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THE INFLECTIONAL ACCENT
IN BASQUE AND INDO-EUROPEAN

By

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Accent in historical phonology has usually been treated as a kind of phoneme. For example, Kuryłowicz remarks that the Indo-European accent was not subject to any phonetic restriction in placement, that accent is a quality distinguishing one syllable of a word 'in relation to another or many others,' and that 'if one and the same suffix appears sometimes under the accented form, sometimes under the unaccented form, it is due to a process of semantic differentiation.' (Kuryłowicz, 1958, 34ff). Kiparsky's generative treatment of the inflectional accent of Indo-European essentially follows Kuryłowicz' as well as Saussure's alternating-mora theory: Kiparsky's accent rules must mention strong (nominative/accusative) and weak (genitive/dative, etc.) cases as well as stem/suffix or word-initial and word-final, i.e., his rules for accent are grammatically conditioned. He remarks that Pre-IE may have had phonologically conditioned syllable accent but it had become morphologized by IE times and he does not try to show what the phonological conditioning might have been. He claims that 'the way to make sense of the facts is to study the development of the [accent] rules' (Kiparsky, p. 844), yet his careful study ends with a puzzling question: why did Balto-Slavic accent shift from central to marginal mobility? In other words, why do accents shift?

Accent placement is sensitive to syllable length in many languages such as Greek and Latin, suggesting that accent is a means of timing the word. Yet, as Ilse Lehiste has pointed out, the temporal structure of the word as a whole has received relatively little attention. It is her thesis that the word is programmed as a whole by the brain. (1972, p. 929). Her experimental work with disyllabic words and sequences in Estonian and English suggest that one way words may be temporally organized is in terms of disyllabic sequences with internal vowel or syllable duration ratios. The phonological word, however, may not coincide with the grammatical word: it may coincide with the phrase as in modern Norwegian: høre på 'to listen to', høre på ham så lenge 'to listen to him for the time being.' (Grundt, 1976a). However, if Lehiste is correct, it seems to follow that each word has an accent - that is, a means of temporal organization which the speaker can control and perceive and which he identifies as the 'accent' of the word. As in Norwegian, this accent may be suppressed when the word is part of a phrase and it may also be a perfectly predictable accent in terms of placement, i.e., always on the initial syllable, the final syllable, etc., but it seems to be essentially a characteristic of the word, not a vowel, syllable or morpheme. If this thesis is correct, it should be possible to demonstrate how such an assumption will account for previously anomalous accent patterns.

Several recent studies by Jacobsen (1972, 1975) and Michelena (1972) of accent patterns in Basque dialects offer an opportunity to test the assumption that word accent instead of morpheme accent can account for some of the puzzles of development and distribution of tonal and stress accents in these Basque dialects.

The tonal accents of the Western Basque dialects of Vizcaya and Guipúzcoa up to Bilbao in Spain are characteristic of noun plural although other words such as loanwords, certain suffixed nouns, words with spatial connotation, etc. also have tonal accent. Phonetically, the tonal accents are described as falling pitch or low pitch, contrasted with the high, sustained or rising pitch of other word accent. The description of falling versus sustained pitch accent recalls the falling (circumflex) and rising (acute) pitch accents of Greek and the falling (acute) and level (circumflex) pitch accents of Lithuanian. Tonal accents occur on initial syllables, final syllables, or internal syllables in noun plurals - it is this patterning that is difficult to account for in the tonal dialects.

Stress accent occurs in the Eastern dialects: in Souletin the definite noun forms have final stress, the indeterminate forms have pre-final stress. In Roncalese the singular and the nominative plural forms have columnar accent but all other forms of the plural have final stress.

Information regarding other dialects is sketchy but it seems that penultimate syllable stress is widespread and is assumed by at least one scholar (Nils M. Holmer) to have been the pre-Basque accent. Jacobsen and Michelena suggest that the predictable word and phrase accents be regarded as unmarked, but they seem reluctant to identify the syllable which is accented. Michelena, for instance, remarks concerning the accentual pattern of the southern dialects of High Navarrese (and apparently the Low-Navarrese dialect of the Salazar Valley as well) that 'there is hardly any doubt about where the stress falls . . . but, surprisingly enough, this clearly discernible stress does not have, or so it seems, any distinctive function whatsoever.' (Michelena, p. 113). He rather inadvertently indicates that this stress falls on the penultimate syllable (p. 113) but my impression is that he does not regard its location as at all important.

Although Holmer assumes that the pre-Basque accent was penultimate, Jacobsen does not assume any accent for pre-Basque words and has suggested that the tonal accent of the Western dialects is connected with the shortening of the long vowel or diphthong created when the intervocalic plural marker *-g- was lost. He does not offer a clear phonetic explanation for the tonal development. However, vowel contraction seems to trigger tonal accents in Greek and in Vedic Sanskrit as well and the phonetic process involved in these languages is also obscure.

Kiparsky (1973, p. 796) has offered a distributional correlation between rising and falling pitch accent and the first or second mora of a long vowel or diphthong receiving the accent. He proposes that falling accent occurs when the first mora is accented, rising when the second mora is accented.

If we assume that pre-Basque words did not have accent, we will

not be able to test Kiparsky's proposal for generating tonal accents. However, if we assume a pre-Basque penultimate-mora word accent and reconstruct a pre-Basque nominal paradigm, we can generate phonologically the alternating mora accent on a long vowel or diphthong in the vowel stems and the stem/suffix alternating syllable accent in the consonant stems:

	Definite (-a-)	Definite (-a-)
	Singular (\emptyset)	Plural (-g-)
alhaba 'daughter'		
Nominative (- \emptyset)	alhabá-a- \emptyset	alhabá-a-k (k < g#)
Ergative (-k)	alhabá-a-k	alhaba-á-g-e-k
Genitive (-en)	alhaba-á-r-en	alhaba-á-g-en
Dative (-i)	alhaba-á-r-i	alhaba-á-g-i
gizon 'man'		
Nominative (- \emptyset)	gizón-a- \emptyset	gizón-a-k (k < g#)
Ergative (-k)	gizón-a-k	gizon-á-g-e-k
Genitive (-en)	gizon-á-r-en	gizon-á-g-en
Dative (-i)	gizon-á-r-i	gizon-á-g-i

P-rules: $\emptyset \rightarrow e / C + \underline{\quad} C$ $\emptyset \rightarrow r / V + \underline{\quad} V$

The accent patterns we can derive from these reconstructed paradigms can be presented by using Kiparsky's schema of stem/suffix accent placement. We then have the following pattern in pre-Basque words:

	Definite Sg.	Definite Plural
Reconstructed pre-Basque		
Nominative	presuffix	presuffix
Ergative	presuffix	post-stem
Genitive	post-stem	post-stem
Dative	post-stem	post-stem

The alternation of accent placement is due solely to the interaction of the penultimate-mora word accent and the syllabicity or lack of it in the suffixes. The resulting pattern recalls Kiparsky's rules for Indo-European nominal accent (Kiparsky, 1973, p. 802):

- (9) a. Strong cases [nom., acc.] have presuffixal accent.
 b. Weak cases [gen., dat.] have post-stem accent

In the Basque plural paradigms which we have reconstructed, the ergative breaks the pattern of presuffix accent if we consider it a strong case. However, the plural pattern agrees with the accentual pattern in Sanskrit consonant stems:

Skt. pad- 'foot'	Singular	Plural
Nominative	páat	páadas
Accusative	páadam	padás
Genitive	padás	padáam
Dative	padé	padbhyás

The agreement of accent patterns in Basque and Sanskrit nouns has been noted by Michelena (1972, p. 118) but he calls the coincidence a 'linguistic mirage' (following Kurylowicz). However, if we assume that Indo-European had a word accent, based on mora counting from the end of the word, the syllabicity or lack thereof of the suffixes would automatically generate the same accent pattern which we have reconstructed for Pre-Basque without reference to any grammatical category other than word, providing that the syllabicity distribution for suffixes in IE was the same as in Basque.

If Kiparsky's analysis of the accentual conditions necessary for tonal accent development are correct, we should expect tonal accents in pre-Basque: falling accent in nominative/ergative singular/nominative plural and rising pitch in genitive/dative singular and ergative/genitive/dative plural. The modern dialects do not show this pattern of tonal distribution but rather the opposite: the plurals have falling pitch and the singulars have rising or sustained pitch. Jacobsen has shown that the tonal accents correlate very well with the loss of intervocalic *-g-, the plural marker, and it appears very plausible that the loss of the plural marker has triggered the development of the tonal accent as he suggests. The loss of this segment would bring together the definite-suffix vowel -a- and the vowel of the case ending and, in the case of the vowel stems, the development would mean that the mora-counting word accent would place the accent on the middle vowel of a three-vowel complex. The vocalic structure could be called a long diphthong and represents a situation which Kiparsky claims never to have found (Kiparsky, 1973, p. 796, fn. 2). However, it is in these complexes with the proposed medial vowel of the three-vowel complex accented where we find the stress accent developed in the vowel stems of the Eastern dialects and the tonal accent in the vowel stems of the Western dialects:

After loss of *-g-	Reconstructed Post *-g- Loss	Vowel Contraction (Plurals)	
		Eastern (Stress)	Western (Tonal) [`]
gizon 'man'			
Pl. Nominative	gizón-a-k	gizónak	gizonàk, gizonak*
Ergative	gizon-á-e-k	gizonék	gizonàk, gizonak*
Genitive	gizon-á-en	gizonén	gizonàn, gizonèn gizonan*
Dative	gizon-á-i	gizonér	gizonèi, gizonài*
alhaba 'daughter'			
Pl. Nominative	alhabá-a-k	alhabák	alhabàk, àlhabak*
Ergative	alhaba-á-e-k	alhabék	alhabàk, àlhabak*
Genitive	alhaba-á-en	alhabén	alhabàn, alhabèn, àlhaban*
Dative	alhaba-á-i	alhabér	alhabèi, àlhabai*

In the Guernica dialect of Vizcaya (a tonal dialect), the older speakers have a tonal accent on the first syllable of the word but younger speakers have shifted the tonal accent to the penultimate syllable. In other dialects the tonal accent appears on the final syllable, including the nominative plural. (Guernica starred).

The development of accent shifting in the Guernica dialect suggests that the tonal accent was developed phonetically in the long final syllable resulting from the loss of *-g- and that it became morphologized, i.e., became interpreted not as a sign of the loss of a segment but as a morphological sign of the plural, analogous to the well-known development of umlaut as a mark of German plurals. Once this restructuring had taken place, the tonal accent could be treated like a phoneme and reassigned to another syllable in the word or to another word where it could not have developed phonetically. The shift from final to initial syllable can be understood as an alternate mode of signaling word boundary, a well-motivated shift if we assume that the accent is a word marker, not a morpheme marker. The fact that younger speakers in Guernica (Jacobsen, 1972, p. 79ff) are shifting the tonal accent to the penultimate syllable supports the hypothesis that this dialect retains penultimate-mora accent and that the shift of tonal accents to the penultimate syllable allows the word-accent rule to be satisfied since the falling tone in itself is sufficient to signal plural, no matter where it occurs.

With vowel contraction after the loss of *-g-, the resulting diphthong ae from -age- became -e- in the Eastern dialects and -a- in the Western dialects, causing various patterns of syncretism in the nominative and ergative cases to occur so far as the segmental shape was concerned. In the Eastern dialects only the accent position counted because the nominative and ergative plural were segmentally distinguished and confusion would result only with the consonant-stem ergative indeterminates: gizónek (erg. indet.) vs. gizonék (erg. pl.) These are the dialects with stress accent and in Souletin the indeterminate nouns have pre-final stress, the definite nouns final stress. In Roncalese the singulars and nominative plural have columnar stress, the remainder of the plurals have final stress.

In the Western dialects syncretism presented the problem of distinguishing nominative plural from ergative singular since they were now segmentally identical and both had penultimate accent. In these dialects it appears that the tonal accent which developed phonetically in the remainder of the plurals from the loss of *-g- was morphologized as a plural marker and extended to the nominative plural forms, thus distinguishing them from the ergative singulars.

As mentioned, the actual phonetic process of tonal accent development has offered problems. It might be plausibly related to the combined processes of open syllable lengthening and lengthening before a leniting consonant in Low German. In Low German dialects it appears that lengthening develops by the formation of a centering diphthong which can monophthongize to a long monophthong with falling tone. (Grundt, 1974, 1975, 1976b). I have argued that such a centering diphthong would be accompanied by a redundant pitch fall arising from the intrinsic pitch difference between the lengthening element and the schwa ending. I cannot determine if such centering diphthongs develop in Basque or have ever developed. It may also be possible to suggest that the pitch difference between an initially accented diphthong's first and second members could also provide a redundant tonal movement which would be available for use as a distinctive feature. As such, its phonetic dimensions would be expected to be exaggerated as, for ex-

ample, in the American southern drawl which James Sledd shows occurs in the centering diphthongs which have developed before liquid clusters and before some leniting consonants. (Sledd, 1966).

In any case, it appears that where tonal accent develops phonetically, it is a reflex of a change in timing brought about by a loss of a syllable, a segment, medial consonant lenition, or shortening of a following syllable. It seems, too, that in order for the tonal fall to become distinctive, the syllable on which it occurs must have had the word accent to begin with. This can be seen in Kiparsky's Greek examples where an intervocalic *-s- has been lost: in the reconstructed genitive singular of Gk. *eugénēs* 'well-born', **esugénēsos* has become the actual reflex *eugenōs*. Both intervocalic -s-'s have been lost but only the vowel which was originally accented acquired the circumflex or falling accent; the other did not.

Kiparsky claims (1973, p. 805) that the stress accent in Sanskrit represents an older stage of the Indo-European accent and that Greek tonal accents represent a relatively recent innovation. In other words, tonal accents develop from stress accents. However, in the case of Basque I would suggest that the tonal accents developed first phonetically as a part of the compensating mechanism of the disyllabic final unit undergoing internal timing changes and that stress accent is a later development. In the dialects where stress accent occurs, only the placement of the accent matters, not its tonal movement; therefore, tonal movement need not become distinctive. In the Western dialects where contrasting accent on the same syllable was required, the tonal movement became distinctive, and eventually morphologized.

While Kiparsky's analysis of the Indo-European inflectional accent and my analysis of the Basque nominal paradigm show striking similarities, Kiparsky's assumptions are not borne out. I reached my conclusions by assuming that the accent is fundamentally a characteristic of the word as a whole, not a morpheme marker, and that every word has an accent as a means of organizing the timing of the unit. By means of this assumption, I have been able to generate the alternating accents without reference to the notions of stem, affix, or strong/weak cases. I have shown that tonal accents can correlate with triple vowel complexes with the medial vowel accented which Kiparsky claims never happens. Kiparsky's description of falling accent as reflecting first-mora accent and rising or high accent reflecting second-mora accent is not borne out in Basque: the opposite is true, providing that the loss of a segment or syllable has lengthened the accented second mora. In words where either the first or the second mora is accented by the word-accent rules, the accent is sustained, not tonal or stressed, as in the nominal singulars.

This paper could not have been written without the stimulating work done on Basque accent by Jacobsen and Michelena. I would like to thank them and to urge that they reconsider the accent, not as a phoneme, a morphophoneme, or a morpheme marker, but a means of temporally organizing the word as such. Therefore, the accent is always distinctive since it allows the speaker and the hearer to determine what is a word and what is not. Its location is important

so that it can be determined whether or not it has developed secondary characteristics systematically by phonetic processes or has become morphologized and analogically repositioned. In other words, accent represents the principle of organization on a higher level than the morpheme.

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