Word accent and its manifestation in Awetí

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May 2009

1. Introduction

This paper describes the distribution and phonetic properties of accentuation of word forms in Awetí, a Tupian language spoken by ca. 150 people in central Brazil in the Upper Xingu area. Awetí does not belong to, but is arguably the closest relative of the better known Tupí-Guaraní subfamily, the largest branch of the Tupí stock.

After a short overview over the word classes and general phonotactics of Awetí (section 2), we briefly discuss the notion 'word accent' and show that, in Awetí, it is generally located on the last syllable of the stem in morphologically simple forms (section 3). We then discuss regular and isolated exceptions to this rule (section 4). In section 5, we describe the distribution of the word accent when inflectional or derivational suffixes are present – usually, the word accent of the word form with suffixes continues to be on the last syllable of the stem. After this descriptive part, we present a preliminary study of the acoustic-phonetic details of the manifestation of the word accent, observing word forms in isolation (section 6) and in different syntactic contexts (section 7). The results are briefly summarized in the conclusion (section 8).

2. Background: word classes and phonotactics of Awetí

In this section we give some background information intending to facilitate the understanding of the content of the next sections; in particular the phonological interpretation of the sample word forms.

In Awetí, we have identified so far the word classes listed in (1).

(1) Major word classes of Awetí

- Verbs (three subclasses: transitive, active intransitive, stative)
- Nouns (pronouns and substantives, some of the latter inherently possessed)
- Postpositions
- Adverbs
- Different types of 'particles'
- Idiophones

Of these, the verbs, most nouns, almost all postpositions, and even a few adverbs inflect for person, by use of person prefixes. Simple verb forms also may inflect for aspect and mood, by use of suffixes. There are three or four suffixes for nominal cases at most, and there is 'nominal tense', but this is rather derivational than inflectional in nature. The same holds for most processes that change the subcategory or valency of verbs, many of which are marked by prefixes, some by suffixes. There are several derivational affixes that change the class of a word, almost all of them suffixes. Certain verbal categories, in particular modal ones, are expressed by use of particles, and in general particles abound in Awetí discourse.

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The phonological structure of morphs and word forms does not vary among the word classes. Generally, Awetí syllables are of the form ***CV***, or ***CVj*** (where "***j***" stands for a glide ***/j,w/***) except for the last syllable of a root or suffix, which may also end in an occlusive ***/P,T,K/***. These abstract phonemes have the respective phonetic realizations as ***[m,n,ŋ]*** after nasal vowels, as ***[p̚,t̚,k̚]*** after oral vowels and before pause or stops, and as ***[β,ɾ,ɣ]*** after oral vowels and before vowels or sometimes before the glottal stop or glides.

Nasality / orality is a special issue in Awetí, as in many Tupian languages. Most phonemes may phonetically adopt orality or nasality from other segments.[2] The last syllable of a root or suffix has vowels that are inherently oral or nasal and do not change phonetically. But the non-final syllables usually harmonize with the nasality or orality of the following syllable, or with the nasality of a nasal consonant ***/m,n,ŋ/***, as do almost all segments in prefixes. In some cases, a non-final syllable of a stem or a prefix also may have an inherently nasal vowel. Suffixes are in most cases inherently oral; the few suffixes with a nasal segment to not cause nasalization of the preceding stem nor of preceding suffixes.

The typical Awetí root and several affixes are disyllabic, and indeed the phonotactic distribution of the phonemes is arguably best described using a disyllabic skeleton as in (2), where brackets indicate optional parts.

(2) Basic positions for Awetí phonemes in disyllabic roots

$[C_1]\ [V_1\ [C_2]]\ V_2\ [C_3]$

In morphs with one syllable, the part $[V_1[C_2]]$ is not present. This same part can also be repeated to obtain morphemes with three or more syllables.

The Awetí phonemes distribute among these positions as specified in (3). The symbols apply the IPA conventions, designating a typical phonetic realization of each phoneme. The underlined vowels are to indicate 'neutral' vowels (which are phonologically not specified for nasality or orality).

(3) Distribution of Awetí phonemes among the basic positions

C_1 : ***/j, w, p, m, t, n, k, ʔ, ts, h, l/***
C_2 : ***/j, w, p, m, t, n, k, ŋ, ʔ, ts, h, l, z, ɣ, ɾ/***
C_3 : ***/j, w, P, T, K /***

V_1 : ***/ a̲,e̲,i̲,o̲,u̲,ɨ̲, ã,ẽ,ĩ,õ,ũ,ɨ̃ /***
V_2 : ***/ ã,ẽ,ĩ,õ,ũ,ɨ̃, a,e,i,o,u,ɨ /***

In what follows, we use the Awetí orthography which diverges in some minor points from the IPA-based symbols used in (3): (a) the orthography does not distinguish 'neutral' vowels from oral vowels, both are unmarked;[3] (b) the closed central unrounded vowel ***/ɨ/*** is represented by ***<y>***; (c) the archiphonemes ***/P,T,K/*** are represented by ***<p,t,k>***, ***<w,r,g>*** or ***<m,n,ng>***, depending on the orality or nasality of the preceding vowel and on the next segment; (d) an inherently nasal vowel followed by a nasal consonant ***<m,n,ng>*** does not receive the tilde, not even if suffixes follow.

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[2] In Awetí, segments agree usually with segments to their right, which means that 'nasal spreading', or better 'nasal harmony', works mainly from right to left. The stops ***/p,t,k/***, however, are realized ***[mp,nt,ŋg]***, respectively, when they **follow** a nasal or nasalized vowel.

[3] In the skeleton presented above, they are in complementary distribution and can therefore easily be identified if the morphological composition of a word form is known.

If we include occurrence of glides in addition to the basic position, we get a more complete picture of Awetí phonotactics: ***/w/*** may occur after certain consonants or as a result of re-syllabification. The non-final syllables may end in ***/j/***, and this glide may be exceptionally present before C_3. The complete picture is presented in (4).

(4) Positions for Awetí phonemes (complete)

$[C_1$ [w/j]$]$ $[V_1$ [[j] C_2 [w/j]$]]$ V_2 [[j] $C_3]$

Prefixes do not have C_3 and mostly not even V_2. Suffixes, in turn, do not have C_1. Further, most affixes have two allophones, one with or without a final or initial vowel so as to avoid consonantal encounters. Therefore, these are generally rare and mostly restricted to cases of composition.

3. Regular word accent of words of different classes

As it is the case with many Tupian accent-languages, **the word accent in Awetí generally falls on the last syllable of the stem**. Here is not the place to go into theoretical details, not even to discuss in details the definition of the term ***"word accent"***.[4] The following explanations must suffice, which can be resumed by the statement that word accent this is understood as an inherent property of a syllable of a word form which consists in the capacity to carry syntactic accentuation.

Under *syntactic accentuation* (or *"syntactic accents"*, which is in some respects similar to the more common term "sentence stress") we understand patterns of syntactic intonation that stretch over several syllables, possibly over the sentence as a whole, and in which generally one 'stressed' syllable stands out in some way (it might be the last high pitch syllable before a sequence of low pitch syllables, or the first low syllable in a sequence of low syllables, or similar), giving prominence to the word to that the stressed syllable belongs to. A word being in focus is particularly evident in the case of contrastive sentence stress, but also non-contrastive syntactic accents usually have a specific syllable in a particular word which 'bears' the syntactic accentuation. If a word bears syntactic accentuation, it is generally one particular syllable in the word which is stressed. This syllable which can highlight a word (in this way, by syntactic accentuation) carries 'word accent'. (We speak of the 'word accent bearing syllable', or even shorter the 'accent syllable' of the word.)

By saying that it is an 'inherent capacity', it is implied that this property does not manifest itself in each use of the word form in question, that is, a syllable carrying word accent is not always syntactically 'stressed'. The syntactic accent may highlight another word in the sentence. When the word is uttered in isolation, however, one can assume an implicit syntactic context like *"the word is…"* or *"what I wanted to say is…"*, where the word in question is indeed in focus and therefore highlighted by a syntactic accent. It follows that the accentuation pattern observable on the word form in isolation is usually indeed the manifestation of a syntactic accent. By studying isolated word forms, or word forms in a carrier sentence which implies focus on the word form in question, it should be possible to identify the stressed syllable (which bears the syntactic accent), and hence, the word accent syllable of the word form, if a word can carry syntactic accentuation at all.[5]

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[4] See (LIEB, 1984a; 1996b), and the fundamental study by BOLINGER (1958).

[5] We will informally refer to the word accent (in this sense) by 'stress' and speak in particular of words with 'penultimate stress', instead of more correctly 'word accent on the penultimate syllable'.

The general rule of word accent in Awetí ("the last syllable of the stem carries the word accent") is independent of the nasality or other segmental-structural features of the last syllable (or other syllables), in particular, of its 'weight', and also independent of the word class. This is illustrated by the examples in (5) to (16), below, each for a different word class.

(5) Word accent in simple polysyllabic intransitive active verbs

*aj-e**ko***	*w-a**tuk***	*e-'a**zym***	*ozo-e**tej***	*kaj-a**ip***	*kaj**ajp***[6]
1-walk	3-tk.bath	2-sneeze	13-dream	12-grow	12-grow

(6) Word accent in simple polysyllabic transitive verbs

*at-e**tyt***	*wej-ju**pã***	*tit-e**jõj***	*pẹj-'yj**tym***	*e-pe**tu***	*a-wã'**up***
1-roast	3-beat	12-call	23-burry	2-blow	1-assume

(7) Word accent in simple polysyllabic stative verbs

*i-ka**tu***	*e-jo'**yk***	*i-pi**lang***	*i-py**põ***	*lo**le***
3-good	2-cold	3-red	3-wide	bad

(8) Word accent in common polysyllabic substantives

*ite-'y**po***	*'y**peng***	*n-u**waj***	*'e-ta'**ẽ***	*typy'**yp***
1-possessions	woodpecker	3-tail	2-pot	line/queue

(9) Word accent in the polysyllabic personal pronouns[7]

*a**tit***	*i**to***	*ka**jã***	*o**zo**za*[8]	*'e'i**pe***	*ta'**i***
1♂	1♀	12	13	23	3pl♀

(10) Word accent in the deictic pronouns[9]

*u**ja***	*a**kyj***	*a**koj***	*ja**tã***	*ki**tã***	*kuj**tã***
prox.1♀	prox.2♀	dist.12♀	prox.1♂	prox.2♂	dist.12♂

(11) Word accent in simple disyllabic adverbs

*mi**mo***	*mo**te***	*ma**jũ***	*ko'**jem***	*moj**te***
yesterday	a.long.time.ago	here(to)	tomorrow	early

(12) Word accent in simple disyllabic postpositions

*e**te***	*e**ze***	***kyty***[10]	*tso**a***	***ywã***
with/about	mixed.with	for/to	towards	along

(13) Word accent in sentential particles, interrogatives and interjections

*e**hẽ***	*ka**pe**?*	*kari'**aw**?*	*a**ka**!*	*a**tsy**!*	*na**wỹj**!*
yes	where.is.(3)?	why?	(pain)	disgusting!	let`s.go!

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[6] Both realizations of the last verb ***taipu*** 'get older, reach the mature age (of a person)' are possible; resyllabification of an ***/i/*** to ***[j]*** , or of an ***/u/*** to ***[w]*** adjacent to a vowel (in particular a low vowel) is an optional, but very frequent, phonetic phenomenon.

[7] There are different pronouns in men's and women's speech ('genderlects') for the first person singular and the third person singular and plural (cf. DRUDE, 2002). Forms not listed here are monosyllabic.

[8] Observe that the form for the first person plural exclusive has accent on the penultimate syllable. This form is clearly composed of the general morpheme for the first person plural exclusive (usually a prefix, ***ozo-***) and the groupal nominal suffix ***-za*** 'all the', which does not carry accent.

[9] All simple deictic pronouns are polysyllabic, and have again different forms for the two genderlects.

[10] The postposition ***kyty*** 'for, to, dative' has varying accent, frequently it is on the penultimate syllable. Specific conditions involve the person prefix or the number of syllables of a complement noun.

(14) Word accent in different types of 'second position' particles

*'y**to***	*e**tsan***	*te**pe***	*zo**tsu***	*'yto**to***
then	temporarily	in.vain	self	truly/very

(15) 'Final' sentential particles are monosyllabic or unstressed (clitics)

me	*a'yn*	*ika*	***'a***	***'ẽ***
('DEF')	('INDEF')	apparently	(emotion)♂	(emotion)♀

(16) Word accent in idiophones (many are monosyllabic; repetitions are frequent)

ãj	***tyk***	***pyw***	***kut***	*a**tiw***	*i**hĩ***	*to**ho***	*ku**tsu***	*kyry**ry***	*tsi**rik***
scream	walk	take	drink	sneeze	cry	toss	wash	drag	walk.on.leaves

4. Exceptions: stems with non-final accents

There is a number of simple verbs (we count some 30 so far) the stems of which end in an ***/e/***, following a 'lenis' consonant, that is, one of ***/w,j,m,n,ŋ,χ,ɾ/***, forming a syllable which does usually not carry word accent. It is very probable that the ***/e/*** was added rather recently and that most of the 'lenis' consonants (except ***/j/*** and in some cases ***/w/***) stem from lenis realizations of the original morpheme-final consonants ***/P,T,K/*** (see above section 2). The word accent, then, continues on the former final syllable; although synchronously the root of these stems cannot be analyzed morphologically. (Note, however, that the 'same' ***/e/*** is also added in the case of reduplicated stems of active verbs.)

(17) Verbs ending in unstressed *[lenis]+e*

*wej-mo'**e**ge*	*o-**ti**ge*	*o-**wy**ge*	*o-**wa**je*	*o-**mỹ**je*	*o-zy**ma**ne*	*o-**ti**re*
3-produce	3-sit	3-finish	3-hang	3-wake.up	3-spin	3-leave

Apparently the same ***/e/*** can be found with some forms of the monosyllabic verb ***(t)ut(u)*** 'come', in particular with the Imperative forms ***j-u**re* 'Imp.Sing-come', *pej-**ju**re* 'Imp.Plur.-come', contrasting with Indicative forms such as *a**j-ut*** '1-come'. There is one verb, 'press', which exists in both variants, with and without ***/e/***: *'a**wy**ku ~ 'a**wy**getu*.

In addition to this major group with penultimate stress, there are some few other verbs which have an ***/ã/*** as additional final unstressed vowel. At least in the case of the verb 'to gain weight', the consonant before the final vowel does not hint at a recent addition of the vowel. We present most of these verbs in (18).

(18) Further verbs with penultimate word accent, ending in *-ã*

*o-**ka**ngã*	*o-kyr'**a**zã*	*w-a**pu**ngã*	*o-'a**tu**ngã*	*o-**po**zã*
3-dry	3-gain.weight	3-mold	3-burn.down	3-to.be.overloaded

As in the case of verbs, there is also a major group of substantives which has penultimate word accent. They have in common that the final syllable ends in ***yt*** (***/yT/***). In most cases the preceding consonant is also 'lenis', allowing for a similar hypothesis of a recent addition of an additional element,[11] but at least in one case, 'hen/rooster', there is a *fortis* consonant (oral occlusive).

[11] Note that most substantives ending in ***yt*** design plants or animals, and note also that the word for 'sperm' is ***yt***, which may well be related to the semantics of living things, so one may suspect that we have here the rests of a sort of nominal classifier. But there are no other convincing hints of a system of nominal classification in Awetí (or in closely related Tupian languages), and most substantives designated plants or animals do not have that element. Another, more plausible origin is the allomorph ***ytu***

(19) Substantive stems with penultimate accent ending in *yt*

*py**ri**ngyt*	*mo**kã**jyt*	*ta**ka**nyt*	*ta**mỹ**jyt*	*te**mi**ryt*
mocking.bird	macaúba	parrot.sp	crab	mangaba
*a**pu**ryt*	*ju**kwa**ngyt*	*po**ry**wyt*	*nu**ka**kyt*	
parrot.sp	urucum	costume	hen/rooster	

This is one of the few cases where one can think of the vantage of orthographically marking the word accent (by a graphical accent), because there are also several regular substantives ending in ***yt*** (some even in ***[lenis]+yt***) with 'final stress' (word accent on the last syllable).

(20) Substantives with regular final word accent ending in *yt*

*kujã**kyt***	*e**kyt***	*tu**kyt***	*ty**wyt***	*ky**wyt***
girl	honey	salt	♂'s.younger.brother	♀'s.brother

There are some few other substantives or pronominal-like elements which also have irregular word accent on the penultimate. The first, designating a certain type of parrots, has been said to be a dialectal variant of *ta**ka**nyt*, in (19) above. The third, designating the 'whole community' (of a village), has the final 'groupal' suffix ***-za***.

(21) Further cases of nouns with penultimate word accent

*ta**ka**rĩ*	*mo**ma**ti*	*moma**tsa**za*
parrot.sp	all(people)	all/community

There are few adverbs which present 'exceptions' to the general rule. A probable source for many are unstressed case suffixes (formerly analyzed as postpositions) ***-wo*** 'by, with, in' or ***-pe*** 'in, at' or the postposition ***ti*** 'from' which possibly fused with (now unknown) substantives or deictic words in the past, but there are other cases such as 'at night'.[12]

(22) Adverbs with penultimate word accent

***ky**pe*	*nazã**ti**wo*	*ypy**ta**ko*	*ta**tu**ti*
here	after.that	at.night	at.left

Similar cases are found among the postpositions, several of which may once have been complex, formed of another postposition or a (relational) substantive which today usually does not exist any more, and of one of the above-cited general locative postpositions / case suffixes.[13] Interestingly, most or all postpositions with penultimate stress, even without any recognizable former postposition, end in ***-o***. Of all word classes, the postpositions probably show the highest percentage of penultimate stress.

(23) Postpositions with penultimate word accent, ending in *-o*

*ewi**za**ko*	***py**wo*	***'y**wo*	***'a**po*	*'y**py**wo*	*te**ta**ko*
after	inside.of	(going)with	above/on	close.to	parallel.to

There are also several particles of different categories, all of these occurring in some slot of the 'second position' (or 'Wackernagel position'), that is, after the first major

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(after consonants) of the suffix ***tu*** (see below), which derives substantives from stative verbs, with lenition of the final consonant: *tu**wut*** 'is big' – *tu**wu**rytu* 'what or who is big', with loss of the final ***u***.

[12] Note that there is no substantive proper for 'night' in Awetí.

[13] In some cases, the substantive can still be elicited but occurs almost always in connection with the postposition / case suffix. This is the case of *'y**py*** 'region close to', in (23).

constituent of the clause. Most of them are disyllabic or formed of a simple particle with an additional first syllable ***we-*** or ***wo-***), and most have a 'lenis' consonant in the middle.

(24) Particles with penultimate word accent

***we**ti*	***we**ne*	***wi**an*	***za**nu*	***te**ne*	*we**za**nu*
ADVertative	still	temporarily	also	without.motive	again

5. Suffixes and their influence on word accent

The majority of suffixes, inflectional as well as derivational, do not change the position of the word accent, which continues on the last syllable of the stem. Of the inflectional suffixes, only one mood suffix and one allomorph of a verbal aspect suffix 'attract' the accent. In the case of derivational suffixes, class-changing suffixes usually do not affect the word accent, but most derivational suffixes which don't change the major class (noun, verb) form new stems which have the word accent on the new last syllable (that is, on the derivational suffix).

We exemplify first 'regular' inflectional suffixes, beginning with verbal aspect (*-ju* and *-(z)oko*) in (25), verbal mood (*-(t)u* and *-aw*), in (26), and verbal negation (*-(y)ka*), in (28).[14] There is a rule of re-syllabification, illustrated in (27), involving the mood suffix *-aw*. The accent position, in these cases, may be on the final syllable of the word form, as the final syllable of the stem fused with the suffix. In (29) we show that even tri-syllabic combinations of affixes of both kinds still do not change the location of the word accent.[15] In (25) and thereafter, we include some forms in the (unmarked) perfective indicative in order to illustrate rules of morpho-phonology.

(25) Inflectional verbal aspect suffixes *-ju* and *-(z)oko*: accent is on the stem

*aj-e**ko***	*o-**kyt***	*aj-e**ko**-ju*	*o-**ky**-ju*	*aj-e**ko**-zoko*	*aj-a**tu**g-oko*
1-walk	3-fall(rain)	1-walk-PROG	3-fall(rain)-PROG	1-walk-IPVF	1-tk.bath-IPVF

(26) Inflectional verbal mood suffixes *-(t)u* and *-aw*: accent is on the stem

*it-e**ko**-tu*	*it-a**tu**k-u*	*i-pe**mim**-pu*	*it-a**tu**k-aw*	*nã-pe**mim**-paw*
1-walk-SUBJ	1-tk.bath-SUBJ	1-surround-SUBJ	1-tk.bath-GER	3-surround-GER

(27) Resyllabification with suffix *-aw*: last syllable of the stem fused with suffix

*it-e**kw**-**aw***	*a-ky**zy***	*i-ky**z**-**aw***	*a-'a**pi***	*nã-'a**pj**-**aw***	*a-py**põ***	*nã-py**pj**-**ãw***
1-walk-GER	1-wash	1-wash-GER	1-throw	1-throw-GER	1-sew	3-sew-GER

(28) Inflectional verbal negation suffix *-ka* / *-yka*: accent is on the stem

*aj-e**ko**-ka*	*aj-a**tug**-yka*	*a-**tu**w-oko-ka*
1-walk-NEG	1-tk.bath-NEG	1-see-IPVF-NEG

(29) Combinations of verbal aspect and mood suffixes: accent is still on the stem

*it-e**ko**-ju-tu*	*it-a**tu**g-oko-tu*	*it-e**ko**-j-aw*	*it-a**tu**g-okw-aw*
1-walk-PROG-SUBJ	1-tk.bath-IPFV-SUBJ	1-walk-PROG-GER	1-tk.bath-IPFV-GER

[14] The consonant-initial suffixes tend to fuse with final dental/palatal consonants **/T,j/ <t,n,j>**.

[15] Again, there are ressylabification rules by which vowels turn to glides or may be omitted at all. The latter does also hold for the 'unstressed' ***-e*** discussed around (17).

Nominal inflexion by suffixes in Awetí concerns (semantic) case only. All case suffixes do not attract the word accent.[16]

(30) Nominal case suffixes: accent is on the stem

*i**nĩ**-zan*	*nã-to′otar**′y**w-an*	*mo**ta**ng-ywo*	*be**lẽ**j-ype*
hammock-ESS	3-friend-ESS	medicine-INST	Belém-LOC

There are only two exceptions to the rule that inflectional affixes to not affect the position of the word accent: the disyllabic modal suffix ***-apan*** */-°apan/* (Gerund 2) 'attracts' word accent to its first syllable, as shown in (31), and the same holds for the allomorph ***-°eju*** of the Progressive verbal aspect suffix, which occurs after one of the stem-final phonemes */P,K,w/*, exemplified in (32).[17,18]

(31) Gerund 2 mood suffix *-apan*: accent moves to the suffix

*it-atu**k-a**pan*	*nã-pemim-**pa**pan*	*it-e**kw-a**pan*
1-tk.bath-GER2	3-surround-GER2	1-walk-GER2

(32) Progressive aspect suffix allomorph *-eju*: accent moves to the suffix

*aj-atu**k-e**ju*	*wej-pemim-**pe**ju*	*it-atu**k**-**e**ju-tu*	*it-atu**k**-**e**j-aw*
1-tk.bath-PROG	3-surround-PROG	1-tk.bath-PROG-SUBJ	1-tk.bath-PROG-SUBJ

With stative verbs, an allomorph ***-eju*** of the same aspect suffix occurs after any final consonant (*/P,K,w/* and also */T,j/*). This allomorph does not block lenition, and its behavior as to the lexical accent is particular: the word forms have two syllables which can be stressed; the position in each occurrence depends on speaker, stylistic and rhythmic factors. In isolation, often both syllables receive high pitch. The two syllables are exactly the last of the stem and the syllable which has the ***e*** of the affix as its nucleus.

(33) Progressive aspect suffix allomorph *-eju* with stative verbs: two accent syllables

*i-pi**lang-e**ju*	*t-ope**tyj**-**e**ju*	*e-ta**′og-e**ju*	*i-mẽ**pyr-e**ju*
3-red-PROG	3-sleepy-PROG	1-angry-PROG	3-child-PROG

Among the derivational suffixes, interestingly, those which change membership between the major word classes do not 'attract' word accent. Consider the examples for derivation of nouns from stative verbs (which denote usually denote properties) by suffix *-(y)tu* in (34) and for the different suffixes for derivation of nouns from active

[16] This property is one of the reasons to analyze ***-(y)wo*** and ***-(y)pe*** as suffixes (earlier we analyzed them as postpositions), because postpositions usually take the sentence stress inside the constituent of which they are the nucleus. The other reason is the allomorphy with an initial ***y*** after final consonants, not found on postpositions. Also, both elements do not inflect for person, as do most postpositions.

[17] Formulated formally in a more correct way: the word accent in the word forms which contain these suffixes is on the syllable which is formed of a possible final consonant of the preceding stem and the initial vowel of one of these morphs. Rules of re-syllabification do again apply here. – The abstract phoneme "°"only occurs at the beginning of these and some further suffix morphs – such as ***/-°u/*** and ***/-°aw/***, cf. (26) – and manifests itself phonetically and orthographically as a homorganic stop after nasals or glides, or by blocking lenition of preceding oral stops. – */-°apan/* probably was formed from the derivational suffix (instrumental nominalizer, see below (35)) ***-ap*** and the essive case suffix ***-(z)an***, as is indicated by the fact that the first syllable of the suffix is oral, despite the nasal second syllable.

[18] It appears that ***-ju*** and ***-(z)an*** and possibly some other suffixes in some instances may attract word accent to the *preceding* syllable.

verbs in (35).[19] In both cases the derivational suffix can be added to a stem which is already followed by an aspectual suffix, which is another feature which makes these derivational suffixes look rather like inflectional suffixes.[20]

(34) Derivation stative verb to noun: accent remains unchanged

*t-a**ty**-tu*	*i-pi**la**ng-ytu*	*t-ope**tyj-e**ju-tu*	*t-ope**tyj**-ezoko-tu*
?-hurting-NR	?-red-NR	?-sleepy-PROG-NR	?-sleepy-IPVF-NR

(35) Derivation active verb to noun: accent remains unchanged

*t-a**tu**k-at*	*nã-pe**mim**-pap*	*te-po-ky**z**-**ap***	*t-a**tu**g-okw-at*
?-tk.bath-AGNR	3-surround-INSTNR	REFL-hand-wash-INSTNR	?-tk.bath-IPVF-AGNR

On the other hand, derivational suffixes which do **not** change membership between the major word classes do 'attract' word accent. Consider the examples for derivation of active intransitive (***-'at***) and transitive (***-ka***) verbs from stative verbs in (36) and for derivation of transitive verbs from transitive verbs (*-(t)u**kat***) in (37). There are also verbal suffixes which do not change word class at all but add a semantic element of 'wanting' (***-tej***, ***-tut***), in (38). For nouns, there are the suffixes for 'nominal tense' – 'former' (*-(**p**)**ut***) and 'future' (*-(z)ã**'jap***) –, which we analyze as derivational, in (39).

(36) Derivation of active verbs from stative verbs: accent moves to the suffix

*i-lo**le***	*o-lole-**'at***	*o-lole-**'a**-ju*	*wej-lole-**ka***	*wej-lole-**ka**-ka*
3-bad	3-bad-GET	3-bad-GET-PROG	3-bad-MAKE	3-bad-MAKE-NEG
is bad	got bad	is breaking down	spoiled (sth.)	did not spoil (sth.)

(37) Derivation of transitive verbs from transitive verbs: accent moves to the suffix

*a-**mỹ**je*	*a-mo-**mỹ**je*	*a-mo-mỹje-tu**kat***	*wej-lole-ka-tu**kat***
1-wake.up	1-CAUS-wake.up	1-CAUS-wake.up-CAUS	3-bad-MAKE-CAUS
I woke up	I woke sb. up	I made sb. wake sb. up	I made sb. spoil sth.

(38) Semantic derivation of active verbs: accent moves to the suffix

*a-**'u***	*a-'u-**tej**-ju*	*aj-atuk-**tur**-yka*	*a-tup-**tu**-ju*
1-eat	1-eat-want-PROG	1-tk.bath-want-NEG	1-see-want-PROG
I ate	I want to eat (I am hungry)	I did not want to tk. a bath	I want to see sth.

(39) Semantic derivation of nouns ('nominal tense'): accent moves to the suffix

*nã-pepo-**put***	*nã-kang-**ut***	*n-uwyg-**ut***	*inĩ-zan**'jap***	*kwa-zan**'jap***
3-wing-NLPST	3-bone-NLPST	3-blood-NLPST	hammock-NLFUT	sun-NLFUT

There is one last nominal suffix which may be considered derivational, although its function is to negate, and often to negate a predicative noun in equational sentences. The accent of word forms with this suffix is mainly on the last syllable of the original stem, but depending on the speaker and in order to stress the negation or for other rhetorical factors, it may fall on the last stem of the affix. Confer the examples in (40).

(40) Nominal negation: word accent on original stem and secondary accent on the suffix

*i**nĩ**-e**'ym***	*awy**ty**-za-e**'ym***	*more**kwa**r-e**'ym***
hammock-NEG	Awetí-GRP-NEG	cacique-NEG

[19] The verb to noun suffixes ***-ap*** 'INSTNR' and ***-at*** 'AGNR' are phonologically ***/-°aP/*** and ***/-°aT/***, and they trigger the same rules of resyllabification as does ***-aw***, see (27) above.

[20] As mentioned before, not changing the position of the accent is a property also of the nominal 'groupal' suffix ***-za***, which does, however, not change the part of speech.

6. Manifestation of accent for single word forms

Methodology

In the limited space of this paper we cannot present a conclusive study of the material manifestation of word accent in Awetí. In this section we will, however, give first general results of a acoustic phonetic comparison of accent syllables with syllables that do not carry word accent in single Awetí words with respect to three properties: intensity, duration and pitch. In the next section we will give first preliminary results of observations of word forms in syntactic contexts.

For the study of single word forms, we choose 21 words (or two-word phrases), mostly substantives, and made two recordings each with two speakers, one in isolation and one with the word embedded in a carrier sentence. We also asked one of the speakers to read the 21 words one after another; we believe that the result allows identifying certain effects of an overall enumeration intonation. Some of the substantives have penultimate accent, some are composed or derived or marked with a case suffix, and one is followed by a postposition. The words are given in (41). Finally, we also analyzed six analogous verb forms with different inflectional suffixes for each of five different verbs, read in isolation by one speaker.[21] See the table in (42).

(41) The twenty-one words / small phrases studied

*te**zyk*** 'sweet potatoe' [simple]; *tsã**pit*** 'pepper' [simple]; *tsã**pi**zan* 'as pepper' [essive case]; *tsã**pi**t e**ze*** 'with pepper' [with postposition]; *tsã**pi**rywo* 'by pepper' [instrumental case]; *tsãpi'**jyt*** 'small pepper' [composed]; *tsãpirwa**tu*** 'big pepper' [composed]; *tsã**pi**rut* 'former pepper' [derivation]; *mani'**yp*** 'manioc plant' [composed]; *peti'**yp*** 'pequi tree' [composed]; *peti'**a*** 'pequi fruit' [composed]; *peti'a'**ỹj*** 'pequi nut' [composed]; *peti'a**zỹ*** 'pequi spine' [composed]; *mor'a**pot*** 'pequi pit' [lexicalized composition]; *marirawo**zy*** 'small pepper' [lexicalized composition]; *tserere'e**kyt*** 'honey of European bee' [composed]; *ta**kã**nyt* 'parrot' [simple]; *nu**ka**kyt* 'hen / rooster' [simple]; *ypy**ta**ko* '(at) night' [simple adverb]; *nã**mim**pap* 'place to hide' [nominalization]; *tepoky**zap*** 'soap' (lit: 'instrument to wash oneselve's hand') [composition and nominalization].

(42) The six verb forms of five verbs studied

Stem	*kwa**luk***	***kỹj***	*ky**zy***	***man***	***mim***
Meaning	urinate	kill, hurt	wash	surround	hide, steal
Abs	*kwa**lu**ku*	*to**kỹj**tu*	*(nãky**zy**tu)*	*nã**man**tu*	*nã**mim**pu*
1.Sg. Pfv	*akwa**luk***	*a**kỹj***	*aky**zy***	*a**man***	*a**mim***
2.Sg. Prog	*ekwalu**ke**ju*	*e**kỹ**ju*	*eky**zy**ju*	*e**man**ju*	*emim**pe**ju*
3. Ipfv	*okwa**lu**goko*	*wej**kỹ**joko*	*wejky**zy**zoko*	*wej**ma**noko*	*wej**mi**moko*
Imp.Sg. + me	*ikwa**luk** nge*	*jo**kỹj** jẽ*	*joky**zy** me*	*jo**man** ne*	*jo**mim** me*
2.Sg. Ger	*ekwa**lu**kaw*	*e**kỹj**taw*	*eky**zaw***	*e**man**taw*	*e**mim**paw*

For each recording, we used the PRAAT computer program (see PRAAT) to measure the medium intensity and the intensity peak of all vowels, the duration of the whole phonetic syllables and of the vowels, and five different pitch values (see below) for the vowels in all syllables, in order to identify regularities which might be associated with the position of the word accent.

There are admittedly several potential or actual difficulties with our approach. First of all, the sample is rather small. In the case of the words read in isolation, there is the risk of intonation of enumeration intonation, in particular of an 'unnatural' duration

[21] One form was missing in the recordings; therefore we have in fact only 29 verb forms.

and an overall enumeration pitch contour, for instance in the case of the different verb forms read one after another.[22] Other problems are of a general methodological nature: what exactly is to measure? In the case of intensity: Are we to consider the middle value for the vowel or the value at a specific point (e.g., in the center) of the vowel? (We measured the medium value and the maximum value.) In the case of duration: should we measure the whole syllable or only the vowel? (We measured both.) There is certainly considerable influence of the syllable structure and of the property of segments (oral vs. nasal, initial stop versus continuant, final non-exploded consonants)?[23] In the case of the pitch measurements: which is what exactly to measure – the medium value, the highest (or lowest) point, the point at the temporal middle of the vowel or the point with greatest intensity? Also, for analyzing pitch, pitch contours inside the vowel or syllables may be important, and it may equally be relevant to establish an overall pitch contour for the word form as a whole, and not just to compare the isolated syllables. We measured the maximum pitch and the mean pitch of the vowels (note that we did not consider glides and voiced consonants which often begin or continue the pitch pattern of the syllable) and determined a basic pitch contour by measuring the pitch at three points: at 15%, 50% and 85% of its duration. We did not choose the very beginning or end of the vowel in order to minimize influence of transition effects (and often no value is determinable by the formulae).[24]

The results of our measurements are given in the tables in the appendix.

Kommentar: Another possibility is to insert some graphical illustrations which exemplify the observations,

Intensity

Although far from conclusive, the observation and measurements of the intensity of the vowels of the 21 words (and the 29 verb forms) allow formulating some general tendencies. We found that the mean as well as the maximum intensity for the vowels vary rather little within each of the different utterances, independently of the type of utterance.[25] There are generally no different results for the medium and the maximum measures, although these may not coincide. (Only in few cases a maximum of intensity is found outside the vowels.)

Given the high uniformity of intensity among the vowels in Awetí words, it would generally appear difficult to single out a specific syllable by its intensity. And indeed, neither the highest mean value for the vowel nor the absolute peak fall regularly on the syllable that carries word accent.[26] In some of the lists this happens even much

[22] However, comparison with the list read with enumeration intonation indicate that this did not occur.

[23] In the case of measuring the syllables, there are also general questions about the syllable frontier, in particular in the case of prenasalized stops which are phonologically part of one consonant. We considered a phonetic divison where the nasal part belongs to the first syllable. We also did not include final nasal or oral stops, which we consider to be extra-syllabic and which may also be difficult to measure in the case of not released stops.

[24] We determined an overall rise (r) or fall (f) comparing the height of the first and last point. If the difference was bigger than 3.5%, we considered the raise or fall to be strong (R or F). The inner pitch contour was determined by comparing the central point with the first and last point – if there was a difference bigger than 2%, we considered a raise (/) or fall (\), else a rather constant pitch (-). With this methodology, we obtained results such as “R//” (strong raising pitch contour in both halves), “f-\” (weak fall with rather constant pitch in the first half), or “r/\” (raising and than falling pitch contour which ends somewhat higher than it started).

[25] The mean deviations for each word are almost always below 3%, in the middle around 2.4% for both, maximum and mean values of intensity.

[26] The vowel of the accent syllable has the maximum of intensity in about two third of the cases only in the case of the enumeration-like readings. With the words spoken in isolation this happened only in 29%, and with carrier sentences the frequency is even only 21% of all cases.

below chance. Often the accent syllable has even values below the medium value for all syllables of the uttered word.

Therefore, we do not see any possibility to use intensity as a criterion for identifying the accent syllable in these words. It might be of significance, however, at least for identifying feet and the speech rhythm of Awetí, that for single words there seems to be a preference for the vowel with highest intensity to be in an impair syllable (mostly the first, sometimes the third, syllable).[27] The syllable with the lowest maximum intensity is also significantly more often on a pair syllable than on an impair one. On the other hand, we do not observe a clear pattern of alternating strong and weak syllables in the utterances. Therefore, and for the low variation of intensity in general, we hesitate to postulate, say, a preference for trochaic feet in Awetí.

Duration

There is no segmental phonological length in Awetí. Even when two identical vowels meet for morphological reasons, the result seems to be a syllable of average duration (as if one of the two vowels was deleted). Similar holds for consonants. But still, the phonetic length (relative duration) of the syllables, or that of their nuclei (the vowels), may be significant in identifying the syllable which carries the word accent.

We measured the duration of the vowel and that of the syllable as a whole for each syllable in the sample utterances. By observing the measurements, it seems clear that the influence of different segment types (nasals, lenis consonants vs. stops, vs. glides etc.) has to be studied more thoroughly before we can advance conclusive statements about the significance of the relative duration, for these seem to have considerable influence, in particular on syllable length. Therefore, from here on we focus on vowel length only, although this, too, is influenced by the quality of the vowel and by the adjacent segments.

In contrast to the intensity measures, the variability of duration is rather high (average mean deviation of 27% for vowel duration). It is remarkable that in the enumeration reading, all accent bearing syllables contain also the longest vowel of the word, so in this case duration seems indeed to be used to mark, or reinforce the marking of, the accent location. Therefore vowel length might indeed be a significant factor, even if a large part of the variation is dependent on the segmental structure rather than accent position.

This finding is supported by the observation that generally the vowel in the accent syllable is longer (in the mean 29% longer) than the mean duration of vowels in the word utterance. Nevertheless, it would appear that vowel duration can not be the decisive factor in determining the accent syllable – in the mean, in one third of the cases the accent bearing syllable has *not* the vowel with longest duration, and in many cases the duration of the vowel in the accent syllable is even below the mean value for all vowels of the word. We conclude that duration cannot be the only, and probably not even the most important, criterion – at least not in the simple form “accent syllable = longest vowel”.

[27] The vowel with maximum intensity is in three fourth of the utterances in an impair syllable, for one speaker in the case of utterances with carrier sentence even in 90% of the utterances. Interestingly, here the enumeration-readings score low, possibly because in these utterances intensity is used to reinforce stress of the accent syllable.

Pitch

The results for the contribution of the (relative) pitch to the identification of the accent syllable must, too, still be considered preliminary. As long as we have not clearly identified the existing syntactic accents (prosodic – in particular intonation – patterns of syntactic accentuation) and their function, we cannot be sure to correctly interpret the pitch contours found on the isolated word forms.

Nevertheless, in many languages pitch is the main factor for the overall sentence intonation ('sentence stress') pattern, and as we explained above, we conceive word accent as the potential for sentence 'stress' and therefore expect that pitch may be decisive for word accent ('stress') as well; even more so as duration and intensity seem unable to reliably identify the word accent. At least, variation of pitch in Awetí, which is not a tone language, is in a range that permits clear patterns.[28]

At first sight, the results for pitch seem to be similar to those for duration – in only around 60% of the uttered forms the vowel with the highest mean pitch is the nucleus of the accent syllable, even in the case of the reading with enumeration intonation. The matches for the vowel with the highest maximum pitch are only slightly higher, around 64%. But when we inspect the 'exceptional' uttered word forms (where the vowel with highest mean or maximum pitch is not in the accent syllable), there are almost always regular explanations for the deviation. This is most clear for the list reading with enumeration intonation: Here the highest pitch is simply almost always on the last syllable; only in the last uttered form the last syllable has (extremely) low pitch. This obviously allows attributing the deviations to the enumeration intonation.[29]

Also the deviations in the case of the set of verb forms are very regular. Here it is not, however, enumeration intonation (the last syllable only has highest pitch when it is the accent syllable), but the composition of the forms. For one thing, we taped forms with the final enclitic particle ***me***, which is known for its association with high pitch. If we do not consider these particle occurrences, the highest pitch is, as expected, on the preceding (the accent-bearing) syllable. Secondly, all imperfective forms (with the suffix ***-(z)oko***) have highest (mean and maximum) pitch on the syllable **following** the accent syllable (which contains the first ***o*** of the suffix). The second highest pitch values are on the preceding (the accent-bearing) syllable.

Nevertheless, it would not be correct to assign word accent to this first syllable of the suffix. This becomes clearer when we consider the internal and overall pitch contour. We observe that after one or several syllables with low, and usually falling, pitch, there is a **raise** of pitch on the accent syllable. In the case of the suffix ***-(z)oko*** (and some other suffixes), this movement seems to be continued for a small while on the first suffix syllable, but the vowel of this syllable usually has an overall **falling** pitch contour (f/\), albeit on a high level.

Indeed, the internal pitch contour of the vowels, in combination with their pitch level, seems to be the most reliable indication of the accent syllable in Awetí. A raising pitch, almost always after one or several syllables with falling and overall low pitch,

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[28] The mean deviation within uttered words measuring pitch peaks in vowels is 7%. The value for the mean deviation within uttered words, measuring the mean pitch for each vowel, is identically 7%.

[29] There are two further forms with highest pitch before the final syllable. In one case, *peti'**yp***, this seems to be a spurious effect of creaky voice due to the following glottal stop. The other case is the third-to-last uttered word, with highest pitch on the penultimate syllable, which is the accent syllable. This may indicate a break of the enumeration pattern, and a return to 'natural' intonation.

is found in 100% of the utterances of word forms in carrier sentences with both speakers, notwithstanding that the absolute maximum or mean pitch may be on another vowel. The same holds for the enumeration-like reading (even for words with non-final word accent), except for the last word, which has low and falling pitch on the last (and accent-bearing) syllable. (This is probably the indication of the end of the enumeration.)

In the case of the simple words with penultimate accent ***takãnyt***, ***nukakyt***, ***ypytako***, and also in the case of ***tsãpizan***, the last syllable has higher pitch with one speaker (not with the other), but the raising of the pitch starts clearly on the accent syllable, and the final syllables have usually an overall falling contour. When read as a list (enumeration intonation), the same words have even raising pitch on the last syllables of these words (and also in the case of ***tsãpirywo***)[30], but again, the accent syllable is clearly marked by being the first syllable with rising pitch after syllables with low (and falling) pitch contour.

Using these criteria (first syllable with higher and raising pitch after syllables with lower and usually falling pitch) for the identification of the accent syllable, we get satisfactory results also for most word forms uttered in isolation. There are only four word utterances of one speaker and two of the other speaker, not concerning the same words, which show a clearly different, almost inverted, pattern: The vowel of the accent syllable has the **lowest** overall mean pitch, and a **falling** pitch contour. In these word utterances, the preceding syllables are higher, but have usually also falling pitch. We consider these utterances to be instances of the manifestation of a different intonation pattern, that is, another syntactic accent (similar to that which marks the end of an enumeration). The exact shape and function of this syntactic accent have to be understood better; but it seems clear that still the accent syllable bears a syntactic accent, marked in this case by overall lowest pitch. Note that with carrier sentences this intonation pattern does not occur.[31]

7. Manifestation of accent for word forms in context

It is to be expected that the patterns of manifestation of word accent change considerably when the words are uttered in different syntactic environments. For this study, we observe 21 utterances by each of the two speakers. In each, the word *pira**'yt*** 'fish' occurs in a different context – as subject, object, complement of postpositions, or as predicates – and in different positions (in particular, sentence-initially and medially). Often we only changed another sentence by adding the adverb ***mimõ*** 'yesterday' or one or the other of the final particles ***me*** or ***a'yn***, which do not change the proposition nor the sentence type. There are also occurrences of the negated form *pira**'yr**yka* '(there is) no fish', and the last three phrases are questions.

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[30] It seems that both speakers, when uttering the words in isolation, treat the postposition *e**ze*** as if it was a suffix, assigning the main accent on the substantive (with a secondary raise on the final syllable with one speaker). In carrier sentences, however, the difference of suffix and postposition is clear for both speakers, with the highest and raising pitch on the final syllable of the postposition (and a secondary raising syllable in the substantive with the other speaker). For these very reasons, the differentiation of case suffixes and postposition in Awetí is a delicate matter. Similar differences can be observed in the case of composed (or derived?) words with the element *wa**tu***.

[31] There are still some four forms spoken in isolation by one speaker which do not in all aspects reflect the marking of the accent syllable – usually because of an overall falling pitch contour on the accent vowel. These cases may be explainable by observing the morphological composition and the behavior of adjacent glides and nasals, which have not been considered for this study.

(43) The twenty-one small phrases containing '*pira'yt*' studied

(1) ***pira'yt opotpore a'yn*** 'the fish jumped'; — (2) ***mimõ pira'yt potporetu a'yn*** 'yesterday the fish jumped'; — (3) ***pira'yt ologe a'yn*** 'the fish escaped'; — (4) ***mimõ pira'yt ologetu a'yn*** 'yesterday the fish escaped'; — (5) ***an pira'yryka*** 'there is no fish'; — (6) ***mimõ an pira'yryka me*** 'yesterday there was no fish'; — (7) ***mimõ an pira'yryka a'yn*** (ditto); — (8) ***a'ywõju pira'yt*** 'I shoot fish'; — (9) ***mimõ a'ywõju pira'yt*** 'yesterday I shoot fish'; — (10) ***mimõ a'ywõju pira'yt ne*** (ditto); — (11) ***mimõ a'ywõju pira'yt a'yn*** (ditto); — (12) ***oto pira'yt kyty*** 'he went for fish'; — (13) ***pira'yt kyty oto a'yn*** (ditto); — (14) ***mimõ pira'yt kyty nãtotu*** 'yesterday he went for fish'; — (13) ***mopaza wejmoto tu'umytu pira'yt kyty*** 'the shamans give pequi pit to the fish'; — (14) ***mopaza wejmoto tu'umytu pira'yt kyty a'yn*** (ditto); — (15) ***mopaza wejmoto tu'umytu pira'yt kyty me*** (ditto); — (16) ***pira'yt papuwo kajkar'utejtu*** 'when the fish runs out we are hungry'; — (17) ***wan pira'yt?*** 'is there fish?'; — (18) ***pira'yt 'ekỹj?*** 'did you kill fish'; — (19) ***'ekỹj pira'yt ne?*** (ditto).

From the two recordings, we isolated the occurrences of ***pira'yt*** (***pira'yryka***) and took the same measurements as before for the single word forms: mean and maximum intensity of the vowels, duration of syllables and vowels, and maximum and mean pitch as well as pitch at 15%, 50% and 85% (by duration) of the vowel.

In what follows, we carry out the same analyses as before in order to see which of the characteristics change in different syntactic and intonation environment. Of course, again, as long as we have not identified the different syntactic intonation patterns, our observations may be incomplete or even mistaken in some details.

Intensity and duration

Observing the intensity in the 42 utterances of forms of the word fish in different syntactic contexts, we find that there is still very little variation between the three (or five) syllables (the medium deviation of all values of maximum intensity in the vowels is of only 2.4%). This again seems to make marking of any syllable by intensity implausible. What is stronger evidence: only in **one** utterance the vowel of the accent syllable has the highest maximum of intensity of all syllables in the same word form.

There is, on the contrary, a strong preference (88%) for the maximum intensity in the **second** syllable, independent of the context, including at the beginning of the sentences (being evidence against a possible trochaic rhythmic preference in Awetí). We do not consider a hypothetically possible rule such as "the accent syllable is that AFTER the syllable with highest intensity", which seems rather improbable and should have shown some effects in the utterances of the single word forms.

The duration of the vowels in utterances of ***pira'yt*** in different contexts is also not consistently associated with word accent – only 55% of the longest vowels occur in the accent bearing syllable. Even in the cases where the longest vowels does occur there, this is not necessarily an effect of the accent position and may well be, for instance, a side effect of a general tendency of the vowels to become longer and longer from syllable to syllable.[32] There are some coincidences in the distributions of longer and shorter pronunciations of vowels between the two speakers which also point at an influence of the wider environment, which again may have different reasons (rhythm, sentence intonation, etc.).

[32] The first syllable has in all cases the shortest vowel, which may be due to its internal composition. In almost 70% in the studied words, in a sequence of two syllables the first is longer that the second.

Pitch

The measurements of pitch values in the utterances of ***pira'yt*** in different contexts confirm the findings from the study of utterances of single words reported above, and allow refining them in some aspects.

As before, it would be naïve to expect the highest maximum or mean pitch regularly to occur in the accent syllable. Not surprisingly, this is even less often the case in the context utterances than for the isolated forms, for one speaker even only in 29% of the cases. This speaker has remarkably often a high pitch in the first syllable – but in all these utterances, the pitch on that first syllable is clearly falling. This is usually incompatible with being the accent syllable, if this manifests any syntactic accentuation.

In turn, the accent bearing syllable is again consistently associated with a raising pitch contour after an overall lower, and falling, pitch on the preceding vowel. (The low and falling pitch contour on the preceding syllable is possibly the most stable feature of word accent in Awetí.)

We also observe that the negative suffix ***-yka*** behaves similar to ***-(z)oko***, with first a higher pitch than that of the preceding (accent) syllable, but having itself generally a falling pitch contour. Only the particle ***me*** is again almost always carrying sentence-final high and raising pitch.

Interesting are the utterances of questions, in particular those where the studied word is in final position or followed only by ***me***. Here, we have a clearly different sentence intonation: questions seem to require a final falling pitch contour in Awetí. When the accent syllable is the last of the whole utterance, both speakers pronounce a clear rise-fall on the notably longer final syllable. When the accent syllable is followed by ***me*** in a question, this particle has a falling pitch contour, which one speaker begins already on the vowel of the preceding accent syllable, while the other maintains the raising pitch on the accent syllable.

There is only one group of utterances where the syntactic context indeed changes the behavior of the word-accent bearing syllable: when the word is followed by the postposition ***kyty***. In utterances of these sentences, the final syllable does regularly not have a significantly higher pitch than the preceding syllable, and even more significantly, it does not show a clear raising pitch contour.[33] We believe that in these sentences the word ***pira'yt*** is not in highlighted at all, and that therefore its final syllable does not bear any syntactic accent. Instead, the accentuation falls on the first syllable of the postposition. This illustrates that the word accent only entails the **capacity** of bearing a syntactic accent. Depending on the context, this potential property does not surface.[34]

8. Conclusion

In the first part of this contribution, we showed and illustrated that word accent usually falls on the last syllable of the stem in simple words, with some exceptions which in turn show some clear patterns. This general rule is still valid when inflectional suffixes are added, again with a few exceptions. Derivational affixes generally do not change the accent position if they cause a change of the major word

[33] The vowel in the final syllable of *pira'**yt*** may still be more or less stable and may even have a minor overall raising, as often is the case with one speaker, or an initial raising phase, as happens in several instances with the other speaker.

[34] Still, note that the preceding syllables have consistently a strong falling pitch contour.

class, but several derivational affixes which change the verb type or valency or are purely semantic do ‘attract’ the word accent.

In the second part we offered an explorative acoustic-phonetic study of the manifestation of word accent in Awetí, studying utterances of single word forms and of a word in different contexts. Intensity seems to be rather uniform among the syllables in words and sentences in Awetí; it can not be related clearly with word (or sentence) accent at all. Duration interacts in some way with word accent but seems more strongly determined by other factors. It is therefore insufficient for the identification of the accent bearing syllable.

Our analysis of the pitch contour of single words and words in context revealed that pitch is the most important feature for identifying the accent syllable in Awetí words (and phrases). The accent syllable does not necessarily have the overall highest pitch, but if it bears syntactic accentuation at all, it almost always has a significantly higher pitch than the preceding syllable(s), and, more importantly, it has generally a clearly raising pitch contour while the preceding (and usually the following) syllables have a falling pitch contour, in particular the immediately preceding syllable. Exceptions to this general rule are easily captured by rules which may refer to the morphological composition or syntactically following word and in some cases to the sentence type.

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