their language is therefore highly endangered.

6.1.2 Prominence, accentuation, and phrasing in Occitan

As in most Romance languages, stress position is lexically defined in Occitan and may be distinctive (e.g. pati ['pa.ti] ‘patio’ vs. patir [pa.'ti] ‘to suffer’). However, contrary to Ibero- and Italo-Romance languages, where stress lies on one of the last three syllables of the lexical word (Roca 1999), Occitan lost antepenultimate stress in the Middle Ages (Schultz-Gora 1924: 37): in modern Occitan, lexical stress is associated with either the last or the penultimate syllable of the word (Meisenburg 2001). Lexically stressed syllables are landing sites for pitch accent anchoring.

Sichel-Bazin et al. (2012a) studied the relationship between accentuation and phrasing in Occitan, and proposed the first inventory of the key constituents in the prosodic hierarchy (Selkirk 1984; Nespor and Vogel 1986/2007). They pointed out that pitch accent syllables show a tonal movement, a lengthening of the rhyme, and sometimes an intensity peak, thus marking the right edge of a prosodic unit called Accentual Phrase (AP), which may contain more than one lexical word plus clitics (Beckman and Pierrehumbert 1986). This unit is parallel to the French AP (see Chapter 3, this volume) and may have appeared in the prosodic hierarchy of Occitan as a consequence of interference. Besides the compulsory final pitch accent at the right edge of the AP, this constituent optionally displays a rising tonal movement at its left edge, similar to the AP-initial rises in French (Hualde 2003b; 2004; Sichel-Bazin 2009). These initial accents do not show rhyme lengthening, but are often accompanied by an intensity peak and a reinforcement of the onset consonant, mostly in cases of emphasis. As in French, they may occur on syllables that do not bear lexical stress, e.g. on the first syllable of the first lexical word in the AP, but also on an initial clitic. Therefore, we will distinguish between initial accents and pitch accents associated with lexically stressed syllables (see Welby 2002; 2003; 2006).

Following Jun and Fougeron’s (1995; 2000; 2002) conventions for French, initial accents are labeled Hi (i for initial) rather than H*, which will be reserved for pitch accents hitting lexically stressed syllables (see Chapter 3). Since an AP may contain more than one lexical word, this means that not all syllables that are lexically specified for stress bear a pitch accent. Nevertheless, Sichel-Bazin et al. (2012a) found that within the AP they tend to be slightly more prominent than surrounding syllables even when they do not receive a (full) pitch accent; rather, they correspond

1 Limousin shows stress patterns that differ from all other dialects: besides the fact that vowel duration is contrastive in this dialect, vowel quality seems to influence stress location (Dourdet 2011).

2 Stress may occur on the antepenultimate syllable in some Cisalpine varieties of Provençal and Vivaro-Alpine (spoken in Italy and in some neighboring locales in France). Similarly, Aranese (the Gascon variety spoken in Catalonia, Spain) displays antepenultimate stress in some verb forms, loanwords (mainly from Spanish, Catalan, and English), and learned words.
to the head of a lower constituent, the foot. At a higher level, APs group together into Intonational Phrases (IP). As in other languages, there might be an intermediate phrasing level (the “intermediate phrase” or ip: Beckman and Pierrehumbert 1986), but we do not have enough evidence yet to claim that this is necessary. The IP is characterized by the presence of a nuclear accent, which is usually the last and most prominent accent of the utterance. Its right edge is marked by final lengthening and a boundary tone that blocks downstep, and it is often followed by a pause.

6.1.3 Occitan intonation: previous studies

Analyzing a corpus of folktales in the Lengadocian dialect, Hualde (2003b; 2004) was the first to draw up an inventory of the intonational contours found in Occitan. According to him, the first prenuclear accent in statements is normally produced as a rise with the peak aligned within the accented syllable, which he labels L+H*, whereas the following prenuclear accents generally are high plateaus, labeled H* or !H*. The final contour of broad-focus statements is a fall to a low pitch level either from a high pre-accentual syllable (H+L* L%) or from a high target of a previous accent, be it AP-initial (Hi L* L%) or AP-final ((L+)H* L* L%). By contrast, in narrow-focus statements, the focal element presents an L+H* nuclear accent, followed by a final L% boundary tone. Yes/no questions are described as displaying prenuclear de-accentuation and an L+H* L% nuclear configuration. Hualde argues that this circumflex rising–falling interrogative contour, which is also found in yes/no questions in varieties of Spanish, Italian, and Brazilian Portuguese (see Chapters 10, 5, and 7 respectively), might have been originally used to express checks and was then extended to queries, but he admits that this could be an artifact of the corpus type, since questions have no actual addressee in folk tales.

Three locales have been the object of surveys on Occitan within the AMPER project (Atlas Multimédia Prosodique de l’Espace Roman), which aims to collect comparable data in different Romance varieties, concentrating on declarative and interrogative sentences in SVO order with constituents of different lengths and accentuation patterns. Lai (2005) describes the prosodic contours used in these types of utterances in the Vivaro-Alpine dialect spoken in Gap (Gapencés, F-05 Auts Aups/Hautes Alpes), and Lai and Rilliard (2007) do the same for the Lengadocian dialect of Sant Jurvèva/Sainte-Geneviève-sur-Argence (Carladés, F-12 Avaro/Aveyron). Overall, tonal patterns were found to be falling in declaratives and rising in interrogatives.

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3 First the Occitan name of the locale is given, followed by its official French name, whom different. In brackets, we specify the parçan, i.e. the traditional region. For locales in France, we then add the number and name of the French département to which the locale belongs; for Cisalpine locales, the province to which they belong is followed by ‘Italy; for Aranese locales, by ‘Catalonia, Spain’. This information is given when the locales are mentioned for the first time; thereafter only their Occitan names will be used.
Sichel-Bazin (2009) analyzed alignment patterns of leading tones in the nuclear pitch accent of disapproval statements in the Limousin dialect from Moissidan/Mussidan (Dobla e Landès, F-24 Dordonha/Dordogne). The nuclear configuration of these statements is usually a complex rising–falling movement, which he labeled LH+L* L%.* Both targets of the rise (the first L elbow and the H peak) are aligned with the boundaries of the pre-accentual syllable, and the accented syllable is realized with a falling movement reaching a low pitch level (L*) that is maintained until the end of the utterance (L%). These pre-accentual rises are also found in statements of the obvious, but there, the rise ends later: the peak occurs within the accented syllable, and then pitch falls to low (Sichel-Bazin et al. 2012b).\(^5\)

Although the above-mentioned studies have investigated some aspects of Occitan prosody, no complete analysis is as yet available. Therefore, this chapter aims to describe the phrasing system and intonational phonology of Occitan, whilst proposing a transcription system for it, including an analysis of dialectal variation within the language.

### 6.2 Methodology

The data used for this chapter stem from two different corpora: while one focuses on a variety of the central Lengadocian dialect, the other deals with dialectal variation. The first one, recorded in the Caunés (Monts de Lacaune) region around the small rural town of La Cauna/Lacaune (F-81 Tarn), is a large corpus consisting of recordings of 40 native speakers of Occitan, aged between 50 and 90, and containing four types of data: intonation questionnaires, Map Tasks, fable summaries, and free conversations. For the study reported here, fable summaries and intonation questionnaires of 10 of the Occitan speakers from this corpus were analyzed. The intonation questionnaires, based on the Discourse Completion Task (Blum-Kulka et al. 1989; Billmyer and Varghese 2000; Félix-Brasdefer 2010) and adapted from the *Atles interactiu de l’entonació del català* (Prieto and Cabré 2007–12), are the same as in all chapters of this volume, as well as in other Intonation Atlas projects. For the fable summaries, speakers listened to a recording of the Aesop fable “The North Wind and the Sun” and were asked to sum it up in their own words. In this way they produced 20–80 sec of connected speech, with a similar structure and shared lexical items, which was particularly useful for the study of phrasing.

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\(^4\) This configuration will be labelled H+L* L% in Oc_ToBI (see §6.3.2.3), the first low target being interpreted as an AP left boundary tone (al., see §6.3.1).

\(^5\) This configuration was labelled LH+H*L L% in Sichel-Bazin et al. (2012b); the simpler label H+H* L% will be retained in Oc_ToBI (see §6.3.2.3).

\(^6\) The Occitan questionnaire and auditory samples of the recordings are available online in the *Interactive Atlas of Romance Intonation* (Prieto et al. 2010–14: http://prosodia.upf.edu/iari/) and *Atlàs interactiu de l’intonacion de l’occitan* (Prieto et al. 2007–: http://prosodia.upf.edu/atlasintonacion/).
Besides the fable summary subcorpus, which is geographically restricted but rich enough in data to permit an in-depth study of the Occitan prosodic system—at least for the central Lengadocian dialect—the data obtained by means of intonation questionnaires available through the *Atlàs interactiu de l’intonacion de l’occitan* (Prieto et al. 2007–) were used for a preliminary analysis of dialectal variation in Occitan intonation. One to three speakers were recorded in each of the following locales in France:

- Sòra/Sore (Lana Grana, F-40 Lanas/Landes) and Auloron/Oloron-Sainte-Marie (Bearn, F-64 Pirenèus Atlantics/Pyrénées Atlantiques) for Gascon;
- Gòra/Gorre (País de Vinhana, F-87 Nauta Vinhana/Haute-Vienne) and Las Leschas/Les Lèches (Dobla e Landés, F-24 Dordonha/Dordogne) for Limousin;
- La Becèira/La Besseyre-Saint-Mary (Marjarida, F-43 Léser Naut/Haute Loire) for Auvernhat;
- Lo Noier/Le Noyer (Champsaur, F-05 Auts Aups/Hautes Alpes) for Vivaro-Alpine;
- Selhan/Seillans (País de Faiença, F-83 Var) for Provençal;
- Claravals-Bruèjols/Clairvaux-Bruéjouls (Valon de Marcilhac, F-12 Avairon/Aveyron), Gabian (Besierés, F-34 Eraw/Hérault), and Le Fossat (País Tolosan, F-09 Arièja/Ariège) for Lengadocian.

To take into account different language contact situations, data from Les (Aran Valley, Catalonia, Spain) were included for Gascon in contact with Catalan and Spanish, and data from Peirosa/Perosa Argentina (Val Cluson, Province of Turin, Piedmont, Italy) for Vivaro-Alpine in contact with Italian and Piedmontese. These last two subdialects will be referred to as Aranese and Cisalpine, respectively.

Section 6.3.1 discusses the organization of phrasing in Occitan and presents the correlates of each relevant unit in the prosodic hierarchy. The following subsections under §6.3 introduce the main intonation patterns used for statements (with broad and narrow focus, and exclamations), information-seeking, confirmation-seeking, and echo yes/no questions, information-seeking and echo wh-questions, imperatives (commands and requests), and vocatives. Dialectal variation will be presented when it is considered relevant. The labels used in the Oc_ToBI transcription system are introduced while describing phrasing and intonation and summed up in §6.3.8. All sound files presented in the figures are available at the OUP companion website: www.oup.co.uk/companion/frota_prieto.

### 6.3 Intonation and phrasing

#### 6.3.1 Phrasing

The phrasing organization proposed here is based on Selkirk’s (1984; 1986) and Nespor and Vogel’s (1986/2007) proposals. However, instead of retaining the
Phonological Phrase (PP), which is based on syntax, we adopt the prosodically defined Accentual Phrase (AP: Beckman and Pierrehumbert 1986) as the central unit for accentuation in Occitan (Sichel-Bazin et al. 2012a). An AP usually contains one lexical word and the clitics that accompany it, but several content words may be grouped together in the same AP when they form a cohesive semantic and/or syntactic unit (see, e.g. the third AP per se parar de la cisampa in Fig. 6.2, or the second AP s’apèla Marie in Fig. 6.3). At its right edge, the AP presents an obligatory pitch accent, associated with its last metrically strong syllable—which is either the last or the penultimate syllable of the AP. Its left edge may be tonally marked by a low boundary tone (aL), which may sometimes anchor not with the very beginning of the AP but with the junction between function and lexical words, and/or spread to the right until the next tonally specified syllable, resulting in this case in a low plateau. In medial APs, aL may not be realized, mostly when there is too little segmental material between two tonal events. Between aL and the final pitch accent, a tonal rise may appear at the left edge of the AP. This optional initial accent (Hi) is mainly used to mark contrast and/or emphasis, and generally aligns with the initial syllable of the first lexical item of the AP. However, when contrast is not involved, Hi may also be used for rhythmic reasons. In this case, foot-parsing influences the alignment of Hi and it may associate with a function word at the beginning of the AP, as in all three APs of the example in Fig. 6.2 (s’es, que, and se). The tonal structure of the AP is thus
very similar to that of French: /(aL) (Hi) T*/., where T* stands for any pitch accent of the inventory (see Chapter 3).\(^7\)

It is not clear whether the AP is relevant in Occitan dialects that are not in contact with French, namely Aranese and Cisalpine. For the moment, neither initial accents (Hi) nor initial low boundary tones (aL) have been found in these dialects, and thus the prosodic unit relevant for accentuation might be the prosodic word, as in the Ibero- and Italo-Romance languages with which they are in contact. Yet clash resolution appears to apply in the same way across the whole Occitan domain, resulting in the de-accentuation of the first stressed syllable involved. More research is needed to clarify this point.

Within the AP, syllables that bear lexical stress appear to always be strong in a foot: although they are not pitch-accented inside the AP, they usually maintain a certain degree of prominence. For this reason, the break index 1 has been retained in the Oc_ToBI system to note the end of a non-pitch-accented (AP-internal) lexical word, while 0 marks the end of a non-accentable function word of at least one syllable, and a break index 2 corresponds to the right edge of an AP (or a pitch-accented lexical word in Aranese and Cisalpine) (see Beckman et al. 2005).

The highest level in the Occitan prosodic hierarchy is the Intonational Phrase (IP), which is the unit that contains the relevant intonational contour encoding semantic and pragmatic content. The most informative part of this contour is the nuclear configuration, comprising the nuclear accent and the IP-final boundary tone. As in other Romance languages, the nuclear accent, which is normally the most prominent accent in the IP, is associated with the rightmost accentable syllable of the focal domain. Nuclear pitch accents display a wider set of possible types than prenuclear accents (see §6.3.8). The IP-final boundary, which is transcribed with a break index 4, is marked by final lengthening and a boundary tone, and may be followed by a pause.

Some accounts for French and Catalan (see Chapters 3 and 2 respectively) propose a constituent between the AP/PP and the IP levels, the so-called intermediate phrase (ip). An ip is characterized by final lengthening and the presence of a final boundary tone. In French, it has been proposed as the relevant domain for downstep: the height of successive AP-final peaks decreases until the last one in an ip, where downstep is blocked by the boundary tone, and pitch is—at least partially—reset after this boundary (D’Imperio and Michelas 2010). Though more work is needed to decide on the relevance of this unit to the Occitan prosodic hierarchy, first observations seem to support the fact that the same pattern applies in Occitan. Therefore, we

\(^7\) In French, the tonal structure of the AP is /(aL) (Hi) (L) T*/. The second L tone is an optional inter-accentual phrasal tone that may be inserted between a Hi and the high tone of a final pitch accent, enhancing the second rise. This L phrasal tone is not necessary in the tonal structure of the Occitan AP since it only appears in rising pitch accents, which can be represented by the L+H* label, and does not appear between Hi and the H leading tone of H+L* or H+H* pitch accents (see §6.3.2.3, and Sichel-Bazin 2009).
labeled prosodic breaks of an intermediate strength between AP- and IP-final boundaries with the index 3 in the Oc_ToBI transcription, and the boundary tones associated with such breaks are transcribed H- or L-.

6.3.2 Statements

6.3.2.1 Broad-focus statements  In all Occitan dialects, broad-focus statements are characterized by rising movements in prenuclear APs; a rising final configuration indicates continuation, a falling one, ending at the baseline of the speaker’s pitch range, indicates finality.

Fig. 6.3 shows the intonational contour of the two broad-focus statements La pichona s’apèla Marie; es en tren de manjar una banana (‘The little girl is called Marie; she’s eating a banana’) in the Lengadoci dialect from La Cauna. These statements constitute two independent IPs, which are separated by a silent pause. The first IP is composed of two APs: one corresponds to the subject La pichona and the other one to the predicate s’apèla Marie. The first AP only contains one lexical word and displays two rises: a rhythmic initial rise (aL Hi) at its left edge, and an L+H* rising accent with the peak aligned within the accented syllable. Pitch falls on the post-accentual syllable -na towards a low target at the left edge of the second AP (aL). The verb is de-accented: although the vowel of the syllable -pè- is not reduced, there is no tonal movement associated with it, and it only displays a small intensity peak. Pitch declines progressively across the AP until the final syllable -rie, which is lengthened and receives a rising nuclear configuration indicating continuation: an L+H* nuclear pitch accent and an H% boundary tone, reaching the highest pitch level in the IP. The second IP consists of three APs, each containing one lexical word and the preceding function words. The first one contains two rises: a rhythmic initial rise on a function word and an L+H* rising pitch accent on the last syllable. The second AP, which is short, only shows a pitch accent, which is also rising (L+H*). By contrast, the last AP presents a falling pattern: it begins with an initial Hi on the indefinite article and pitch falls until the L* L% nuclear configuration, indicating finality: the lowest pitch level of the IP is reached in the last accented syllable -na- and is maintained until the end of the utterance.

This pattern is common to all Occitan dialects spoken in France, but Cisalpine and Aranese display some variation. These two dialects do not seem to show initial accents. Prenuclear pitch accents have different alignment properties in Aranese (Fig. 6.4), and Cisalpine presents a different falling nuclear configuration (Fig. 6.5).

8 The use of a “+” sign between the two tones of a bitonal pitch accent (as in L+H*) is optional. Some works in the AM framework do not use it (see e.g. Féry 1993; Gussenhoven 2005; Gabriel 2007; Prieto and Torreira 2007; Gabriel and Meisenburg 2014). For the sake of maintaining homogeneity among the various Romance ToBI systems employed in this book, we retain the notation with a “+” sign here.
Fig. 6.4 shows the intonational pattern of the broad-focus statement *Maria minge un plàtano*9 (‘Maria is eating a banana’) in Aranese. In this dialect, the peak of prenuclear rising accents does not align within the accented syllable, but is delayed until the next syllable, as is the case in the contact languages Catalan and Spanish; these pitch accents are labeled L+<H* following the ToBI conventions for Spanish and Catalan (see Chapters 20 and 2 respectively). In the example, the syllables -ri- and -ge- bear accents of this type: the peaks occur in the following syllables -a- and -ge-, showing a downstepping pattern. Pitch reaches its lowest level in the L* nuclear accented syllable plà- and remains low until the end of the utterance, marked by an L% boundary tone.

In Cisalpine, the nuclear accent of final broad-focus statements displays a sharper fall than in other dialects, with a high pre-accentual syllable; we label it H+L*. This pattern is common with Piedmontese and Italian, with which this dialect is in contact (see Chapter 5); it is also used in most varieties of Portuguese, Friulian, and Sardinian (see Chapters 7, 4, and 9 respectively). Fig. 6.5 illustrates the intonational contour of the broad-focus statement *Maria, i minja la banana* in Cisalpine. Here, *Maria* is a left-dislocated topic constituting its own IP: an L+H* pitch accent associated with the accented syllable -ri- is followed by a !H% boundary tone causing a fall to a mid level—a configuration that may occur in all Occitan dialects as a variant of a final rise (H%). After this, a rising L+H* prenuclear accent is associated with the stressed

9 The form *plátano* is a loanword from Spanish, which explains its antepenultimate stress.
syllable of the verb min-, then pitch falls very slightly until the last prenuclear syllable ba-. The fall is much sharper during the H+L* nuclear accented syllable -na-, where the lowest pitch level is reached and maintained until the end of the utterance.

6.3.2.2 Narrow-focus statements In statements, only part of the information may be new, constituting the (narrow) focus of the utterance. The constituent containing the
focus is generally highlighted by syntactic and/or prosodic means. In Occitan, cleft sentences (1a) may be used for this purpose or the constituents containing old information may be dislocated in order to separate the focus from the background (1b and 1c). But even when the unmarked syntactic structure is maintained (1d), the focal element always receives the nuclear pitch accent, which may be of different types.

(1) a. Son las mandarinas qu’ai balhadas a la Maria.
   Are the tangerines that I-have given to the Maria.
   ‘I gave the tangerines to Maria.’

b. Las ai balhadas a la MARIA, las mandarinas.
   Them I-have given to the MARIA, the tangerines.
   ‘I gave the tangerines to Maria.’

c. Las mandarinas, las ai balhadas a la MARIA.
   The tangerines, them I-have given to the MARIA.
   ‘The tangerines, I gave them to MARIA.’

d. Ai balhadas las mandarinas a la MARIA.
   I-have given the tangerines to the MARIA.
   ‘I gave the tangerines to MARIA.’

Most of the time, narrow focus is located in IP-final position, and thus followed by a prosodic boundary, which is usually marked by final lengthening and an L% (or L-) boundary tone. Postfocal material is generally realized in a low compressed pitch range (see Fig. 6.7).

Fig. 6.6 shows the intonational contour of a narrow contrastive-focus statement (Non, non! Jo voi un quilo d’oranges! ‘No, no! I want a kilo of oranges!’) ending in a rising L+H* nuclear accent followed by an L% boundary tone. All Occitan dialects may use this L+H* L% nuclear configuration to mark narrow focus. The nuclear accent is generally downstepped with respect to the preceding prenuclear rise. Moreover, in cases of contrastive focus, the focalized constituent generally bears an initial accent Hi on the first syllable of its first lexical item—at least in the Occitan dialects spoken in France. In this case, the nuclear accent is often L*, as in Fig. 6.7,10 but the focalized constituent may also be realized with a hat pattern (aL Hi H* L%), or with two rises: an initial rise and a rising nuclear accent (L+H*), followed by a final fall (L%). The use of initial accents is not restricted to contrastive focus: they also serve to mark the left edge of contrastive topics or to denote emphasis, and they may even appear for merely rhythmical reasons. When they convey contrast and/or

10 Unfortunately, in all words under contrastive focus in our corpus the initial syllable is also the pre-accentual one; it is thus impossible to distinguish initial accents from high leading tones.
emphasis, the pitch amplitude of initial accents is greater than when they are used only for rhythmic purposes (compare with e.g. Fig. 6.3).

6.3.2.3 Epistemically biased statements In some pragmatically marked cases, a rising–falling nuclear configuration may appear in Occitan dialects spoken in France, signaling that the speaker evaluates one of the listener’s beliefs (or uncertainties) as

Fig. 6.6 Waveform, spectrogram, and F0 contour of the narrow contrastive-focus statement *Non, non! Jo voi un quilo d’IRANGES!* ‘No, no! I want a kilo of oranges!’, produced by a Gascon (Aranese) speaker from Les

Fig. 6.7 Waveform, spectrogram, and F0 contour of the narrow contrastive-focus statement *Vòli d’IRANGES, ieu!* ‘I want oranges!’, produced by a Lengadocian speaker from La Cauna
mistaken—an epistemic state that can be found in contradiction statements or statements of the obvious, for example. This nuclear configuration consists of a rise starting at the onset of the pre-accentual syllable, followed by a fall. The alignment of the peak depends on how categorical the statement is: in more adamant statements, it aligns with the left boundary of the nuclear syllable (H+L*), but it may also occur within the accented vowel (H+H*), such a statement being less categorical. For example, in statements expressing disapproval, the nuclear configuration is H+L* L%: a rising movement aligns with the pre-accentual syllable, the peak occurs at the syllable juncture, and pitch falls within the accented syllable reaching the baseline of the speaker’s pitch register (Sichel-Bazin 2009). However, statements of the obvious are most often produced with an H+H* L% nuclear configuration (Sichel-Bazin et al. 2012b), as illustrated in Fig. 6.8: the rise starts at the beginning of the pre-accentual syllable (so-), reaching the peak within the nuclear accented vowel (-n ò-), then pitch falls to a low level at the end of the utterance.

11 A similar contrast is found in French; these accents are labelled H+L* and H*+L in Portes and Beyssade (to appear), and H+H* and H+H* in the F_ToBI system (Ch. 3 this volume). Sichel-Bazin (2009) and Sichel-Bazin et al. (2012b) annotated these pitch accents LH+L* and LH+H*L. These complex labels were used to highlight the fact that, at the onset of the rise, an L tone aligns with the beginning of the pre-accentual syllable. The simpler labels H+L* and H+H* have been retained here, making the ToBI systems more similar cross-linguistically. The AP-initial al. boundary tone can explain the presence of a preceding elbow, since this low tone is not observed when these nuclear pitch accents are preceded by a Hi in Occitan dialects spoken in France (Sichel-Bazin 2009), or before H+L* pitch accents in Cisalpine and Aranese.
6.3.3 Exclamatives

In exclamations, prenuclear pitch accents are generally L+H*, and initial accents Hi are quite frequent, both L+H* and Hi being realized in a wider pitch range than in neutral statements. As for the nuclear AP, it always presents a rising–falling configuration, but different alignment patterns are possible: the beginning of the rise may align either with the onset of the nuclear accented syllable, the peak aligning within its rhyme (L+H* L%), or with the onset of the pre-accentual syllable. In the latter case an epistemic bias is added (see §6.3.2.3), and the peak may align either with the onset of the nuclear syllable, which displays a fall (H+L* L%), or within the nuclear vowel, the fall occurring later (H+H* L%). The first pattern with a rise in the nuclear syllable (L+H* L%), which is also found in narrow-focus statements, is illustrated in Fig. 6.9. The second pattern with a pre-accentual rise (H+L* L%), which is used in dialects spoken in France, appears twice in Fig. 6.10: the low plateaus are due to the rightward spreading of the initial boundary tone (aL). In exclamations, the nuclear part is lengthened with respect to categorical statements, which also display an H+L* L% nuclear configuration.

6.3.4 Yes/no questions

6.3.4.1 Information-seeking yes/no questions Since Occitan is a pro-drop language, on the surface the syntax of yes/no questions is not different from that of statements; interrogativity is thus marked by intonation. However, in Gascon, the verb is usually preceded by an expletive particle often called “enunciative”; while que is the...
enunciative that occurs most frequently in the main clause of statements, the one normally used in questions is e (see e.g. Bouzet 1951; Bec 1963; Field 1985; Pusch 2007). The most common contour in information-seeking yes/no questions is rising in all dialects. Pitch generally starts moving up to a peak in the first accentable syllable, which bears an H* or L+H* pitch accent; then it falls gradually until the upcoming L+H* H% nuclear configuration, which consists of a rise aligned with the accented syllable followed by a rise or a high plateau. This pattern is illustrated in Fig. 6.11: the pitch contour starts rising during the first L+H* pitch-accented syllable -vètz, and then falls until the nuclear syllable, from where a rising movement continues up to the end of the utterance.

Another rising contour may be found in information-seeking yes/no questions, with slightly different alignment properties: the nuclear syllable is realized in a low tone and the final rise starts later. Whereas this L* H% pattern is not very frequent in the Occitan dialects spoken in France, it is the most common one in Aranese, being similar to the corresponding questions in Catalan and Spanish (see Chapters 2 and 10). As in statements, the peak of prenuclear accents is delayed to the next syllable (L+<H*) in Aranese information-seeking yes/no questions. As can be seen in Fig. 6.12, the rising movement of the L+<H* prenuclear accent starts at the onset of the accented syllable -uetz but ends in the following syllable. The nuclear configuration is L* H%, with the accented syllable -ri- realized in a low tone, and the final rise starting in the postaccentual syllable -nes.

In the Occitan dialects spoken in France, information-seeking yes/no questions can be headed by the interrogative marker es que (corresponding to French est-ce
que) as a consequence of French interference. In this case, falling contours are possible, although they do not constitute the most common pattern. As shown in Fig. 6.13, pitch rises until the first accented syllable, which bears an $H^*$ pitch accent; the next AP starts at a lower level (aL), a reduced initial accent aligns with the first syllable of the lexical word mandarinas and pitch falls progressively until the end of the utterance ($L^* L\%$).
6.3.4.2 Echo yes/no questions  Echo yes/no questions usually take up an utterance that the speaker has not understood and wants to check for, repeating it with a different intonation. The prenuclear stretch is most often de-accented. The nuclear configuration may be rising or rising–falling depending on the speaker’s epistemic stance about the proposition that he or she repeats in the question: while a rising contour (L+H* H%) expresses a negative bias, i.e. that the speaker expected something different (Fig. 6.14), the rise aligned with the nuclear accented syllable may be followed by a fall (L+H* L%) when the speaker shows a positive bias (Fig. 6.15).

An echo question may also be used to express incredulity, i.e. the speaker cannot believe that what he or she has just heard can be true. In this case, the nuclear configuration of the echo question may be falling–rising H+L* H%. Fig. 6.16 presents an example of an incredulous echo yes/no question in Aranese showing this pattern both on the focalized subject and at the end of the matrix sentence: pitch rises on the pre-accentual syllables E and -ci-, falls to a low level during the accented syllables JÒR- and -pals (H+L*), and then rises again until the final prosodic boundary (H- or H%).

While this falling–rising pattern (H+L* H%) seems to be generalized in Aranese, in other dialects it appears to be restricted to mark a contrastive topic in

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12 A high boundary tone that is not followed by a pause often spreads onto the following syllable in Aranese (see se in Fig. 6.16).
incredulous yes/no questions, while the matrix sentence shows either a rising (L+H* H% as in Fig. 6.17) or a rising-falling (L+H* L% as in Fig. 6.18) nuclear configuration as in other echo questions, but this is realized across a wider pitch range. In these dialects, the high leading tone on the focalized element does not seem to be obligatory and its height shows no correlation with the degree of
Incredulity. Fig. 6.17 shows the incredulous echo yes/no question Lo Jòrdi se presenta a las municipalas? ('Jordi is running for mayor?') produced by a speaker from La Cauna. The subject Lo Jòrdi is focalized; it constitutes its own phrase and presents the falling–rising contour L* H- conveying incredulity: the syllable Jòr- is realized in a low pitch, and followed by a sharp rise in the post-accentual syllable (H%). Then pitch decreases progressively until the rising L+H* H% nuclear configuration, which ends at a very high level. The verb presenta is partially de-accented: during the fall, pitch slope flattens somewhat on the stressed syllable -sen-, as it does on the unstressed syllables las and -ni-, marking a prominence at the foot level.

Fig. 6.18 shows an example of an incredulous echo yes/no question with a rising–falling intonational pattern on the matrix sentence. The first IP is an exclamative displaying the H+H* L% nuclear configuration, expressing disagreement (see §6.3.2.3). The focalized subject Jòrdi is separated from the matrix sentence by a prosodic break: after the fall on its accented syllable, a rise is aligned with the post-accentual syllable (H-). After this, pitch returns to a low level (aL), the verb presenta is de-accented, and the nuclear syllable -cions bears a rising L+H* accent, which reaches the highest pitch level in the utterance and is followed by a final fall to a low

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13 In Aranese, the high leading tone is necessary in order to contrast with the L* H% configuration of unmarked information-seeking yes/no questions. In other dialects, the low pitch throughout the accented syllable is enough to contrast with the unmarked rise L+H* H%.
level (L%), not visible on the figure because the last segment ([s]) is voiceless. This L+H* L% nuclear configuration is the same as in confirmatory echo questions, but here the speaker has fully understood what he has just heard; rather, the question expresses his surprise and doubt, conveyed by the expanded pitch range.
6.3.4.3 Confirmation-seeking yes/no questions When asking for a confirmation, Occitan speakers often employ the same rising contour that they use for information-seeking yes/no questions ((L+)H* L+H* H%). Their presupposition of the truth-value of the proposition is low in these cases. When it is higher, rising-falling intonational patterns may appear.

Fig. 6.19 shows an example of a confirmation-seeking yes/no question produced with a rising-falling contour by a Lengadocian speaker from Claravals-Bruéjols. Pitch starts at a low level and begins to rise at the onset of the pre-accentual syllable; the F0 maximum of the utterance is reached within the H+H* nuclear accented syllable. After this, pitch falls to a low level and the postfocal material is realized in a compressed range (L* L%).

The pitch height of the postfocal material depends on the speaker’s degree of certainty about the answer. The less certain he or she is, the higher the final pitch level. In the example of Fig. 6.20, the postfocal material is also realized in a compressed register, but the pitch level is not as low as in Fig. 6.19. Since this difference is gradual, the same phonological label is used for the final boundary tone (L%).

If the speaker is more certain about the response, he or she may also use an L+H* L% nuclear configuration: the rise is aligned with the accented syllable, and the final fall is often followed by a tag such as non? or è?, realized in a rising intonation L+H* H% (Fig. 6.21). This rising-falling configuration corresponds to the one found by Hualde (2003b; 2004) for all yes/no questions. In our data, yes/no questions realized with this contour always show a positive epistemic bias as in confirmation-seeking yes/no questions and echo questions asking for confirmation.
In Aranese, we documented a falling contour in confirmation-seeking yes/no questions that are headed by the unstressed particle *que*, thus coinciding with the contact language Catalan (see Chapter 2). As Fig. 6.22 shows, pitch starts at a high level (which we label %H following the Cat_Tobi proposal) and the whole prenuclear stretch is realized in a high plateau until the last prenuclear syllable; pitch falls in the
nuclear syllable and then remains at a sustained low level until the end of the utterance (H*L* L%).

6.3.5 Wh-questions

6.3.5.1 Information-seeking wh-questions As in the majority of Romance languages, wh-questions always show wh-movement in Occitan, that is, the wh-expression appears at the left periphery of the utterance, and, as shown in (2), subjects are normally dislocated out of the matrix sentence, either to the right as in (2.a), or to the left as in (2.b).

(2)  a. Quora tòrna, la Magdalena? When comes-back, the Magdalena?
    ‘When does Magdalena come back?’

   b. La Magdalena, quora tòrna? The Magdalena, when comes-back?
    ‘When does Magdalena come back?’

The wh-expression almost always bears an H* pitch accent, sometimes preceded by a Hi in long wh-phrases. After the wh-phrase, pitch falls throughout the utterance until the prosodic nucleus at the end of the matrix sentence.

Fig. 6.23 shows an example of the most frequent nuclear configuration: L* L%. The wh-phrase de qué bears an H* pitch accent, then pitch falls until the end of the matrix sentence and the dislocated subject pronoun tu is realized in a low tone.
In more emphatic wh-questions, the nuclear configuration may be L+H* L%, with a rise aligned with the nuclear syllable—the more emphatic, the higher the peak—followed by a final fall. Postnuclear material normally reproduces the nuclear configuration in a low compressed pitch range. Fig. 6.24 illustrates this rising–falling pattern.
The wh-expression may also be focalized in a cleft sentence, as in the example in Fig. 6.25. In this case, the wh-word Qui and the clitic-copula combination l'es are in accentual clash: this situation causes the wh-word to be de-accented and the copula to bear the nuclear H* pitch accent. There is a prosodic break after the copula, marked by a low boundary tone, and the following material is realized in a low compressed pitch range, with a reduced L+H* rising pitch accent on the syllable -jaa followed by a final fall to L.%.

6.3.5.2 Echo wh-questions Echo wh-questions are formally wh-questions, but pragmatically they are used like yes/no questions and can be answered by yes or no. (3b) and (3c) are equivalent: both can serve in the same context as an echo question asking if (3a) was the previous question.

(3) a. Ont anavas?
   Where you-went?
   ‘Where were you going?’

   b. M’ as demandat ont anavi?
      To-me you-have asked where I-went?
      ‘You asked me where I was going?’

   c. Ont anavi?
      Where I-went?
      ‘Where was I going?’
Intonationally, echo wh-questions adopt the same contours as echo yes/no questions, i.e. depending on the speaker’s degree of certainty about the response, the nuclear configuration may be rising L+H* H% (Fig. 6.26, low certainty) or rising–falling L+H* L% (Fig. 6.27, high certainty); the prenuclear stretch is often de-accented, or realized in a compressed pitch range.
6.3.6 Imperatives: commands and requests

6.3.6.1 Commands  One-word commands show a rising–falling H* L% contour, as in the first IP of the example in Fig. 6.28. In longer commands, the first prenuclear accent is H*, and may be preceded by an initial accent Hi. The height of the nuclear accent depends on how urgent the imperative speech act is: a sharp command ends in an H* L% (third IP in Fig. 6.28); a gentler one, in an L* L% (Fig. 6.29).

Fig. 6.28 Waveform, spectrogram, and F0 contour of the command Vène! È, zo! Vène aicí! ‘Come! Come on! Come here!’, produced by a Provençal speaker from Selhan

Fig. 6.29 Waveform, spectrogram, and F0 contour of the command Garnitz aqueth formulary ‘Fill in this form’, produced by a Gascon speaker from Aulon
Requests

The contour used in requests may be the same as in commands (H* L%) but is realized with a lengthening of the nuclear syllable, as in the first two phrases in Fig. 6.30. However, it is also possible to use the same H+H* L% or H+H* !H% nuclear configuration as in epistemically biased statements (see §6.3.2.3): in the last IP in Fig. 6.30, pitch rises from the beginning of the last prenuclear syllable to a peak within the accented vowel, and then falls towards a mid level at the end of the utterance.

In Aranese, another contour is possible in requests, identical to the one found in the contact languages, Catalan and Spanish (see Chapters 2 and 10 respectively): a low tone is associated with the nuclear accented syllable (L*) and is followed by a complex rising-falling movement (HL%). This is the only case in which a complex boundary tone may be used in Occitan. In Fig. 6.31, this contour appears twice. In the first phrase, Va!, the whole nuclear configuration is realized on the same syllable. By contrast, the second IP contains two syllables: the first one, Ve-, bears the L* pitch accent and the next syllable -ne is realized with a complex rising-falling movement.

Vocatives

Initial call

Only one type of vocative intonation is documented in the Occitan dialects spoken in France: a progressive rise to a peak within the accented vowel (H*) followed by a progressive fall to a low level reached at the end of the vocative (L%). This pattern is illustrated in Fig. 6.32.
Although vocative chants are found in all the languages with which Occitan is in contact, i.e. French, Catalan, Spanish, Piedmontese and Italian (see Chapters 3, 2, 10, and 5 respectively), surprisingly, in Occitan, this stylized intonation has only been documented in peripheral dialects, namely Aranese and Cisalpine. As Fig. 6.33 shows, they consist of a rise (L+H*) associated with the accented syllable, followed by an utterance-final plateau at a mid level (!H%).
Insistent call

Insistence is expressed prosodically through the use of a wider pitch range and lengthening of the accented and/or post-accented syllables. Fig. 6.34 shows the same vocative as Fig. 6.32 pronounced by the same speaker, but with more insistence. The peak reaches 418 Hz here while it reached only 287 Hz in the initial call; the duration of the accented syllable increases from 230 ms to 500 ms, and the
postaccentual syllable, from 400 ms to 570 ms. The same applies to vocative chants in the peripheral dialects.

6.3.8 Intonational analysis: summary

The Accentual Phrase (AP) is the basic unit for accentuation in Occitan. Its tonal structure is /(aL) (Hi) T*/. aL is an optional initial low boundary tone. Hi is an optional initial rise, frequently used to mark the left edge of a constituent, be it for contrastive or rhythmic purposes; its anchor point is not necessarily a lexically stressed syllable. T* stands for a pitch accent. For the moment, neither aL nor Hi has been documented in Aranese and Cisalpine, which seems to argue against the existence of the AP in these varieties. Their pitch accent bearing unit might be the prosodic word, but more research is needed to confirm this hypothesis.

Six types of pitch accents have been found in Occitan: L*, H*, L+H*, L+<H*, H+L*, and H+H*. Some of them present dialectal variation in their realization and use. Prenuclear accents are mainly rising (H* or L+H*) in all sentence types (though L* may emerge under specific tonotactic constraints after Hi); these accent types do not appear to contrast in this position. In Aranese, however, prenuclear accents are also rising but present a delayed peak (L+<H*). Aranese is the only dialect to display this pitch accent type, which it shares with its contact languages, Catalan and Spanish (see Chapters 2 and 10 respectively). L+<H* is in complementary distribution with L+H* and may be considered an allophonic variant of L+H*, with the peak spreading onto the next syllable in prenuclear position (see Chapter 10). However, the label L+<H* is retained in Oc_ToBI as well as Cat_ToBI and Sp_ToBI, as it is more surface-transparent and allows for cross-linguistic comparison.

The pragmatic meaning associated with an Intonational Phrase is expressed by the combination of a nuclear pitch accent and a boundary tone. Consequently, L*, H*, and L+H* are contrastive in nuclear position, and other pitch accent types may also appear, namely H+L* and H+H*. For instance, a sentence like Manja una banana, with a rising pitch accent on the verb Manja and a final L% boundary tone, may correspond to different utterance types depending on the nuclear pitch accent employed: L* in a broad-focus statement (4a); H* in a sharp command (4b); and L+H* in an exclamation or narrow-focus statement (4c).

(4) a. Manja una banana.
   L+H*  L%  'He or she is eating a banana.'
   L*

b. Manja una banana!
   L+H*  H%  'Eat a banana!'
   L*

c. Manja una banana.
   L+H*  L+H* L%  'He or she is eating a BANANA.'
H+L* is the typical nuclear accent in broad-focus statements in Cisalpine, whereas it appears in confirmation-seeking yes/no questions and in incredulous echo yes/no questions in Aranese. In Occitan dialects spoken in France, H+L* and H+H* convey an epistemic bias: the speaker expresses the idea that he or she regards one of the interlocutor’s beliefs as mistaken. These nuclear pitch accents have the particularity that they show a rise aligned with the pre-accentual syllable. The alignment of the peak at the onset (H+L*) or within the nuclear syllable (H+H*) relates to the strength of the disagreement: the earlier the peak, the more adamant the statement. Unlike what can be observed in Cisalpine or in Aranese, a low elbow (aL) is aligned at the onset of the pre-accentual syllable when there is no preceding initial rise (Hi).

Nuclear accents are followed by a boundary tone. In Occitan dialects spoken in France, only two monotonal boundary tones seem to be contrastive: L% and H%. However, a mid level boundary tone (!H%) is needed for Aranese and Cisalpine. It appears in vocative chants, which have not been documented in the Occitan dialects spoken in France, and also expresses continuation in Cisalpine. A bitonal falling boundary tone (HL%) is found in Aranese requests, as in the contact languages Catalan and Spanish (see Chapters 2 and 10 respectively). The use and realization of the nuclear configurations encountered in Occitan are described in Table 6.1.

### Table 6.1 Occitan nuclear configurations (Oc-F stands for Occitan dialects spoken in France, A for Aranese, and C for Cisalpine; no specification means that the use is general)

<table>
<thead>
<tr>
<th>Label</th>
<th>Schematic representation</th>
<th>Surface realization</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>L* L%</td>
<td><img src="image" alt="Diagram" /></td>
<td>Progressive fall to the end of the utterance</td>
<td>Finality in broad (Oc-F, A) and narrow (Oc-F) focus statements Postfocal sequences Information-seeking yes/no questions headed by es que (Oc-F) Information-seeking wh-questions Gentle commands</td>
</tr>
<tr>
<td>L+H* L%</td>
<td><img src="image" alt="Diagram" /></td>
<td>Rise in the nuclear syllable followed by a fall</td>
<td>Narrow-focus statements Exclamations Confirmation-seeking yes/no questions Emphatic wh-questions Echo questions (positive bias)</td>
</tr>
<tr>
<td>Intonational phonology of Occitan</td>
<td>231</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| H* L% | Peak in the nuclear vowel followed by a fall | One-word commands | Urgent commands | Vocatives |
| H+L* L% | Rise (or high plateau) in the preaccentual syllable and fall in the nuclear syllable | Categorical statements (Oc-F) | Exclamations (Oc-F) | Broad focus statements (C) | Confirmation-seeking yes/no questions (A) |
| H+H* L% | Rise in the preaccentual syllable to a peak in the nuclear vowel, followed by a fall | Statements of the obvious (Oc-F) | Exclamations (Oc-F) | Confirmation-seeking yes/no questions (Oc-F) | Requests (Oc-F) |
| L+H* H% | Rise in the nuclear syllable that continues until the end of the utterance | Continuation | Information-seeking yes/no questions | Echo questions (negative bias) |
| L* H% | Low pitch in the nuclear syllable followed by a rise | Information-seeking yes/no questions (mainly A) | Contrastive topic in incredulity echo yes/no questions (mainly Oc-F) |
| H+L* H% | Fall in the nuclear syllable followed by a rise | Incredulity echo yes/no questions (mainly A) |
| L+H* !H% | Rise in the nuclear syllable followed by a sustained mid level plateau | Vocative chants (A, C) | Continuation (C) |

(continued)
Conclusion

The aim of this chapter was to offer an overview of the intonational phonology of Occitan, making some preliminary observations regarding dialectal variation, and to establish guidelines for an Oc-ToBI transcription system for Occitan prosody. The main phrasing and intonational patterns have been described, and an inventory of phrasing constituents and an intonational lexicon have been presented. The prosodic system of Occitan is quite similar across dialects, at least for those spoken in France. However, Aranese, a subdialect of Gascon, and Cisalpine, a subdialect of Vivaro-Alpine, are in contact not with French but with other Romance languages: Aranese, with Catalan and Spanish; and Cisalpine, with Piedmontese and Italian. These different contact situations have led to the divergence of these peripheral subdialects with respect to the rest of the linguistic domain.

In Occitan, though stress position is lexically contrastive, not all syllables that are specified for lexical stress bear a pitch accent. The basic unit for accentuation, annotated with a break index of 2 in the transcription, is the Accentual Phrase (AP), similar to French (see Chapter 3). An AP is usually composed of one lexical word plus the clitics that accompany it. However, it may contain more than one lexical word, depending on syntactic, prosodic, and semantic constraints. It is obligatorily marked at its right edge by a pitch accent hitting its last stressed syllable (one of its last two syllables), and optionally at its left edge by a low boundary tone (aL) and/or an initial rise (Hi) that is not necessarily associated with lexical stress. The tonal structure of the AP is thus /(aL) (Hi) T*/, where T* stands for a pitch accent. More research is needed to check whether the AP is a relevant constituent in the prosodic hierarchy of Aranese and Cisalpine: these subdialects do not seem to display initial rises or phrase-initial boundary tones, and might have the prosodic word as accentuation unit.

Below the AP level, syllables are parsed into feet, which are not annotated in the break indices tier. However, as syllables specified for stress in AP-internal
lexical words generally correspond to the strong syllable of a foot, break index 1 is used to mark the right boundary of these unaccented lexical words. The IP is the highest level in the Occitan prosodic hierarchy, marked by final lengthening and a boundary tone at its right edge, and optionally by a pause. This unit, annotated with a break index of 4, bears the semantic-pragmatically most relevant contour, instantiated by the nuclear configuration (nuclear accent plus boundary tone). Whether an intermediate phrasing level between the AP and the IP is necessary cannot yet be determined, but break index 3 has been retained for prosodic boundaries perceived as somewhat weaker than the IP-final ones.

As far as intonation is concerned, the inventory of pitch accents is not the same in prenuclear and in nuclear position. Prenuclear pitch accents do not seem to be contrastive, and they are mainly rising in all dialects and in all sentence types: L+H* and H* are the most common (though L* may also appear). In Aranese, however, the default prenuclear accent is also rising but with a delayed peak (L+<H*) as in Catalan and Spanish (see Chapters 2 and 10 respectively). In nuclear position, where pitch accents—in association with boundary tones—convey different pragmatic meanings, L*, H*, and L+H* are contrastive, and other pitch accent types have been documented: an H+L* nuclear pitch accent is used in Cisalpine broad-focus statements and in some Aranese yes/no questions, and Occitan dialects spoken in France make use of H+L* or H+H* to express an epistemic bias (as do H+IH* and H+H* in French; see Chapter 3). There is no antepenultimate stress in Occitan and words with final stress are frequent, so little post-accentual material is available at the end of prosodic domains. Therefore, boundary tones are often merged with the nuclear pitch accent on the same syllable. This might explain why only two different types of monotonal boundary tone (L% and H%) seem to contrast in a majority of dialects of Occitan. However, Aranese and Cisalpine, which present a few cases of antepenultimate stress, display a greater variety of boundary tones: in these subdialects, an intermediate level (IH%) is used in a contrastive way in vocative chants, and Aranese even displays a bitonal boundary tone HL% in requests, as in its contact languages, Catalan and Spanish.

Although more research is needed to ensure the phonological status of all the categories proposed, the Oc_ToBI system presented here is suitable for an adequate prosodic annotation of all types of utterance attested in the dialects of Occitan, and will be a useful tool for cross-linguistic comparison.

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