

# A theory of pitch-accent, with particular attention to Basque\*

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## 1. Introduction

The purpose of this paper is to present an analysis of the prosodic system of Western Basque within a theory of pitch-accent which permits a ready comparison of Basque with better-studied languages of the pitch-accent type and also with languages of different prosodic structure. The analysis will necessarily be of a provisional nature since my field work is still at an initial stage, and knowledge of new data may require changes in the analysis.

The theoretical framework assumes the accuracy of standard description of languages generally taken as prototypical of the pitch-accent type, such as Tokyo Japanese.

In this paper, I shall assume that there are two basic parameters along which prosodic systems may differ:

- A. +/— use of accents.
- B. +/— use of tonal features at the word level.

Languages specified for the positive value of parameter A are accent languages (+A). Languages which select the positive value of parameter B are tone languages (+B). Languages which take the positive value of both parameters are tonal-accent or pitch-accent languages (+A, +B). Those other accent languages that take a negative value for parameter B are the so-called stress-accent languages (+A, —B). It is with languages that select both positive values that we shall be especially concerned in this paper.

\* This paper was read at the Conference on the Basque Language held in Donostia-San Sebastián, september 1-4, 1987. A more detailed presentation of the Gernika and Ondarroa data can now be found in my 1988 USC Dissertation, where I provide a somewhat different analysis.

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An accent in an abstract mark used for the assignment of prosodic features. Following Garde (1968), I will use the term *accentuable unit* to refer to the phonological constituent which may receive an accent and the term *accentual unit* to refer to a larger constituent which determines the domain within which accents are assigned. In most languages, the accentuable unit is the syllable and the accentual unit is the word. The term *accented unit* will be used for an accentuable unit which actually bears an accent.

Accents may be pre-assigned in the lexical entries, as in standard Japanese, or may be placed by rule, as in French. Often both procedures will be used in the same language. Thus, in Spanish, a rule assigns an accent to the penultimate syllable if the last syllable is open, and to the last syllable if it is closed. There are, however, words such as *café*, *jabalí*, *canibal*, and *útil*, which are exceptions to the rule and must contain accents in their lexical representations.

In a pitch-accent language, a distinctive tonal feature is linked to an accentuable unit bearing an accent within the lexical component of the phonology. For this reason, a lexically accented unit in a pitch-accent language can be alternatively viewed as being linked to a tone in the lexicon. In stress-accent languages, accented units are also marked primarily by pitch, other properties such as intensity and duration playing, in general, a less important role (cf. Bolinger 1958, and Lehiste 1970), but their pitch features are not assigned until the post-lexical or sentence-level component of the phonology. In stress-accent languages, accented units will be assigned prominence, but will not receive some specific tonal feature in the lexical phonology. Their concrete pitch characteristics will, rather, depend on the type of utterance (statement, question, etc.) and the position of the accentual unit within it (cf. Beckman 1986). Stressed syllables are marked by a greater change of pitch but the direction of the change will be intimately related to the intonation of the sentence (cf. Hyman 1977).

In a pure tone language (—A, +B), tonal features, which generally have a much less restricted distribution than in pitch-accent languages, are associated with tone-bearing units within the lexical phonology by the Universal Association Conventions (cf. Goldsmith 1976: Pulleyblank 1986).

In what follows, after a very brief description of a widely studied pitch-accent language, Tokyo Japanese, the prosodic facts of some Biscayan Basque varieties will be presented and discussed.

## 2. Tokyo Japanese

In the dialect of Tokyo, or standard Japanese, the relevant prosodic distinction among phrases is the syllable where the pitch drops. As illustrated in the examples in (1) with three-syllable nouns followed by the subject case marker, the pitch may fall after any of the syllables or remain high until the end of the phrase:

- (1) īnoti-ga    kokoro-ga    atama-ga    miyako-ga  
           'life'            'heart'            'head'            'capital'

In standard treatments, such as Haraguchi (1977), the lexical representations of the nouns in (1) are taken to be as in (2). The accented unit corresponds to

the rightmost high syllable; the absence of an accent indicates that a following particle within the accentual unit will also be high:

- (2) /<sup>\*</sup>inoti/ /<sup>\*</sup>kokoro/ /<sup>\*</sup>atama/ /miyako/

From these underlying representations, surface patterns are obtained as indicated in (3):

- (3) a. Assign extratonicity to the initial syllable unless it bears an accent.

b. From the left of the accentual unit assign a high tone to all tonal syllables in a domain up to and including the syllable bearing an accent; and to all tonal syllables if there is no accent.

The application of the rules in (3) to the representations in (2) is illustrated in (4):

- (4) <sup>\*</sup>inoti-ga    (ko) <sup>\*</sup>koro-ga    (a)tama-ga    (mi)yako-ga  
 |                    |                    | |                    | |  
 H                    H                    H                    H

All syllables not bearing a tone will receive a low tone by default and the patterns in (1) will obtain.

An alternative analysis would be to assign a lexical high tone to the syllable marked with an accent in (2) and to the rightmost syllable in a domain without a lexical tone and to spread the high tone leftwards.

### 3. Western Basque

Many varieties of Basque spoken in the provinces of Biscay and Guipuzcoa have prosodic systems of the pitch-accent type. Even though, as Basterrechea (1974) points out, differences in realization of surface patterns exist among local varieties and even between varieties spoken by different generations of the same locality, some general principles seem to be common to all Basque pitch-accent systems. The data presented below correspond to the speech of some speakers in the 20-40 age range from an area around Gernika in Biscay.

In their indefinite and singular absolutive form, most nouns and adjectives present a high toned plateau extending from the second syllable from the left, as in (5a). A smaller group of nouns and adjectives show a final drop of tone in the same grammatical forms, as illustrated in (5b):

- (5) a. gernike                    'Gernika'  
       basōa                        'forest, abs. sg.'  
       patatie                      'potato, abs. sg.'  
       gunturrune                'kidney, abs. sg.'
- b. bilbo                            'Bilbao'  
       basoa                        'glass, abs. sg.'  
       taldie                        'group, obs. sg.'  
       apariže                      'supper, abs. sg.'

The patterns in (5) can be obtained by applying the rules given in (3) for standard Japanese to representations where the words illustrated in (5a) are accentless and the examples in (5b) have an accent on the syllable before the pitch drop. Derivations are shown in (6):

- (6) (ger)nike (gun)tsurrune bilbo (a)pariže
- |   |     |   |   |
|---|-----|---|---|
| / | / / |   |   |
| H | H   | H | H |

As in Japanese, all syllables which remain toneless after the application of the rules in (3) will receive a default low tone.

Plural suffixes cause a drop in pitch, as exemplified in (7a). In fact, in a number of morphological cases, this prosodic difference constitutes the only distinction between plural and singular forms. The singular forms corresponding to the plural examples in (7a) are given in (7b) for comparison.

- (7) a. pl.            b. sg.
- |                   |                   |               |
|-------------------|-------------------|---------------|
| <u>lurrek</u>     | <u>lurre</u>      | 'land, abs.'  |
| <u>andrak</u>     | <u>andrie</u>     | 'woman, abs.' |
| <u>txakurrek</u>  | <u>txakurre</u>   | 'dog, abs.'   |
| <u>arrari</u>     | <u>arrari</u>     | 'worm, dat.'  |
| <u>txakurreri</u> | <u>txakurreri</u> | 'dog, dat.'   |
| <u>txakurren</u>  | <u>txakurren</u>  | 'dog, gen.'   |

Among the singular locative suffixes, some always cause a drop in pitch, such as /-tik/ 'from', whereas others, such as /-an/ 'in' and /-ra/ 'to' do not. Examples are given in (8):

- (8) basotik, basoan, basora 'from, in, to the forest'  
mendittik, mendižen, mendire 'from, in, to the mountain'

Suffixes can thus be divided into two groups, those which cause a final drop in pitch and those which do not. Suffixes in the first group can be taken to be preaccented (i.e., they assign an accent to a previous syllable). Examples are abs. pl. /\*-ak/, gen. pl. /\*-an/ and abl. sg. /\*-tik/. Suffixes of the second group are non-accented. Examples of derivations containing preaccented suffixes are given in (9):

- (9) /txakurr \*-ak/ : (txa)<sup>\*</sup>kurrek txakurrek; /bilbo \*-tik/ : bilbotik bilbotik
- |   |   |   |   |
|---|---|---|---|
|   |   |   |   |
| H | H | H | H |
- /andra \*-ak/ : andrak andrak; /gernika \*-tik/ : (ger)niketik gerniketik
- |   |   |
|---|---|
|   | / |
| H | H |

As the example bilbotik shows, if the base is accented, a second accent introduced by a suffix has no surface effect, since the first accent will mark the limit of the high tone unit.

An interesting difference exists between the dialect described here and the dialect spoken by speakers of the same age group of the coastal town of Ondarroa. This difference is in the realization of forms containing accents. Whereas in the Gernika dialect the last high syllable precedes any pre-accented morpheme, Ondarroa speakers will only lower the last syllable in the accentual unit, regardless of the position of the morpheme causing the lowering within it. Compare the examples in (10):

- (10) Gernika      Ondarroa  
txakurren    txakurran    'of the dogs'  
txakürrena   txakurrana   'the one of the dogs'  
arrana        arrana        'the one of the worms'

Similarly, if the base is accented, the position of the pitch drop will remain constant through the morphology in Gernika, but will always be between the penultimate and the last syllable in Ondarroa:

- (11) G: bilbo    bilboan    bilbotik  
O: bilbo    bilboan    bilbotik

In the Ondarroa dialect, the only contrast is thus between unaccented unmarked forms and marked forms, which assign penultimate accent in every case.

To summarize, I have shown that the tonal patterns of standard Japanese and Biscayan Basque dialects are amenable to essentially identical treatments. In the analysis presented, lexically assigned accents are used in both languages to determine the distribution of tones, which are linked employing an identical system of rules in both languages.

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