Intonation in Basque

1. Introduction and review of the literature

As Gaminde (2000: 268-269) remarks, when we consider the pitch contours of simple neutral declarative sentences in Basque, we may find three quite different contours depending on the area (in varieties spoken in the central and western provinces). These are illustrated in Figure 1 with stylized contours and with the text in (1):

(1)  *alaba gaztea ikusi dut*
     daughter young see AUX
     ‘I have seen the younger daughter’

Basque is a verb-final language, although not strictly so. In neutral declarative sentences the word immediately preceding the verb bears the nuclear accent. The different contours that we find in Figure 1 are related to differences in word-level prosody among the dialects.

Both in Northern and in Southern Bizkaian dialects (contours (a) and (b), respectively, in Figure 1) there is a lexical contrast between unaccented and accented words. In the sentence given as an example, all words happen to belong to the lexically unaccented class. In such sentences, a single, nuclear, accent is assigned to the word in immediately preverbal position. The difference between the two systems is that in Northern Bizkaian there is, in addition, a phrase-initial rise, resulting in a high plateau up to the accented syllable, which bears a high-falling accent. In other dialects (Figure 1c), on the other hand, there are no lexically unaccented words or high plateaux in declaratives. All lexical words typically receive a pitch accent in such neutral sentences, as in Spanish. Contours like the one in Figure 1c can also be found both in Northern and in Southern Bizkaian in sentences where all words happen to belong to the accented class (as will be shown in section 2). The geographical distribution of these three intonational patterns is explored in Hualde, Elordieta, Gaminde & Smiljanic (2002).

In an area of western Navarre, including the town of Goizueta, we find a fourth main prosodic type. In Goizueta, every content word bears a pitch accent in neutral declaratives but, depending on the choice of lexical items, these accents may have different tonal shapes, rising or falling across the stressed syllable. In addition, focalized words may bear two accents, one on the stressed syllable of the stem and a second one on their final syllable (Hualde, Lujanbio & Torreira 2008).

Both in Northern Bizkaian and in Western Navarrese we thus find pitch-accent systems; that is, accentual systems where F0 contours depend in part on lexical specifications (the Southern Bizkaian type being typologically more ambiguous). These two prosodic systems are, however, substantially different. Briefly stated, whereas the Northern Bizkaian pitch-accent system resembles Tokyo Japanese, the Western Navarrese system is of the Swedish type. Nevertheless, there are reasons to believe that the two areas with lexical pitch-accent were historically connected and that this feature has been lost in the territory separating them in the last few centuries, as bilingualism has become more and more pervasive (Hualde 2007, see also Hualde 2003a, Elordieta & Hualde 2003b). In varieties without lexical pitch-accent, we find a number of different stress-accent systems of different degrees of complexity (for overviews see Hualde 1999, 2003b).

Nowadays virtually all Basque speakers are bilingual in either Spanish or French, and the present trend in the younger generations is towards simplification and
dephonologization of lexical prosodic contrast and the adoption of utterance-level prosody that is largely compatible with that of the majority language.

In this chapter we will examine two intonational systems. In section 2, we consider the intonational system of a pitch-accent variety, that of Lekeitio, on the Bizkaian coast. In section 3 we analyze the intonation that native speakers from the central area (Gipuzkoa) use in Standard Basque. The latter is a variety without word-level prosodic contrasts, where neutral declarative sentences have the basic pattern in Figure 1c. This variety has been chosen because of its social prominence. This is the form of Basque that one is most likely to encounter on radio and television and in materials for learning the Basque language.

Although it might have been interesting to also include Western Navarrese and Southern Bizkaian in this overview of Basque intonation, the fact is that not enough research has been conducted on the prosody of these dialects. In some Southern Bizkaian varieties, there is a class of unaccented words, as we have mentioned, and the pitch remains low up to the first lexically accented syllable, so that there can be several words in a row in a low pitch in declarative sentences, as shown in Figure 1b. These similarities and differences with respect to the northern varieties of the same province were first noticed in Hualde (1992, 1999) and instrumentally confirmed in Hualde, Elordieta, Gamindo & Smiljanic (2004). Gamindo (2003) is an instrumental study of the main declarative and interrogative patterns of a dialect of this type.

The “musical” character of the accent in some areas of western Navarre was pointed out by Ormaetxea (1918, 1958). Zubiri (2000) offers an analysis of the prosodic patterns of words in isolation in the variety of Goizueta, based on native-speaker intuitions. Hualde, Lujanbio & Torreira (2008) is an acoustic study of the correlates of stress and accent in Goizueta in declarative intonation, with some discussion of focus accent. Some of their findings (i.e. the existence of a lexical contrast in tonal contours on stressed syllables) were anticipated by Jacobsen (1975), who briefly describes a neighboring variety, Oiartzun, in Gipuzkoa, across the provincial border with Navarre. Oiartzun Basque appears to have undergone radical prosodic simplification since then. Ibarra (1995) describes word-level prosodic contrasts for another variety of this area.

We now turn to a consideration of the history and state of the art of research on the two prosodic types that are analyzed in sections 2 and 3.

In northern Bizkaian varieties, the study of sentence-level prosody cannot be strictly separated from word-prosody, given the tonal nature of the accent. Early descriptions of these prosodic systems were, in fact, in terms of high and low toned syllables and amount to descriptions of the intonational patterns of short declarative utterances. In the first such description, Azkue (1923, 1931-32) distinguishes between monotonic and ditonic words. He states that in monotonic words all syllables are stressed, whereas in ditonic words the last syllable is unstressed. If we replace “stressed” with “high-toned” we notice that Azkue’s is, in fact, a reasonable description of the contrast between unaccented (=monotonic) and accented (=ditonic) words, as they would be realized in neutral declarative intonation. Azkue’s description is especially valid if we also realize that he was basing his description on the dialect of Lekeitio, where almost all accented words are accented on the penultimate syllable (Hualde, Elordieta & Elordieta 1994).

At the beginning of a phrase, the initial syllable is also realized with a low tone, unless it bears the accent. This fact was first noticed by Basterrechea (1974-75) who offers a rather detailed description of the tonal patterns of words, phrases and sentences containing combinations of words with different lexical prosodic properties, all based on his perception as a native speaker of Gernika Basque. Jacobsen’s (1975) work is also
important in that he pointed out the crucial contrast between “unmarked words, which bear no accent at all, and marked words, which bear a tonal falling accent on a predetermined syllable” (p. 3). This terminology would be adopted by Michelen (1972), who is, however, rather vague regarding both word-level and sentence-level prosody. Hualde (1988, 1989, 1991) points out the surprising similarity of these Basque varieties with Tokyo Japanese, offering an autosegmental analysis (or related analyses) directly influenced by that of Haraguchi (1977) for Japanese. This work also included (limited) acoustic evidence that confirmed the essential correctness of earlier observations by Azkue and Basterrechea, which had been the object of much questioning and disagreement.


Intonational studies of varieties representing type (c) in Figure 1, that is, stress-accent varieties without a class of lexically unaccented words, begin with Jansen (1992), who examines word and sentence-level prosody in the western variety of Elgoibar. Gaminde & Hazas (1998) examine declarative patterns in the central variety of Zumaia and Gaminde (2000) analyzes declarative patterns in the western variety of Eibar. Elordieta (2003) examines the intonational patterns of another central variety that of Tolosa, in Gipuzkoa, and also of the Navarrese variety of Baztan, with has a different type of stress system (essentially penultimate stress) but a similar intonational system.

The intonational systems of the Basque dialects spoken in French territory remain understudied. Word-stress is lexically contrastive only the easternmost region, Zuberoa (see Larrasquet 1934, 1939, Lafon 1935, Michelen 1958, 1972, Hualde 1999). In other areas there a no contrast in word prosody. Gaminde (2000b) reports on the intonation of yes-no and pronominal questions, based on the speech of a speaker from Zuberoa.
By Northern Bizkaian Basque (NBB, hereafter) we refer to the local varieties of the Bizkaian dialect spoken in the north of the province of Bizkaia, along the coast from Getxo to Ondarroa and extending inland in a band of 15-20 miles. Thus, NBB is spoken in the northwestern corner of the Basque speaking area (see map in Appendix A). The local varieties that comprise NBB are used in everyday communication, but are not taught at school, where Standard Basque is the dialect of instruction.

The general description of the intonational phonology of NBB provided in this paper builds on previous descriptions on this subdialect of Bizkaian by Hualde et al. (1994), Elordieta (1997, 1998, 2007a,b,c), Jun and Elordieta (1997), Gaminde et al. (1997), Elordieta et al. (1999), Hualde et al. (2000), Gaminde (2000c), Hualde et al. (2002), Ito (2002a,b, 2003), Ito et al. (2003), among others, as well as on our own analysis of data specifically designed to elicit the main intonational features of NBB. Since there are almost as many local varieties as towns in the NBB-speaking area, for practical reasons in this paper we will focus on the local variety of Lekeitio as a representative of NBB, as it is undoubtedly the best-studied variety and one which can hence offer the most solid results and conclusions. Besides, the intonational phonology of other local varieties of NBB do not seem to differ (based on our impressionistic observations and on previous work) from the one of Lekeitio, except for the fact that word-level prominence may fall earlier in the word in other varieties, and hence there may arise timing differences in the accentual fall, that is, in the alignment of the L tone of the H*+L pitch accent. This is an interesting aspect that deserves to be analyzed in detail, in a comparative study across varieties.

The data we gathered specifically for this article consists of read speech and narrative speech. The read sentences contained combinations of unaccented and accented words, in one or two phrases preceding the verb in the following sentence types: simple declarative sentences, declarative sentences with subordinate clauses and parenthetical clauses, absolute and wh-questions, imperative sentences and exclamative sentences. Since describing the effect of focus was also an objective, we included sets of

![Figure 1](image-url)
sentences that were answers to wh-questions and sets of sentences that contained a word or constituent in contrastive or corrective focus, as a reaction to a previous statement or question. Since synthetic verbs may differ from periphrastic verbs in their prosodic behavior with respect to the previous word when they are unaccented and are preceded by unaccented words, about a third of the declarative sentences contain synthetic verbs. A total of 333 sentences composed the questionnaire, which was read twice by two female native speakers of Lekeitio Basque (41 and 35 years old, respectively), thus providing a total of 666 sentences x 2 speakers = 1332 sentences. For the first time in the study of Basque intonation, in this paper we analyze the prosody of semi-spontaneous speech, of a free rendition of Little Red Riding Hood, so as to confirm the general aspects of NBB intonation found for read speech in a more natural type of speech.

In our transcriptions we modify standard Basque orthography to better reflect the actual pronunciation of Lekeitio Basque. In particular, we use the grapheme \(dx\) to transcribe a voiced postalveolar obstruent (a sound not found in Standard Basque), which is realized as an affricate after pause and noncontinuant consonants and as a fricative elsewhere. This phoneme for the most part corresponds to Standard Basque \(j\) (a voiced palatal approximant); e.g. St. Bq. \(\text{joan} \ '\text{go}'\), Lek. Bq. \(dx\text{un}\). It is also an epenthetical consonant separating /i/ from another vowel certain morphological domains (always realized as a fricative in this intervocalic context); e.g. St. Bq. \(\text{mendia} \ '\text{the mountain}'\), Lek. Bq. \(m\text{endi}dx\).

2.2. Word-level prosody: Accented and unaccented words

In NBB there is a lexical distinction between unaccented and accented roots, stems and affixes, like in Japanese (cf. Poser 1984, Pierrehumbert and Beckman 1988, Haraguchi 1991, Kubozono 1993, among others). An accented root or affix is sufficient to render an accented word, which surfaces with prominence on a non-final syllable in all contexts (cf. Hualde, Elordieta and Elordieta 1994:52-55, for an extensive list of accented roots and affixes in Lekeitio Basque). In most NBB varieties, the syllable preceding the leftmost accented morpheme surfaces with main prominence, as illustrated in (2) below for the Gernika variety (accented morphemes are indicated by an apostrophe in the underlying representation on the left, and by an acute accent mark in the surface representation on the right). In Lekeitio and Ondarroa, it is almost always the penultimate syllable that is accented (cf. Hualde et al. 1994, Hualde 1997, 1999, Elordieta 1997, 1998), as also shown in (2) (in Markina, the most common pattern in accented words is antepenultimate, Hualde 2000):\(^1\)

(2) a. \(\text{sagar} \ '-\text{ata} \ '-\text{tik} \ → \ Gernika: sa.gá.rра.tа.tik \ ‘from the apples’\)
   \(\text{apple-plur.loc.-abl.} \ → \ \text{Lekeitio: sa.ga.rre.tá.tik} \ ‘from the apples’\)

b. \(\text{léku} \ '-\text{ata} \ '-\text{ra} \ → \ Gernika: lé.kу.e.ta.ra \ ‘to the places’\)
   \(\text{place-plur.loc.-all.} \ → \ \text{Lekeitio: le.ku.e.tá.ra} \ ‘to the places’\)

A combination of unaccented roots and affixes produces unaccented words (except in compounding, where even if the members are unaccented the compound word may be accented). All utterances must bear at least one accent. That is, nuclear

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\(^1\) The following abbreviations will be used: \(\text{abl} = \text{ablative}, \text{abs} = \text{absolutive}, \text{all} = \text{allative}, \text{aux} = \text{auxiliary}, \text{com} = \text{comitative}, \text{dat} = \text{dative}, \text{erg} = \text{ergative}, \text{gen} = \text{genitive}, \text{ines} = \text{inessive}, \text{loc} = \text{locative}, \text{pl} = \text{plural}, \text{sg} = \text{singular}$.}
accent assignment is obligatory. In pragmatically neutral declaratives, the nuclear accent falls on the phrase immediately preceding the verb. If this phrase is composed exclusively of lexically unaccented words, an accent is assigned to the last syllable of this phrase in Lekeitio and most other NBB varieties (but to the penultimate in Ondarroa and Markina). Words in isolation are also assigned an accent if they are lexically unaccented. This accent is called derived accent in Jun and Elordieta (1997), to distinguish it from the lexical accent of accented words. In all other contexts, unaccented words do not surface with any kind of prosodic prominence on any syllable. Thus, observe the behavior of the unaccented word laguna ‘the friend’ in (3), corresponding to the Lekeitio variety (henceforth Lekeitio Basque, LB). This word is composed of the unaccented root lagun ‘friend’ and the unaccented singular determiner -a. Prosodic prominence is indicated by an acute accent mark. The different word orders in (3a-d) are due to the flexible word order of Basque, constrained by topic and focus or theme-rheme structures. That is, (3a-d) differ in information structure (rheme constituents are underlined).

(3) a. umiágas laguná etorri da
   child-com.sg. friend-abs.sg. come aux
   ‘The friend has come with the child’

b. laguná etorri da umiágas
   friend-abs.sg. come aux child-com.sg.
   ‘The friend has come with the child’

c. laguna umiágas etorri da
   friend-abs.sg. child-com.sg. come aux
   ‘The friend has come with the child’

d. umiágas etorri da laguna
   child-com.sg. come aux friend-abs.sg.
   ‘The friend has come with the child’

e. *laguná umiágas etorri da

f. *umiágas etorri da laguná

2.3. Sentence-level prosody: prosodic structure

The unaccented/accented distinction is directly relevant for the intonational phrasing in NBB. Prominence is realized as a H*+L pitch accent, on the syllable that is phonologically associated with accent. As already mentioned above, accented words will always bear stress in any position in the sentence, whereas unaccented words only display a H*+L pitch accent if they are immediately left-adjacent to the verb, i.e., when they bear derived accent. The intonational pattern that arises is the following: the sentence starts with an initial low tone (%L), immediately followed by a rise phonologically associated to the second syllable of the first word. A high pitch level is maintained until a H*+L pitch accent, whether of an accented word or an unaccented word with derived accent. The fall usually starts at the beginning of the vowel in the accented syllable, and reaches its target at the end of the following syllable or beginning of the next. In the following word, the same contour is observed: an initial low tone on the first syllable, a rise on the second syllable, a high pitch level maintained until
another H*+L accent, and a fall corresponding to this accent. Thus, a cycle of low tone, rise, plateau and H*+L pitch accent is observed. The intonational units or constituents with this shape are identified by Elordieta (1997, 1998) as Accentual Phrases (APs). Jun and Elordieta (1997) and Elordieta (1998) show that APs consist of an initial %L boundary tone, a phrasal H tone (H-) on the second syllable, and a H*+L pitch accent. The phrasal H tone on the second syllable spreads phonologically if there are other syllables before the accented syllable. Schematically, the tonal structure of an AP is (%L H- H*+L) (cf. also Hualde et al. 2002), or alternatively, (Lα Hα H*+L), in Gussenhoven’s (2004) notation, where α stands for AP.

Figures 2-3 illustrate the general shape of APs in NBB, corresponding to (4a-b), respectively. Figure 2 is an example of a sentence containing three unaccented words before the verb; from an IP-initial %L there is a rise on the second syllable, reaching the peak on the third syllable, and the H tone continues until the H*+L pitch accent on the final syllable of the third word (i.e., the one immediately preceding the verb, with the derived accent). The pitch drops on the verb until the end of the utterance. Fig. 3 contains three accented words, each of them with their corresponding H*+L pitch accent. Due to downstep, the second peak is smaller than the first one, and the third peak is smaller than the second one, in a ladder-type configuration (with a larger difference between the first two peaks; cf. Elordieta 1997, 1998, Jun and Elordieta 1997 for details and more pitch tracks):

(4) a. \[\text{AP}\{%L H- H*+L\}\]
\[
\text{Maribin umien biberoiá gustaten dxáko}
\]
\[\text{Maribi-gen child-gen.sg. bottle-abs.sg. like aux}
\]
\[\text{‘(S)he likes Maribi’s child’s bottle’}\]

b. \[\text{AP}\{%L H*+L\} \text{AP}\{%L H*+L\} \text{AP}\{%L H-H*+L\}\]
\[
\text{Amáien umíen baberúak gustaten dxákos}
\]
\[\text{Amaia-gen child-gen.pl. bib-abs.pl. need aux}
\]
\[\text{‘(S)he likes Amaia’s children’s bibs’}\]

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2 Jun and Elordieta (1997) found that in APs up to four syllables long the peak of H- is reached on the second syllable, and in APs more than fours syllables long it was reached on the third syllable. This H- is not phonetically realized when the second syllable is associated to a pitch accent.
APs are contained in a hierarchically higher intonational constituent, the Intermediate Phrase (ip). An ip is diagnosed by the blocking or decrease in downstep. As Elordieta (1997, 1998), Jun and Elordieta (1997) and Elordieta et al. (1999) showed, downstep applies across APs (i.e., an H*+L accent in an AP is downstepped with respect to the H*+L accent in the preceding AP), but this process is blocked or significantly diminished at least at the left edge of a syntactic maximal projection. This effect of syntactic structure on prosodic phrasing in NBB is evidenced by the following pair of examples. The sentence in (4b) (repeated below as (5)) is composed of one syntactic phrase, containing three accented words. The sentence in (6) is composed of two syntactic phrases, the first of which contains two accented words and the second of which contains one accented word (syntactic structure is indicated by square brackets). Each accented word in the two examples is contained in an AP (prosodic structure is indicated by round brackets). We observe in figures 3-4 that whereas in the sentence in (4b)/(5) downstep applies to the second and third accents (cf. Figure 3), in the sentence in (6) the second accent is downstepped with respect to the first one, but the third accent has a peak with almost the same height as the second one (cf. Figure 4):
The blocking or reduction of downstep coinciding with the left edge of a syntactic maximal projection was analyzed in the work mentioned above as an indication of the presence of a prosodic boundary aligned with the left edge of a syntactic maximal projection. Such a boundary belongs to an intonational constituent of a higher order than an AP, namely an Intermediate Phrase (ip) (the alignment of edges of syntactic maximal projections with edges of prosodic constituents such as Phonological Phrases or Major Phrases is discussed in Selkirk 1986; Selkirk and Tateishi 1991; Truckenbrodt 1995, 1999, among others).

When the first syntactic phrase contains only one accented word, however, downstep is not blocked but applies onto the following syntactic phrase, as shown in Elordieta (1997, 1998), Jun and Elordieta (1997) and Elordieta et al. (1999). That is, no ip-boundary separates the two phrases. Elordieta (2001, 2007c) argues that a minimal size constraint holds of ips starting an utterance or an Intonational Phrase in LB, demanding that an ip must contain at least two APs (i.e., two words with a pitch accent). If a syntactic phrase contains only one accented word, the ip that this syntactic phrase would be mapped onto would not be well-formed, and hence no ip boundary is inserted in these cases. This is evidenced in Figure 5, corresponding to the sentence in (7):

(7)    [abadiári] [monagillúen biárrak] emon dótzes
       priest-dat.sg. altar boy-gen.pl. work-abs.pl. give aux
       ‘They have given altar boys’ chores to the priests’
Apart from the phrasing cue, no tonal cues of ips are found in NBB, i.e., there are no particular boundary tones or pitch accents found at the edges of ips.

When the syntactic phrase preceding the phrase bearing the nuclear stress ends in an unaccented word, reduction or blocking of downstep will not be an ip-boundary cue, because an unaccented word does not have an accent, and hence the pitch accent in the following phrase will not be downstepped. As for other types of cues, in our data no boundary of any sort was perceived in utterances with the shape U-U, U-UU, U-A, U-UA, U-AA or U-AU before the verb, that is, utterances in which the first syntactic phrase contains an unaccented word. The high pitch level reached with the phrasal H- or H\(\alpha\) in the unaccented word spreads onto the following word, crossing the syntactic phrase boundary. In U-UU cases, the pitch level is maintained up to the H\(^*\)+L pitch accent of the third word, that is, the unaccented word immediately preceding the verb. An example is illustrated in Figure 6, corresponding to sentence (8). There is no pitch movement between the last syllable of the word Beleneri in the first syntactic phrase and the initial syllable of the word alabien in the second syntactic phrase.

(8)  [Beleneri] [alabien ensaladia] gustaten dxáko
Belen-dat daughter-gen.sg. salad-abs.sg. like aux
Belen likes her daughter’s salad’
We only found four utterances in our corpus with perceptible breaks after syntactic phrases ending in unaccented words. They were of the UU-U or UU-UU type, that is, utterances where the first syntactic phrase contains two unaccented words. The boundary was not intonational in nature, but segmental. In Basque (and in Spanish), syllable-initial underlying voiced stops are pronounced as approximants when they occur in intervocalic position and in most postconsonantal contexts, both word-internally and in word-initial position. This lenition of underlying voiced stops can apply across APs; the initial /b/, /d/ or /g/ of a word is pronounced as an approximant when the preceding word is accented and hence an AP-boundary occurs between the two words. Thus, in sequences such as libúru gorridxa ‘red book’ (lit. book red) or basérri dotoria ‘nice farmhouse’ (lit., farmhouse nice), the word-initial /g/ and /d/ of gorridxa and dotoria are articulated as approximants, across the AP-boundary created by the accent in the preceding words. On the other hand, after nasals and in absolute word-initial position (i.e., at the beginning of a conversational turn or after a pause), underlying voiced stops are pronounced as stops. In three utterances of the UU-U type and one utterance of the UU-UU type, the word-initial voiced stop of the word starting the second phrase was pronounced as a stop rather than as an approximant. One of these utterances is presented in (9), and its pitch contour is shown in Figure 7. The initial /b/ of the word biberoiá in the second phrase is pronounced as a stop. Notice, however, that no intonational break can be observed between the two syntactic phrases; rather, the pitch level from the last word in the first phrase is maintained onto the second phrase.

(9) [Maribin umiari] [biberoiá] gustaten dxáko
Maribi-gen child-dat.sg. feeding bottle-abs.sg. like aux
‘Maribi’s child likes the feeding bottle’

These four utterances constitute a minority among the UU-U and UU-UU utterances (4 out of the 12 utterances), but they are worth reporting in any case, because they allow drawing the conclusion that an intonational boundary higher than an AP may exist between two syntactic phrases in the absence of an accent, when the first phrase contains at least two words. Since the boundary is not strong enough to belong to the IP level (see the discussion below), we have to conclude that the boundary is of the ip level. However, as we have seen, the presence of such a boundary is not obligatory, but subject to variation. In fact, in our data it is more common to pronounce those
sequences with a high tone plateau without any kind of segmental cue that may lead to the perception of a boundary.\textsuperscript{3}

Evidence that the Intonation Phrase (IP) exists in NBB as an intonational constituent higher than the ip and lower than the Utterance can be found at the right edge of adjunct subordinate clauses and also at the left and right edges of parentheticals. There are several cues of IP-boundaries. Most of the cues we will discuss are of non-final IPs, that is, not the rightmost IPs in utterances. One of the cues is an upwards shift in pitch level. Adjunct clauses preceding their matrix clauses and which are not focalized themselves or do not contain focalized information always end in a lower pitch level than the one at the start of the matrix clause. That is, the F0 value at the start of the matrix clause is always higher than the one at the end of the adjunct clause which precedes it, and hence there is partial pitch reset across the boundary between adjunct and matrix clauses. However, it is not total pitch reset, as the pitch level at the start of the matrix clause is not higher than the one at the start of the adjunct clause. This can be observed in Figure 8, corresponding to the sentence in (10). The pitch level of the %L or αL of the first AP in the matrix clause after the adverbial clause is higher than the pitch level with which the adverbial clause ends. That is, the pitch level at the beginning of dendára is higher than the pitch level at the end of gero.

(10) su ondarrera dxún da gero, dendára dxun naix errekadútan.
     you beach-all. go and later store-all. go aux shopping-for
     ‘After you left to the beach, I went to the store to do the shopping’

Another cue of an IP boundary is final lengthening, as the final syllable of the adjunct clause may be lengthened. However, final lengthening does not always appear

\textsuperscript{3} Jun and Elordieta (1997) and Elordieta (1998) found that for some speakers, in sequences of four or more unaccented words certain dips in pitch can be observed between two unaccented words. These authors take these dips to be AP-boundaries, in the absence of H*+L pitch accents. However, the dips were difficult to perceive and were much smaller than regular drops after H*+L pitch accents. Apart from being speaker-dependent, the factors conditioning these breaks were not very well established; desire for heaviness reduction and slower rate of speech were suggested as factors involved in the insertion of these breaks, but no systematic study has been carried to date to prove these claims. This issue deserves specific attention in future work.
at the right edge of an IP. Another cue to non-final IP boundaries that is found sometimes is a continuation rise, which varies in degree of magnitude. We would characterize this final rise as a H% boundary tone. Figure 9 contains a pitch contour of an utterance in which the final syllable of the adjunct clause ends in a small continuation rise (and is also lengthened). It is the same sentence as in (10), uttered by another speaker:

\[\text{Fig 9 su ondarrera dxún da gero, dendára dxun nas errekadútan} \quad \text{‘After you left to the beach, I went to the store to do the shopping’}\]

Such continuation rises are more common and also clearer in narrative discourse. (11) constitutes a portion of the telling of Little Red Riding Hood by one of the speakers. As Figure 10 shows, there is a clear continuation rise at the end of danian, signaling the boundary between the adjunct clause and the main clause:

\[
\begin{align*}
(11) & \quad [\ldots] \text{allagáten danian, dxóten dau timbría} [\ldots] \\
& \quad \text{arrive-part. aux-ines. ring-part. aux doorbell-abs.sg.}
\end{align*}
\]

‘[…] when she arrives, she rings the doorbell and tells her…’

\[\text{Fig 10 allagáten danian, dxóten dau timbría} \quad \text{‘when she arrives, she rings the doorbell’}\]
Continuation rises are also found in lists, in the cross-linguistically common pattern known as ‘list intonation’.

Falls can also be a cue to non-final IPs. In narratives it is quite common to find falls to a mid level at the end of non-final IPs, substantially higher than the speaker’s baseline. The pitch track in Figure 11 illustrates such mid-level falls at the end of the word ending the adjunct clause, *dagóles*. The pitch level they fall to is rather high compared to the level of the final fall at the end of the rightmost IP (152 Hz vs. 116 Hz). Such middish pitch endings are rather salient perceptually. Since a L% does not seem satisfactory to capture such non-final falls, perhaps we can suggest as a tentative solution that a M% or a downstepped !H% boundary tone could be invoked. We leave a more solid answer to this issue for further research.

(12)  […] amúma gaixorik dagóles, dxútuko bisitxáten bera.
  grandmother-abs.sg. ill be-as, go-imper. visit-part. her
  ‘[…] that since her grandma is ill, she should go visit her’

![Figure 11 amúma gaixorik dagóles, dxútuko bisitxáten bera ‘since her grandma is ill, she should go visit her’](image)

Pauses are also another cue to an IP-boundary. They are more common in narratives, as we can observe in Figure 11 above, or at the left and right edges of parentheticals in our read speech corpus. Figure 12 is one example, corresponding to the sentence in (13).

(13)  nebien lagunári, dirua emon dotzenári, gordéteko dirua esan dótze.
  brother-gen.sg. friend-gen.pl. money-abs.sg. give aux.dat.spl. keep-to money-abs.sg. tell aux
  ‘To my brother’s friends, the ones they have given money to, they have told them to keep the money’
Parentheticals also display the IP cues mentioned above. Thus, there is final lengthening at the end of the portion of the matrix clause they are inserted after, and also at the end of the parenthetical. Pauses and final lengthening therefore indicate that parentheticals constitute independent IPs. Parentheticals also display partial pitch reset at the left edge of the parenthetical with respect to the end of the constituent it adds to, as can be observed in Figure 12. The pitch level at the beginning of the parenthetical (at the beginning of the word *dirua*) is higher than the one at the end of the constituent to its left (at the end of the word *lagunari*), although it is not higher than the pitch level at the beginning of the first IP (i.e., there is no total pitch reset). After the parenthetical, there is also pitch reset at the beginning of the continuing matrix clause, as the pitch level is higher than the one at the end of the parenthetical. In our data, however, the F0 value at the beginning of the continuing matrix clause was very close to the F0 value at the beginning of the parenthetical. That is, the initial F0 values were very similar, and this may lead to the conclusion that there is total pitch reset after a parenthetical, especially taking into account the effect of declination. And certainly in most examples we found a higher pitch level for the words and pitch accents in the IP after the parenthetical, whereas the overall pitch level of the accents in the parenthetical is lower than the level in the IP preceding it, i.e., in the portion of the main clause it adds to. This can be observed in Figure 12 as well. However, this may be due to the fact that in our data the words starting the IP after the parenthetical received the nuclear prominence in the whole utterance (they are the words immediately preceding the main verb), and hence their pitch level may be boosted up slightly to convey nuclearity. A specific experiment with parentheticals followed by APs which are not nuclear would elucidate whether there is total or partial pitch reset after a parenthetical.

The final small continuation rises found in our corpus of read-speech adjunct clauses are also found in almost all our examples containing parentheticals, both at the end of the IP preceding the parenthetical and at the end of the parenthetical. Figure 12 above shows small final rises at the end of the words *lagunári* and *dotzenári*.

An interesting aspect of parenthetical clauses is that they introduce a pitch accent on the penultimate syllable of unaccented words at the right edge of IPs. Thus, in Figure 13 a fall can be observed on the final syllable of the words *umiari* and *dxakonari*, which are underlingly unaccented (cf. (14)). After those falls, a rise follows.
Apart from parentheticals, final fall-rise sequences are also found in narratives in NBB, at the end of non-final juxtaposed sentences. In these cases, the rise may be larger, to indicate continuation within a narrative. The following F0 track in Figure 14 illustrates such an ending at the right edge of dago, an underlyingly unaccented synthetic verb which should not have a final fall on its final syllable:

(15) Sóis amumaána. Gaixorik dago, da sartúngo (do)tzuras otzáran.
    go-imp. grandmother-all. ill is and putin-part aux basket-in.
    ‘Go to grandma’s. She is ill, and I will put them in the basket’.

![Figure 14](image-url)
The fall-rise sequence could be analyzed as a sequence of $H^*+L$ and $H\%$. An alternative analysis would be to interpret those falls and rises in the final syllables of IPs as complex boundary tones, $LH\%$. At this point, we have no means of deciding between the two alternatives. However, one can find precisely this kind of falls and rises in IP-final syllables to express continuation in narratives in the variety of Standard Basque spoken by Central Basque speakers (cf. section 3.4, Fig. 53). In Standard Basque there are no accents in the final syllables, so such falls and rises may be attributed to final complex $LH\%$ boundary tone.4

The last intonational cue of IPs in NBB is the final fall at the end of declaratives. We assume that there is a $L\%$ boundary tone at the end of the last IP in declaratives. We leave a discussion of the final boundary tones of interrogatives for section 2.5.1, when we present the main intonational aspects of interrogative sentences.

2.4. Intonation of declarative sentences

Many of the main intonational features of declarative utterances in NBB have already been presented in the previous section, where we have discussed the prosodic groupings that can be observed in neutral utterances with one or two phrases preceding the verb. The issue of main prominence remains to be discussed, however. Basque is a language in which focus plays a decisive role in word order choices and prosodic prominence, so we deal with this issue in the next two subsections.

2.4.1. Word order and its relationship to focus

Basque is a free word-order language, but only a word contained in the syntactic phrase immediately preceding the verb can receive main prosodic prominence, in all types of focus structures. Thus, while (16a–d) are grammatical, (16e–j) are not. (16a) displays the word order of neutral or broad focus sentences, with the order SOV. The direct object contains two words, both of which have an accent, and in broad focus utterances the leftmost word surfaces with the highest peak and the second accent is downstepped. (16b–d’) are sentences with a word in contrastive narrow focus, indicated in capital letters (syntactic constituency is indicated by square brackets). Any of the two words in the direct object can be the most prominent word in the utterance if the direct object is the phrase immediately preceding the verb (cf. (16b–c’); (16b’–c’) are sentences with the same meaning but with the syntactic phrase conveying old information in postverbal position). In order for the subject to receive nuclear accent, it has to appear left-adjacent to the verb (cf. (16d); (16d’) is a semantically equivalent sentence, with the syntactic phrase bearing known information in postverbal position). Sentences (13e–j) are ungrammatical because they have words with nuclear prominence without them being in the preverbal syntactic phrase. In (16e–g) those words appear two syntactic phrases to the left of the verb, and in (16h–j) they appear postverbally.

(16) a. [Kóldok] [lagúnen liburúak] emon nitxus.
   Koldo-erg. friends-gen books-abs give aux
   ‘Koldo has given me the friends’ books’

   b. [Kóldok] [lagúnen LIBURÚAK] emon nitxus.
   ‘Koldo has given me the friends’ BOOKS’

---

4 Although not in our data, it is our impressionistic observation and the first author’s native intuition that adjunct clauses can also end in a $LH$ tonal sequence on the final syllable. If so, the sequence $LH\%$ would be a more general cue of non-utterance-final IPs in NBB (utterance-final IPs end in a $L\%$ boundary tone).
It is important to point out, however, that postverbal focus can be observed in narrative discourse. In NBB it is ungrammatical to answer to a wh-question with postverbal focus, for instance, or to have postverbal corrective or contrastive focus, but in narratives it is possible to find postverbal foci (cf. Ortiz de Urbina 2002). Most often, such postverbal foci occur separated from the rest of the utterance by a pause or clear intonational break, signaled by a continuation rise at the end of the verb and final lengthening (cf. Figure 15, for sentence (17)). They may also occur without a pause or final lengthening, as illustrated in Figure 16, for sentence (18), but the preceding verb must end in a continuation rise. That is, postverbal focus is always signaled intonationally. Postverbal foci are more common in Gipuzkoan and Navarrese varieties, as well as in the variety of Standard Basque spoken by native speakers of these dialects.

(17) derrepénte topáten dau, otzuá.
   suddenly find aux wolf-abs.sg.
   ‘(she) suddenly runs into the wolf’
2.4.2. Prosodic aspects of focus

In broad focus, when the preverbal constituent contains more than one word with an accent (i.e., when the rightmost word in the phrase is preceded by one or more lexically accented words in the same phrase, as in the utterances in (16a) or (19) below), it is not straightforward to tell which of the accents is the nuclear accent in the utterance. As mentioned above, the leftmost accent has the highest peak and the second accent is downstepped. Most native speakers we have consulted are not sure about which of the two is the more prominent one. Some speakers feel that the first word is more prominent (as reported in Elordieta 2003), but they also feel that the second word also has some prominence. Some speakers even respond that the whole phrase sounds prominent to them. An example is provided in Figure 17, for the sentence in (19):

(19) lagúnen amúma etorri da.
    friend-gen.pl. grandmother-abs.sg. arrive aux
    ‘The friends’ grandmother has arrived’
In narrow focus, *lagúnen* and *amúma* can be pronounced standing out as the most prominent word in the utterance under narrow focus by boosting their pitch levels and having pitch reduction after them. The word *lagúnen* would stand out even more than in broad focus. Cases like these are the most straightforward ones, and we will not provide illustrations here. We refer the reader to Elordieta (1997, 2003, 2007a), where several examples can be found. We will concentrate in cases in which the second accented word is focalized. Figure 18 illustrates an F\(_0\) contour of a rendition of sentence (20) where the word *amúma* is focalized. In this example, the focalized word presents a higher pitch level (a higher peak) than in broad focus utterances (thus canceling downstep), followed by a decreased pitch level in the rest of the material in the sentence (cf. Elordieta 1997, 2003 for examples and F\(_0\) contours, and Elordieta 2007a for a description of the phonetic realization of this type of cases). The focalized word is often accompanied by higher intensity and longer duration.\(^5\) It is important to point out that this realization is more typical of emphatic contrastive or corrective focus, and does not obtain so commonly in narrow non-contrastive focus, that is, in utterances that constitute answers to wh-questions. In fact, in non-contrastive narrow focus or non-emphatic speech most speakers often produce contours which are intonationally very similar to broad focus utterances, without any perceptible mark that highlights the focalized word.

(20) *lagúnen AMÚMA etorri da.*  
‘The friends’ GRANDMOTHER has arrived’

---

\(^5\) Although the results in Elordieta and Hualde (2001, 2003) showed that lengthening applied to words in corrective focus, it must be pointed out that in those utterances speakers were instructed to put special emphasis on those words. In other recordings in which speakers were not told to put emphasis on the correction, I have observed that lengthening did not occur significantly. It seems that a specific experiment is needed to clarify the role of lengthening as a cue of corrective focus, which we leave for future research.
The blocking or reduction of downstep is the major cue of an ip boundary. Hence, we must conclude that a word or phrase that constitutes narrow focus (especially contrastive or corrective focus) introduces an ip boundary to its left.

It is also important to point out that for some speakers a second type of realization of narrow focus on the second word involves peak delay on the first word (i.e., on the first accent), accompanied in some instances by a continuation rise. This strategy signals old information or topic status for that word. Because the first word is already marked as nonfocal, the second word does not need to have a higher than normal peak in order to be identified as the focalized word. Its accent presents a regular downstepped pitch level with respect to the first accent. This can be observed in Figure 19, corresponding to the sentence in (21). In this sentence, the word immediately preceding the verb is lexically unaccented but receives a derived accent by virtue of its preverbal position, but the same pattern is observed when the word is lexically accented. The first accent has its peak delayed: the peak is reached at the end of the posttonic vowel instead of at the beginning of the accented vowel, as is usually the case in H*+L pitch accents in NBB. The second word does not present a higher pitch than the first word. This type of strategy can be found in non-contrastive or non-corrective narrow focus as well, unlike the strategy described in the previous paragraph.6

(21) lagún\(\text{en}\) AMÁ etorri da.  
friend-gen.pl. mother arrive aux  
‘The friends’ MOTHER has arrived’

The delayed peak and/or continuation rises are indicators of the presence of a boundary between intonational constituents of a higher order than APs, and we take them to be ip boundaries. Native speakers’ intuitions about these breaks are that they are

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6 Ito et al. (2003) already observed for some speakers of Lekeitio Basque delayed peaks at the end of prefocal words, after which a bigger pitch level on the focalized word is not necessary. However, their data involved cases of corrective focus. The patterns presented in this paper show that it is possible to find such delayed peaks in non-corrective narrow focus as well. Other non-intonational strategies of main prominence that can be observed in these contexts are higher intensity and duration on the focalized word. It is important to notice that under more neutral conditions the only consistent correlate of accent is pitch (Hualde, Smiljanić & Cole 2000, Elordieta & Hualde 2001, 2003).
not boundaries of the highest order, i.e., IP boundaries. In sum, narrow focus introduces an IP boundary at the left edge of the focalized word or phrase.

In addition to the syntactic restriction on narrow focus in NBB mentioned above (i.e., that a word in narrow focus must be contained in the preverbal syntactic phrase), there are prosodic conditions that a word bearing the narrow focus information must fulfill in order to be intonationally singled out. The minimum requirement is that the narrowly focalized word must bear a pitch accent, either lexical or derived. In NBB, focus does not insert accents that are not already there lexically or by virtue of a preverbal position. Thus, a lexically unaccented word which is the narrow focus of an utterance but which is not in the position that grants a derived accent cannot be made more prominent intonationally. In a sentence such as (22), the leftmost lexically unaccented word lagunen cannot receive main prominence even though it is the narrow focus of the sentence, contrastive or non-contrastive, because it does not have a pitch accent. This word has to be pronounced in an AP with the following word, without a pitch accent (cf. Figure 20).\footnote{In a few instances, the word can be pronounced with bigger intensity and duration. Elordieta (2007a,b) also obtained a small number of cases in which a word in a position similar to lagunen in (22) surfaced with a higher pitch level followed by a fall in pitch for the following word. We did not get any such cases in our corpus, so this possibility must be rather infrequent and subject to interspeaker variation as well. Further research with more speakers and more tokens of this prosodic condition would be necessary in order to determine how often these strategies can be used.}

\begin{center}
(22) lagunen amúma etorri da  
friend-gen.sg. grandmother-abs.sg. come aux  
’the friend’s grandmother has arrived’  
[with lagunen bearing the narrow focus of the utterance in discourse]
\end{center}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure20.png}
\caption{lagunen amúma etorri da  \textit{‘The friend’s grandmother has arrived’} [with lagunen bearing the narrow focus of the utterance in discourse]}
\end{figure}

The impossibility observed in NBB of assigning main prominence to a word in narrow focus if it does not have a lexical or derived accent is interesting from a typological point of view as well. Nothing similar is found in neighboring languages such as Spanish or French, or in Indo-European languages in general. In Spanish or English, for instance, lexically unstressed words such as prepositions, possessive pronouns, conjunctions or first members of compounds can be stressed and bear the most prominent accent in the utterance in situations in which they convey contrastive focus (cf. Hualde 2007).

If the second word is intended to bear narrow focus in discourse, two possible patterns are found, subject to interspeaker and intraspeaker variation. The most common
pattern is to pronounce the two words in the preverbal syntactic constituent in the same pitch level, in the same AP. The contour observed in these instances is similar to the one illustrated in Figure 20 (cf. Figure 21, for the sentence in (23)). So what is the difference with sentences such as (20) or (21), in which the second word is made unambiguously the most prominent in the utterance? The difference is that in (20) and (21) the words amúma and amá are preceded by a lexically accented word, the genitive plural lagúnen ‘of the friends’, whereas in (23) the word amúma is preceded by the lexically unaccented genitive singular lagunen ‘of the friend’, which does not get a pitch accent. Thus, the intonational difference is that in (20) and (21) the two words in the preverbal phrase are in two separate APs (cf. the underlying intonational structure in (24), corresponding to sentence (20), whereas in (23) there is only one AP (cf. the underlying intonational structure for this sentence represented in (25)). As (25) shows, the first unaccented word starts an AP, with the initial %L H- tone sequence, but since it does not have a pitch accent, it does not end an AP, and the phrasal H- tone spreads onto the next word, until the H*+L accent of amúma ends the AP.

(23) es, lagunen amúma etorri da
    no, friend-gen.sg. grandmother-abs.sg. come aux
    ‘No, the friend’s grandmother has arrived’
    [with amúma bearing the narrow focus of the utterance in discourse]

Fig. 21. es, lagunen amúma etorri da ‘No, the friend’s grandmother has arrived’
    [with amúma bearing the narrow focus of the utterance in discourse]

(24) AP(%L H*+L) AP(%L H*+L)
    lagúnen amúma etorri da

(25) AP(%L H- H*+L)
    lagunen amúma etorri da

Thus, there seems to be a constraint that demands that only words which constitute APs by themselves can be made intonationally prominent. That is, bearing a pitch accent is a necessary but not a sufficient condition for standing out intonationally. In cases of two words with accent, such as the ones in (20) or (21), each word constitutes its own AP, and can thus be singled out intonationally. But in cases in which the first word is lexically unaccented and does not get a derived accent, there is no AP boundary separating it from the second word, and hence the second word does not
constitute an AP by itself. Rather, it continues the AP that the first word started, and hence none of the words can be intonationally singled out.

Less frequently, a word which follows an unaccented word and is intended to bear narrow focus can be singled out intonationally. One of the strategies in these cases is a continuation rise at the end of the word preceding the focalized word, followed by a drop in pitch and a subsequent rise at the beginning of the focalized word, indicating that a new AP starts. The rise at the end of the first word cannot be due to a pitch accent (as the word is unaccented), so it must be a boundary tone signaling old or known information. We can analyze this boundary tone as an IP boundary tone, as the boundary is not felt as strong as an IP boundary. Figure 22 illustrates this kind of contour, for the sentence in (23) rendered by another speaker. In our corpus, only one utterance out of twelve with the same prosodic condition showed this type of contour, but Elordieta (2007a,b) obtained a more significant number of cases. We must thus conclude that this pattern is speaker-dependent.

**Fig. 22.** *es, lagunen amúma etorri da* ‘No, the friend’s grandmother has arrived’  
*with amúma bearing the narrow focus of the utterance in discourse*

A second possibility of making a word following an unaccented word stand out prosodically is to produce the accent of the word bearing narrow focus with a peak that is clearly higher than the pitch level of the phrasal H-tone. No boundary is inserted between the two words, and hence they are pronounced in the same AP, but the H*+L accent is made more prominent. This strategy was found for one of the speakers only. Figure 16 illustrates this possibility, for the same sentence as in (23):

**Fig. 23.** *es, lagunen amúma etorri da* ‘No, the friend’s grandmother has arrived’  
*with amúma bearing the narrow focus of the utterance in discourse*

Elordieta (2007a,b) reports another type of contour in which a word like *amúma* can be highlighted intonationally, by having a sustained pitch at the end of the unaccented word, followed by a rise in pitch level on the focalized word (other non-
intonational features such as higher intensity may also surface). We did not get such contours in our corpus.

Since a word with an accent following an unaccented word can be highlighted intonationally, the constraint that demands that a word is singled out only if it constitutes an AP by itself is too strong. It appears that for some speakers at least a word in narrow focus that has a pitch accent (lexical or derived) can be intonationally highlighted, even if it does not constitute an AP by itself. Bearing a lexical or derived accent may thus be a sufficient condition in order to be assigned focal prominence. Elordieta (2007a,b) calls these speakers ‘less restrictive speakers’, in comparison to ‘more restrictive speakers’ that only highlight words that constitute APs by themselves. But a constraint that must be obeyed by all speakers of NBB is that no accent can be inserted on a word that is underlyingly unaccented even if it is a contrastively focalized word. Only lexically unaccented words that get a surface or derived accent because they occur immediately preceding the verb can be highlighted prosodically, precisely because they carry an accent. Elordieta (2007b) offers an analysis of the interplay of these constraints in formal terms, in the framework of Optimality Theory. For reasons of limit of space, we cannot reproduce his analysis here, but we refer the interested reader to that article.

Let us summarize in the following table the intonational restrictions on the prosodic realization of narrow focus in NBB, with the reminder that these patterns are all more common in contrastive or corrective focus than in non-contrastive focus.

(26) Table summarizing the intonational restrictions on the realization of narrow focus

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(a) \[ H^*+L \, H^*+L \, H^*+L \, H^*+L \]

\[ \text{AP(Accented)} - \text{AP(Accented)} - \text{Verb} \]

More restrictive speakers: Both words can be made stand out, because they form their own APs.
Less restrictive speakers: Both words can be made stand out, because they have a pitch accent.

(b) \[ H^*+L \, H^*+L \]

\[ \text{AP(Accented)} - \text{AP(Unaccented)} - \text{Verb} \]

More restrictive speakers: Both words can be made stand out, because they form their own APs.
Less restrictive speakers: Both words can be made stand out, because they have a pitch accent.

(c) \[ H^*+L \]

\[ \text{AP(Unaccented--Accented)} - \text{Verb} \]

More restrictive speakers: Neither word can be made stand out, because they do not form their own APs.
Less restrictive speakers: The unaccented word cannot be made stand out, because it does not have a pitch accent. The accented word can be made stand out, because it has a pitch accent.
More restrictive speakers: Neither word can be made stand out, because they do not form their
own APs.
Less restrictive speakers: The first unaccented word cannot be made stand out, because it does
not have a pitch accent. The second unaccented word can be made stand out, because it has
a pitch accent.

We will finish this section by discussing verb focalization. As in other
languages, verb focalization can be of two types in Basque. On the one hand, it is
possible to emphasize the realization of the event expressed by the verb, in the present,
past, or future. This is expressed by assigning main prosodic prominence to the verb:

(27) bai, alabia DXÚN da.
    yes daughter-abs.sg. go aux
    ‘Yes, the daughter HAS gone’

Figure 24 illustrates an F0 contour of sentence (27):

![F0 contour of sentence (27)](image)

Fig. 24. bai, alabia DXÚN da ‘Yes, the daughter HAS gone’

It is interesting to compare the contour in Figure 24 with that in Figure 25,
corresponding to a broad focus declarative sentence with main prominence on the
preverbal word:

(28) alabiá dxun da.
    daughter-abs.sg. go aux
    ‘The daughter has gone’
In synthetic conjugations (see section 2.4.3), a positive polarity prefix \textit{ba-} is added to the synthetic verb.

\begin{equation}
\text{(29) \quad \text{bai, laguna BADATÓR.}}
\end{equation}

\textit{yes friend-abs.sg. 3abs.sg.-come}

‘Yes, the friend \textit{IS} coming’

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image25}
\caption{\textit{alabiá dxun da} \textit{‘The daughter has gone’}}
\end{figure}

The other type of verb focalization is one in which the semantic content of the lexical verb contrasts with that of another verb. This type of verb focalization is expressed by assigning main prosodic prominence to the verb and adding the emphatic dummy verb \textit{eiñ ‘do’} (cf. Figure 27).

\begin{equation}
\text{(30) \quad \text{es, alabia DXÚN eiñ dda.}}
\end{equation}

\textit{no daughter-abs.sg. go do aux}

‘No, the daughter has GONE (e.g., ‘she has not come’)

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image26}
\caption{\textit{bai, laguna BADATÓR} \textit{‘Yes, the friend \textit{IS} coming’}}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image27}
\caption{\textit{es, alabia DXÚN eiñ dda} \textit{‘No, the daughter has GONE (e.g., ‘she has not come’)}
\end{figure}

2.4.3. Synthetic verbs

Synthetic verbs in NBB have a special prosodic property that sets them apart from periphrastic verbs. Synthetic verbs are single phonological words, formed by agglutinating prefixes and suffixes to roots of a handful of verbs, most of them
intransitive (cf. section x of Hualde and Ortiz de Urbina 2003). Some examples from NBB are the following:

(31) a. lengusúa da-tor-Ø
cousin-abs.sg. 3abs.-come-sg.
‘The cousin is coming’

b. etxian na-go
house-ines. 1abs.-be(loc.)
‘I am at home’

c. ondarrerá d-óia-s
beach-all. 3abs.-go-pl.
‘They are going to the beach’

d. dana d-aki-gu
all 3abs.-know-1pl.erg.
‘We know everything’

Periphrastic conjugations are formed by two phonological words: the verbal participle, which contains the root of the verb and a participle-forming suffix such as -i, -tu, -ko, or -tzen, and the inflected auxiliary, which contains the root of one of the intransitive or transitive auxiliary verbs plus prefixes and suffixes bearing information of argument (subject, direct object or indirect object), person, number, tense, and mood. A prosodic difference between synthetic verbs and periphrastic verbs is that unaccented words preceding unaccented synthetic verbs do not surface with an accent in their final syllable. That is, unaccented synthetic verbs do not assign a derived accent to preceding lexically unaccented words. Hence, the unaccented word and the synthetic verb are pronounced in the same AP, given the absence of an accent delimiting the right edge of an AP. Figure 28 illustrates this type of contour, for sentence (32). The high pitch level is maintained across the two words, and only falls at the end, on the final syllable of the synthetic verb. Observe the contrast with the contour in Figure 29, for sentence (33), a periphrastic counterpart of (32), where the preverbal word does receive an accent in its final syllable, as the fall at the onset of the vowel in the final syllable shows.

(32) laguna datór.
friend-abs.sg. 3abs.sg.-come
‘The friend is coming’

(33) laguná etorri da.
friend-abs.sg. 3abs.sg.-come
‘The friend has come’
When the synthetic verb has an accent, however, the preceding lexically unaccented word does surface with an accent, as in example (31c) above, where the underlyingly unaccented word ondarrera ‘to the beach’ is accented in its final syllable, preceding the accented synthetic verb dóias.

2.5. Intonation of interrogative sentences
2.5.1. Yes/no questions

Yes/no questions in NBB are characterized by having a higher pitch register than declaratives. That is, the most prominent accent in yes/no interrogatives shows a higher F0 value than in declarative sentences, as well as the rest of the utterance, including the ending point (i.e., the final F0 value is higher than that of declaratives). The final syllable is lengthened substantially. Yes/no questions may end in a fall, like in declaratives, or in a rise, although less typically and only among the younger generations (perhaps under influence from Spanish yes/no questions). The falls and rises occur on the final syllable (except if the last word is accented, in which case the fall will have already started on the penultimate syllable, as is the norm for accented words). Since an unaccented word may end a yes/no question, the fall cannot be due to a H*+L accent, as there is no verb to the right of the unaccented word that can assign a derived accent to it. Hence, we must conclude that the fall is due to a final %L, like in declaratives. In turn, the rise must be due to a final H% boundary tone. Figure 30 illustrates a sample F0 contour of a yes/no question such as (34). In this utterance, main prominence falls on the verb, that is, the verb is the narrow focus of the question (this is the unmarked situation in yes/no questions). The two unaccented words following it do not have accents, as they occur in postverbal position. The pitch level after that fall from the verb is maintained throughout the rest of the utterance, and falls at the end, on a
lengthened final syllable. Figure 31 illustrates a yes/no question with a final rise, for the same sentence.

(34) allagá da ama Madridera?
arrive aux mother-abs.sg. Madrid-all.
‘Has the mother arrived to Madrid?’

Fig. 30 allagá da ama Madridera? ‘Has the mother arrived to Madrid?’

Fig. 31 allagá da ama Madridera? ‘Has the mother arrived to Madrid?’

2.5.2. Wh-questions

In wh-questions, the wh-word has the most prominent accent in the utterance. After it, there is a substantial fall and a decrease in pitch level, as it usually happens after focalized words. Like yes/no questions, wh-questions may end in falls or rises. Final falls are more common, but younger generations produce wh-questions with final rises. The overall pitch level of wh-questions seems to be higher than that of declaratives, but not as high as that of yes/no questions (we leave for further research a specific study measuring pitch register differences among sentence types). And with final falls, the final syllable is not longer than at the end of a declarative. With final rises, however, it is. Figure 32 illustrates a wh-question with a final fall, and Figure 33 illustrates an example of the same wh-question with a final rise and a final lengthened syllable.

(35) nún erosí dau amúmak arraña?
where buy aux grandmother-erg. fish-abs.sg.
‘Where has your grandmother bought the fish?’
2.6. Intonation of imperative sentences

Imperative sentences are characterized by starting with the most prominent accent in the utterance, on the verb, followed by a reduced pitch range. A special property of exclamatives is that they introduce an accent in the verb, even if it is lexically unaccented. An example is provided in Figure 34, for sentence (36).

(36) émon erregalúa umiari!
    give present-abs.sg. child-dat.sg.
    ‘Give the present to the child!’

2.7. Intonation of exclamative sentences

Exclamatives have very similar contours to imperatives. They start with an initial prominent accent, which is followed by a reduced pitch range. Figure 35 illustrates a typical F0 contour, for the exclamative sentence in (37).
2.8. Summary

The only pitch accent in the variety of Northern Bizkaian Basque described in this section (Lekeitio) is H*+L. This accent is present on the penultimate syllable of accented words (lexically specified to bear an accent) and on the final syllable of lexically unaccented words bearing the nuclear accent in the sentence. In pragmatically neutral declaratives, the nuclear accent falls on the phrase immediately preceding the verb. The accent that lexically unaccented words receive by virtue of preceding the verb is therefore not lexical but derived (cf. Jun and Elordieta 1997).

Three levels of intonational constituency have been identified for this variety of NBB: Accentual Phrases (APs), with the intonational shape L H- H*+L, are composed of a word with an accent (lexical or derived) and one or more unaccented words to the left of this accented word, if any. The phrasal H- accent is phonologically associated to the second syllable, akin to the phrasal H tone of Tokyo Japanese (cf. Pierrehumbert and Beckman 1988). Intermediate Phrases (ips) contain one or more APs, and the main intonational cue is that downstep is reduced or blocked at their left edge. The left edges of ips are aligned with the left edges of syntactic maximal projections. As shown by Elordieta (2007c), syntactic phrases at the left edge of Intonational Phrases have to contain at least two APs in order to be mapped as ips. Otherwise, the words in that syntactic phrase form part of an ip with the following phrase. Intonational Phrases (IPs) contain one or more ips. Nonfinal IPs are cued by final lengthening, pauses, continuation rises (H%), fall-rise ending movements, which might be analyzed tentatively as due to complex LH% boundary tones, and falls to a mid pitch level, which could be analyzed as !H% or M% boundary tones. After nonfinal IPs there is also partial pitch reset. Final IPs end in falls, due to L% boundary tones.

Words that constitute the narrow focus of a sentence (especially contrastive narrow focus) show a higher peak and a reduced pitch range after them. However, only words bearing an accent (lexical or derived) may be prosodically highlighted. For some speakers, this is a necessary but not a sufficient condition, as only words that constitute their own APs may be singled out intonationally (cf. Elordieta 2007a,b).

Yes-no interrogatives are characterized by a higher pitch register, final falls (L%) or rises (H%, found only among the younger generations), and final lengthening. Wh-questions are characterized by a nuclear accent on the wh-word and a depressed pitch range on the following material. Most often they end in falls, although the younger generations may also produce final rises, accompanied by final lengthening.
Exclamatives and exhortatives display very similar contours: an initial prominent accent on the first word, followed by a reduced pitch range.

3. Standard Basque

3.1. Introduction

Standard or unified Basque (euskara batua) was developed by the Basque Academy in the 1970’s. Although originally intended as a written standard, Standard Basque has also become an oral variety, through its use in the media and the school system. For the most part, Standard Basque is a fusion of two preexisting literary traditions, on each side of the Spanish/French political border, Literary Gipuzkoan and Literary Lapurdian. This standard variety has been extremely successful and, at present, it has a large number of speakers, both native speakers of local Basque varieties who have been schooled in Standard Basque and speakers of Basque as a second language. In many areas, the local variety and Standard Basque are merging in the spoken usage of the younger generations. Other native speakers of Basque, however, keep the local variety and Standard Basque as separate codes with only minimal interference. Since native Basque speakers are generally also fluent in Spanish or French, this results in a complex sociolinguistic situation.

It appears that the pronunciation (or “accent”) of Standard Basque with the greatest social prestige nowadays is that of native speakers of Gipuzkoan Basque. This is the Standard Basque “accent” that we examine here. That is, the speakers whose prosody we describe in this section are native speakers of Gipuzkoan Basque who have been educated in Standard Basque. These speakers may be more or less able to switch from something very close to the written standard to a form of speech with more of a dialectal or local flavor, but without noticeable changes in their intonational patterns, whereas, for instance, some speakers of coastal Bizkaian who are also fluent in the standard variety have quite different prosodic patterns when they speak in Standard Basque and when they speak in their local dialect (Elordieta, Gaminde & Hualde 1998).

One segmental feature of the prestige pronunciation of standard Basque is the consistent contrast between the two voiceless fricatives orthographically represented as $s$ and $z$ (apico-alveolar and lamino-alveolar, respectively), a contrast that has been lost in the local dialects of all of Bizkaia and parts of Gipuzkoa. At the segmental level, something must also be said about the pronunciation of the grapheme $j$. In the pronunciation selected by the Academy, this grapheme represents a voiced palatal, but in all traditional Gipuzkoan varieties it corresponds to a voiceless velar fricative. The result is that Gipuzkoan speakers of Standard Basque often alternate between these two pronunciations. For instance, $jan$ ‘eat’ may alternate between /jan/ and /xan/ for these speakers.

The description offered in this section will be of a qualitative nature, given the state of our knowledge. There are no previous studies of the intonation of this variety, although Elordieta (2003) includes qualitative information on the intonational patterns of a Gipuzkoan variety, that of Tolosa. Since, as mentioned, Gipuzkoan Basque serves as substratum for the Standard Basque “accent” that we describe here, we may expect the patterns of both varieties to be reasonably similar.

The examples of F0 contours given in this section come from recorded speech from two female speakers. The recordings included both sentences of different types that the participants were asked to either read in Basque or translate from Spanish and a free rendition of Little Red Riding Hood. The read/translated corpus is based on a list of 121
sentences (read twice by both speakers, for a total of 484 recorded tokens), including simple neutral declaratives, declaratives with narrow focus, complex declaratives, parenthetical sentences, interrogatives, imperatives and exclamatives. The list is shorter than the one we used to elicit the Northern Bizkaian data discussed in section 2 because standard Basque lacks the contrast between accented and unaccented words and sentences with periphrastic and synthetic verb forms do not show any important differences. The generalizations that we make are based not only on these data but also derive from the authors’ familiarity with this variety of the language.

3.2. Word-level prosody: Stress and stress phrases

Unlike Lekeitio Basque, described in section 2, and many other local Basque dialects, Standard Basque does not have word-level contrastive prosody (Hualde 1997: 142-147, Gamide 2005). In the Gipuzkoan varieties that serve as substratum to the standard “accent” that we describe here, stress most commonly falls on the second syllable of the word, but there are a number of contexts and lexical exceptions where stress is initial instead. These exceptions with initial stress differ somewhat depending on the local dialect and may include some grammatical classes, such as plural nominals and imperfective participles (e.g. gizónai ‘to the man’ vs. gizonai ‘to the men’, ikusi ‘seen’ vs. ikusten ‘seeing’, see Hualde 1997, 1999, 2003). In general, contrastive stress, in Gipuzkoa as elsewhere, is a recessive feature that is being lost in the speech of the younger generations of speakers. In the Standard Basque pronunciation described here, stress is usually placed on the second syllable of the word or phrase (e.g. eperra ‘the partridge’, galépera ‘the quail’, lagün ‘friend’, alargun ‘widow’, emakumea ‘the woman’, emakumearentzat ‘for the woman’, garagardoa ‘the beer’, izugarria ‘frightful’, gure lagunak ‘our friends’, otso gaiztò bat ‘a bad wolf’), but it may also (noncontrastively) occur on other syllables, especially the first or the third. In particular, bisyllabic words often have initial stress when the uninflected stem ends in a vowel or is monosyllabic (we separate stem from inflection with a hyphen: mártxan ‘walking’, kòntu-z ‘carefully’, neskà ‘the girls’, lurr-a ‘land’, ardó gorrià ~ árdo gorrià ‘rosé wine’). Longer words may have initial stress as well provided that the stem is either monosyllabic or is bisyllabic and ends in a vowel: lúr ‘land’, lurrèrera ~ lurrèrera ‘to the land’, lurrétara ~ lurrétara ‘to the lands’; neskà, neskari ‘to the girl’. Initial stress is generally not found when the uninflected stem has more than one syllable and ends in a consonant: lúu mendì ~ lúu méndi ‘four mountains’ vs. lúu gizón, lúu gízon ‘four men’.

On the other hand, in words whose stem has four or more syllables stress may sometimes be placed on the third syllable. Figures 36-37 offer examples of the word garagardo ‘beer’ produced with different stress patterns, garagardo and garagardo. Stress is primarily manifested by the anchoring of H pitch-accent, with a rise over the stressed syllable (the peak may occur in the next syllable, see 3.3). Frequently, syllables bearing a pitch accent also show greater intensity and increased duration (as yet there is no published quantitative study on the phonetic correlates of stress in this Basque variety).
Whereas the overall intonational contours of Standard Basque are not very different from those of the Spanish varieties with which it is in contact (in the brains and mounds of its speakers, all of whom are bilingual), the rules of word-stress placement are clearly different. In addition, the fact that the same word may anchor pitch accents on different syllables (even on different repetitions by the same speaker) without any contrast in meaning constitutes an important phonological difference between the two languages.

With some frequency, the last syllable of a word or short phrase also carries prominence: *otsóarekín* ‘with the wolf’, *txistúlariák* ‘the flutists’ (Txillardegi 1984, Hualde 1997). The second of these accents may be best characterized as an edge-accent or edge-tone (see Welby 2006 for French early rises). We may thus define an accentual phrase as the domain where a pitch accent and an optional (right-)edge accent are assigned. The accentual phrase will normally only contain a single syntactic word, which may be followed by a clitic, including conjugated verbal forms.

(38) Accentual phrases
   a. *emákumedak* ‘the women’
   b. *emákumeak eré* ‘the women too’
   c. *emákumeak dirá* ‘it is the women (lit. the women are)’
Two short words in the same syntactic phrase, such as a noun and a following adjective may optionally be grouped in a single accentual phrase, in which case the second word will bear an edge-accent instead of a pitch-accent:

(39)  
   a. (gizón) (edérra)  ‘a handsome man’
   b. (gizón ederrá)     ‘a handsome man’

A compound name like Txano Gorritxo ‘Little Red Riding Hood’ thus admits all of the following stress patterns: Txáno Gorrítxo, Txanó Gorrítxo, Txanó Gorritxó. The last pattern results from grouping both words in a single accentual phrase, with a pitch accent on the second syllable and an edge-accent on the last syllable of the compound.8

3.3. Declarative sentences

As mentioned above, in Basque the most important information is normally placed in immediately preverbal position where it receives the nuclear accent of the sentence (Altube 1932, 1934). When the preverbal constituent contains more than one accent, it is difficult to know which one of them should be considered nuclear. For instance, in the example in Fig. 38 gúre lagúnak galdú du ‘our friend has lost it’, both words in the preverbal constituent, gúre lagúnak ‘our friend-ERG’ bear a pitch accent. The first of the two accents in the preverbal noun phrase shows a greater excursion, but this is expected from general rules of downstep.

Fig. 38. gúre lagúnak galdú du ‘our friend lost it’

our     friend.ERG lose AUX

Pitch-accent in neutral declaratives are generally rising from a valley at the beginning of the stressed syllable. We may thus use the notation (L+H)* to characterize these pitch movements. As in Spanish and many other languages, the peak of a rising accent may occur on the posttonic syllable. This is especially true of initial, prenuclear accents. There is not enough evidence for postulating early and late rises as distinct phonological categories. We will rather assume that early and very late peaks may result from the presence of a following boundary tone.

Contrastive focus may differ from new information focus in having an expanded range, as we can see in Fig. 39, where the word alába ‘the daughter’ is being contrasted. The accentual peak may is also be retracted under narrow focus, falling within the

8 On the other hand, Txáno Gorrítxó appears to be excluded or at least less likely. This may be related to the fact that retraction of the stress to the initial syllable conveys greater emphasis on the word, which would preclude its prosodic grouping with the following word.
stressed syllable. Following accents may be reduced or eliminated. In narrow-focus sentences, the overall contour is thus similar to what is found in English and Spanish. As has been proposed for these languages we may analyze the circumflex accent of focalized words as resulting from a phrasal L- tone following the pitch accent (L+H)*. Irurtzun (2003) proposes the notation H* for a broad focus accent and H*+L for narrow focus accent for a Gipuzkoan variety.

If the phrase in preverbal position contains more than one word, we may have contrastive focus on only one of the words. Examples are given in Fig. 40 GARÁGARDO epela edan du ‘s/he drank lukewarm BEER’ and Fig. 41 AMÓNAREN etxera zijoala ‘that she was going to GRANDMA’s house’. In both examples contrastive focus is signaled by a prominent circumflex accent (L+H)*L- and deaccenting or reduction of tonal prominence on following words.
On the other hand, if a non-phrase-initial word in the preverbal syntactic phrase bears contrastive focus, preceding words in the syntactic phrase can be marked as old information (topic) by means of a final rise, and the focalized word will also carry a circumflex (L+H)*L- accent, as in Fig. 37 above: garagárdo H. EPÉLA edan du ‘s/he drank LUKEWARM beer’.

In Fig. 42, gúre lagunaren ALÁBARI eman diogu ‘we gave it to our friend’s DAUGHTER’, the first two words in the preverbal syntactic constituent (gure lagunaren ‘our friend’s’) are given or repeated information. The tone rises on the stressed initial syllable of the phrase and remains high to the end of the topic, suggesting that a process of phonetic interpolation takes place between the accentual and the phrasal H tones. The contrastively focalized word alábari bears a downstepped circumflex (L+H)*L- accent.

Syntactic phrases preceding the phrase with nuclear accent will have the status of topics, separated by a high boundary tone H-. In Fig. 43 gúre lagúnaren alába edérrari H. urrézko erázuna emángo diot ‘I will give the gold ring to our friend’s beautiful daughter’, the nuclear accent falls on the first word of urrézko erázuna ‘a gold
ring’. The preceding phrase, *gúre lagúnaren alába edérrari* ‘our friend’s beautiful daughter’, is a topic. Within each of the two phrases pitch-accents are downstepped.

Fig. 43. *gúre lagúnaren alába edérrari, H- urrézko eráztna emango diot* L%

our friend.G daughter beautiful.D golden ring give AUX

‘I will give the gold ring to our friend’s beautiful daughter’

An exception to the rule that the nuclear accent falls on the preverbal constituent is found when the verb itself is focalized. In Fig. 44 *LAGÚNARI emán diogu* ‘we gave it TO THE FRIEND’ and Fig. 45 *lagúnari EMÁN diogu* ‘we DID give it to the friend’ the same text is used with preverbal and verbal focus respectively. In Fig. 45, where the nuclear accent falls on the verb, the word *lagúnari* ‘to the friend’ is a topic, which as in other examples we have seen, is signaled by a high boundary tone H-.

Fig. 44 *LAGÚNARI emán diogu* ‘we gave it TO THE FRIEND’

friend.D give AUX
New information focus (e.g. in answer to a pronominal question) does not significantly differ in its realization from contrastive (corrective) focus. Phrases conveying new information may also occur postverbally, as in Fig. 46 *azaldu zitzaión otsóa* ‘then she saw THE WOLF’ (literally: ‘the wolf appeared to her’, cf. Sp. ‘se le apareció el lobo’). Although postverbal focus is a marked strategy, it is frequent in narratives.

The different combinations of focus and topic-marking that we have mentioned are illustrated in Figs. 47-50 with the sentence ‘the friend arrived late’. In Fig. 47 *LAGÚNA etórri da berándu* ‘THE FRIEND arrived late’, the word *lagúna* ‘the friend’ bears narrow focus, which is signalled by a circumflex (LH*)L- accent and range reduction of following accents.
In Fig. 48 and 49 we can observe two renditions by two different speakers of *lagúna BERÁNDU etórri da* ‘the friend arrived LATE’. In this example the word *lagúna* ‘the friend’ is marked as a topic and the preverbal element, *berándu* ‘late’ receives a circumflex accent.
Finally, in Fig. 50, lagúna etórri da BERÁNDU ‘the friend arrived LATE’, the focus is postverbal and a boundary H- at the end of lagúna etórri da ‘the friend has arrived’ (which displays a high plateau from the first accentual rise) marks all preceding information as given.

Fig. 50 lagúna etórri da H. BERÁNDU ‘the friend arrived LATE’

The main restriction is thus that a focalized constituent may not occur before the preverbal position: *LAGÚNA berandu etorri da ‘THE FRIEND arrived late’.

3.4. Continuation contours

Final declaratives, as is commonly the case crosslinguistically, end with a fall. We can see this in all figures above. Nonfinality or continuation may be signaled by a sustained tone on the last syllable, without the fall that characterizes declaratives at the end of a turn. In this continuation contour the final syllable can be greatly lengthened. Examples of this continuation contour are given in Fig. 51 bazuén amóna bá: H%, basóan bizi zena: H% ‘she had a grandmother, who lived in the forest,...’ Notice that both phrase-final syllables are considerably lengthened. Another example also containing two continuation contours is given in Fig. 52 eta ordúa:n H. ba txanó gorrítxo: H. ‘and then, well, Little Red Riding Hood...’.

Fig. 51. Bazuén amóna bá:1 H%, basoan bizi zena:1 H%
She-had grandma one forest.I live AUX.C
‘she had a grandmother, who lived in the forest,’
A fall followed by a rise to a mid level (LH%), both within the elongated final syllable, also expresses continuation within a narrative. An example is given in Fig. 53 *Ta basoan zióla*, ‘and as she was walking in the forest,’

A third possibility to indicate continuation is a rise to a high point at the end of the phrase, H%, starting from a valley at the onset of the last stressed syllable as in Fig. 54 *Txano Gorritxúk jantzi zuen bere txano gorria*, ‘she put on her red riding hood’.
A scooped accent with a valley (L*) in the stressed vowel followed by a rise indicates insistence, rather than continuation, as in Fig. 20 ámak esan zión baiétz ‘her mother said of course’

Parentheticals are separated by rising of the pitch at the phrasal boundary and vowel lengthening. Words are often realized without a pitch accent in parentheticals. Notice that in Fig. 56 Irúña, Naforroako hiriburua, hirí edérra da ‘Iruña, the capital of Navarre, is a beautiful city’, both vowels preceding the phrasal break are lengthened. In particular the final syllable of Iruña, which is in phrase-final before the parenthetical, is considerably longer than the initial syllable of Naforroako, which follows immediately. Also, as is the case with hiriburua ‘capital’ in this example, words in parentheticals may be realized without a pitch accent. The word hiriburua is in addition separated from the next word by glottalization.
3.6. Interrogatives

All available descriptions of intonation in Basque dialects coincide in reporting “circumflex” or high-falling contours in yes-no questions (REFS) as the unmarked or most common option. This may be analyzed as a complex boundary tone HL%. Final rises are less common, but may occur in echo-questions, among other contexts. In unmarked yes-no questions the pitch rises at the first stressed syllable and continues high up to the last syllable of the sentence, where it falls. Words in medial position normally lack a pitch accent. An example is given in Fig 57.

In sentences ending in an analytical verbal form the last accent, and the beginning of the fall, may be placed either on the auxiliary, as in Fig. 57 above, or on the participle, as in Fig. 58.

It is possible to have a narrow question on a constituent in a yes-no question by raising the pitch even more on that constituent, as in Fig. 58 GARÁGARDOA edán dú?
‘did he drink BEER?’. As can be seen in the figure, the final contour is still falling, as in neutral yes-no questions.

![Waveform and pitch contour](image1.png)

**Fig. 58** GARÁGARDOA edán du? ‘did he drink BEER?’

For comparison, a neutral declarative sentence with the same text as in Figs. 57 and 58 is given in Fig. 59. We can see that the main way in which interrogatives differ from declaratives is that they lack downstep of accents. That is, whereas in declaratives accents are progressively lowered, in interrogatives the last accent in the utterance has a similar height as the first accent, if not greater.

![Waveform and pitch contour](image2.png)

**Fig. 59.** garágardoa edán du. ‘s/he drank the beer’

An initial constituent in a question may be marked as a topic, with a H-boundary, as in Fig. 60 Liburua, Mirenen alabari eman diozu? ‘Did you give the book to Miren’s daughter’ = ‘the book, did you give it to Miren’s daughter?’ Another example is given in in Fig. 61. Gúre laguna, berándu etórrí da? ‘Our friend, did he arrive late?’
Fig. 60 Libúrua, Mírenen alabari eman diozú? ‘Did you give the book to Miren’s daughter’ = ‘the book, did you give it to Miren’s daughter?’

Fig. 61 Gúre lagúña, berándu etórrí da? ‘Our friend, did he arrive late?’

In question-word questions, the question word has a prominent high accent on its stressed syllable followed by a sharp fall. The pitch continues falling for the rest of the utterance. An example is given in Fig. 62 nóri eman diozu? ‘Who did you give it to?’
3.8. Imperatives
Commands do not differ from declaratives, except that, given their pragmatic force, they may be produced with an expanded range. The two renditions of the command *emáidazu libúrua* ‘give me the book’ in Fig. 64-65 differ in the degree of reduction of the pitch accent on *libúrua* ‘the book’. In Fig. 66 the second accent is very much reduced. In Fig. 67, on the other hand, the second accent is downstepped but not reduced. The impression is that of greater emphasis of the object in the second example.
Fig. 64. (e)máidazu liburua! ‘give me the book!’

Fig. 65. Emáidazu libúrua! ‘give me the book!’

3.9. Exclamatives
Exclamative words and short phrases often bear two pitch accents, the second one on the last syllable. Exclamative force may be conveyed by lengthening of the accented syllables.
3.10. Summary

In Standard Basque word-stress is not phonologically contrastive, but most content words are stressed, usually on the second syllable. Stressed syllables are associated with rising pitch accents, which we analyze as (L+H)*. This rise is followed by an immediately following fall in words marked as important information but continues rising until the end of the phrase in words treated as old information. We have signaled this difference as a contrast between L- and H- after the pitch accent. We use the labels H% and L% to indicate perceptually stronger breaks. Interrogatives usually show a final fall (L%), like declaratives. Interrogativity is conveyed by lack of downstep and reduction or elimination of intermediate accents between the first and the last accent of the utterance.

As for prosodic constituency, we have recognized three types of units: accentual phrase, characterized by a pitch accent and, optionally, a boundary tone; intermediate phrase, the domain where o H- and L- tones are inserted after the accent; and intonational phrase.

References


____ (1958), “Leitza’ko mintza-doíñua (Euskaltzaindian sartzerakoan Ormaetxea jaunak egindako itzaldia eta Mitxelena jaunaren erantzuna)” [The speech melody of Leitza (Talk given by Mr Ormaetxea upon joining the Basque Academy and Mr Mitxelena’s reply)]. Euskera (2nd period) 3: 29–36.


