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TONE CASES IN UMBUNDU

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1. INTRODUCTION

1.1. General observations

The Bantu language UMbundu (úmbúndù), R.11 in Guthrie's referential classification, is spoken in the central Angolan provinces Bié, Huambo, and Benguela. The speakers refer to themselves as OviMbundu, singular OciMbundu. The language is spoken rather uniformly on the plateau (planalto in Portuguese) but the dialects of some outlying areas including the coastal settlements are well distinguished.

The present study is based on data collected during 1981/82 from three informants, all from Bié. It is, as far as I know, the first systematic treatment of tone in UMbundu. Its aim is to describe the tonal inflection of nouns; to achieve this, a general description of nominal tone types and their derivation from base forms is needed. A historical discussion of UMbundu case marking and tone types is presented separately in the final section.

1.2. Tones and Tone Marking

UMbundu has three contrastive tones: low (L), high (H), and downstepped high (ꜜH). High-to-Low falling tones are extremely rare; they occur in some demonstratives and in one particular verb form. They clearly are the result of contraction. There are no rising tones. The tonal surface structure of UMbundu is such that the most economical way of marking tone appears to be a version of the Christaller method. The following conventions shall apply:

(i) The first acute accent in a word represents a high tone.
(ii) Subsequent acute accents represent downstepped high tones.
(iii) A grave accent represents a low tone.
(iv) Unmarked syllables are understood to carry the same tone as the preceding syllable.

Here are some examples:

tùlevalisa	We lend.
L L L L L	
ócilandisà	She sells it.
H H H H L	

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kàtúkacitólà L H H H!H L	We shall not tear it.
cìlándá L H !H	Buy it.
kàtwálandîlé L H H !H!H	We did not buy.
káyongóla òkundandula H H !H H L L L L L	He does not wish to follow me.

A word initial high tone is a bit lower than a following high tone if this in turn is followed by a downstep. A high tone followed by a final !H is realized as a fall from high to downstepped high level.

ócimóla [-¯--]	He sees it.
cìlándá [-¯-]	Buy it.

1.3. Tone Types

Phonologically speaking, nouns may be classified according to (i) the number of syllables in the stem, (ii) the number of syllables of the prefix, and (iii) the tone of the noun stem. All nominal prefixes are tonally identical, thus the tone type of a noun depends entirely on its stem. Below I give examples of all those types including - where possible - verbal nouns of class 15 (infinitives). To facilitate recognition of prefix and stem I insert a period but this is to be understood as an informal and approximate mark only since, in surface phonology, the exact position of the pre-stem boundary does not always coincide with syllable or segment breaks. In UMbundu, all nouns appear in either of two tonal shapes which I shall call form A (left column) and form B (right column). A schematic representation of this table is given in section 3.1 below.

Monosyllabic stems:

(1-1) A:	é.yó	B: è.yo	tooth
	óva.yò	òva.yo	teeth
	-	-	(no verbs exist)
(1-2) A:	ón.jó	B: òn.jó	house
	ótu.ló	òtu.ló	sleep
	óku.lyá	òku.lyá	to eat

Disyllabic stems:

(2-1) A:	ón.dukò	B: òn.duko	name
	óci.petà	òci.peta	bark
	óku.sangà	òku.sanga	to meet

(2-2) A:	ú.lúme	B:	ù.lúme	man
	óci.túngo		òci.túngo	sauce
	óku.tánga		òku.tánga	to read
(2-3) A:	ú.livî	B:	ù.livî	trap
	ólu.singá		òlu.singá	vein
	-		-	(no verbs)
(2-4) A:	ú.válò	B:	ù.válò	clothing
	óci.vávi		òci.vávi	spider
	óku.tólà		òku.tólà	to tear
(2-5) A:	ó.móǐó	B:	ò.móǐó	castor-oil plant
	ólun.jálá		òlun.jálá	fingernail
	-		-	(no verbs)

Trisyllabic stems:

(3-1) A:	é.kokolò	B:	è.kokolo	lizard
	óku.sonamà		òku.sonama	to kneel
(3-2) A:	é.ŋîǐiǐò	B:	è.ŋîǐiǐò	entry
	óku.tálamà		òku.tálamà	to stand
(3-3) A:	á.sénjele	B:	à.sénjele	milk
(3-4) A:	óm.butésa	B:	òm.butésa	snuffbox
(3-5) A:	ó.ŋoǐosî	B:	ò.ŋoǐosî	time between sunset and night
(3-6) A:	óm.baǐáw̃ù	B:	òm.baǐáw̃ù	aeroplane
(3-7) A:	ú.máǐeñé	B:	ù.máǐeñé	younger brother
(3-8) A:	é.ceǐáǐá	B:	è.ceǐáǐá	eight

Quadrisyllabic stems:

(4-1) A:	é.salamiñò	B:	è.salamiño	sweat
	óku.pandululà		òku.pandulula	to untie
(4-2) A:	ú.yéveleli	B:	ù.yéveleli	listener
	óku.kútululà		òku.kútulula	to untie

All three and four-syllable infinitives belong to the tone types (3-1), (3-2), (4-1), and (4-2). Trisyllabic noun stems not derived from verbs are rare. Among the examples are relatively many compound stems as well as borrowings. There are probably many more tone types for four-syllable stems but examples for these are scarce.

1.4. Nominal Prefixes and the Augment

All nouns cited so far had a nominal prefix. Here is a list of the basic forms of all primary nominal prefixes.

singular classes		plural classes	
1:	u-	2:	a-
3:	u-	4:	ovi-
5:	e-	6:	a-
7:	oci-		
9:	on-	10:	olo-n-
11:	olu-		
12:	oka-	13:	otu-
15:	oku-		

It can be seen that there are two kinds of prefixes. The shorter type consists of a single vowel, i.e. u-, a-, or e-. The longer type consists of an initial vowel o followed by CV or N or by a combination of these. Longer prefix combinations also occur. The initial vowel o- is known as the augment (Meeussen 1967, De Blois 1970). The apparent absence of the augment in the nominal prefixes of classes 1, 2, 3, and 6 is clearly the result of a phonological rule that deletes the vocalic augment before another vowel. Note that the nominal prefix a- of classes 2 and 6 has a variant ova- (with augment) which is used before monosyllabic stems, e.g. óvayò 'teeth'.

In UMbundu, the augment is retained in all syntactic environments. However, there are morphological environments - both flexional and derivational - in which the augment is regularly absent. Such environments are, for instance:

(i) After the negative index há-:

há.ci.m.bandà-kó	he is not a/the doctor
cf. óci.m.bandà	doctor

(ii) Before the class 2a nominal prefix va-:

vá.kwîmbò	the villagers

(iii) Within a sequence of several nominal prefixes:

óci.n.déle	white-man
cf. ón.déle	spirit

(iv) Before the second member of a noun-plus-noun compound:

épundúsima	baboon
cf. é.pundù	baboon
ó.sîma	monkey

(v) With proper names which may or may not be derived from common nouns:

Vî.yé	Bié

N.gévé	n.pr.
cf. ón.gevé	hippopotamos

Nouns without an augment (see examples in (ii) and (v) above) also occur in two tonal shapes, form A and form B. Here follow examples with disyllabic stems.

(2-1)	A: Cîmbandà	B: Cìmbanda	Doctor
(2-2)	A: Kándîmba	B: Kàndîmba	Mr Hare
(2-3)	A: Sómá	B: Sòmá	Chief
(2-4)	A: vákwîmbò	B: vàkwîmbò	the villagers
(2-5)	A: vákwánjó	B: vàkwánjó	the heads of the households

2. SYNTACTIC DISTRIBUTION OF TONE CASES

2.1. Two Forms - Three Cases

It has been shown that for each tonal type there are two forms in which it may appear. The two forms are solely distinguished by tone, and their use is syntactically defined, thus, the term "tone case" seems admissible. The distribution of these cases is somewhat different from the familiar Indoeuropean pattern but the basic resemblances are clear. In the typological framework suggested by Heine and Vossen (1981), a language is considered to have a case system if there is minimally a distinction between nominative and accusative forms of the noun. Incidentally, Heine and Vossen classify UMbundu as lacking a case system, but the data presented in this paper show that in the most normal type of basic SVO sentences, UMbundu does formally distinguish the subject from the object. Though each noun appears in two forms only, three classes of environments have to be distinguished to accomodate the distribution of forms A and B, which is different for nouns with and without an augment.

environment	noun with augment		noun without augment		case label
I	óngevé	(A)	Ngévé	(A)	PRED
II	óngevé	(A)	Ngèvé	(B)	OC
III	òngevé	(B)	Ngèvé	(B)	CC

The three classes of syntactic environments I, II, and III are interpreted as three cases for which I use the labels Predicative (PRED), Object Case (OC), and Common Case (CC), respectively. As is normal in morphological case systems, such labels do not fully define the semantic function of a form class; they are at best suggestive of one principal syntactic use.

2.2. Use of the Predicative

All nouns, whether with or without an augment, use form A for citation purposes ("How do you call this?") as well as for nominal predicates. I subsume both uses under the term "Predicative".

(i) Citation:

ónjîla	bird
Kándîmba	Mr Hare

(ii) Predication:

ómokó	It is a knife.
òngólo ócinamà	A zebra is an animal.
Sómá	It's the Chief.

2.3. Use of the Object Case

For nouns with an augment, the Object case is identical with the Predicative, i.e. form A is used for both. Nouns without an augment, however, distinguish the two cases by using form A for the Predicative and form B for the Object Case. The label OC refers to the most salient syntactic function of this case which is to mark the direct object in basic SVO sentences. It should not disturb us that neither all nor only direct objects are marked as OC. The examples below give an idea of the range of uses of OC without pretending to analyse the various syntactic structures involved. Contrasting examples with CC are presented in section 2.4 below.

(i) First complement of an affirmative, non-subordinated verb:

ndàlandá ómbîsi	I bought (a/the) fish.
ndàsangá Sòmá	I met the Chief.

These two examples show direct objects of transitive verbs. The noun with an augment appears in form A, the noun without augment in form B.

kòlwî kúli óvitî	There are trees by the river.

A closer translation of this sentence would be 'at-river there-is trees'. The verb 'to be' has subject concord agreement with the locative noun 'at-river', and 'trees' behaves tonally as an object.

vîkasî vólwî	They live in the river.
ndàlúmaníwà kómbwá	I was bitten by a dog.

In these two examples, the complements are locative nouns. They both appear in form A, i.e. they are marked as OC. As far as tone is concerned, there is no distinction between locative objects and locative adjuncts. Note that locatives, too, have tone cases, as can be seen by comparing kòlwî (form B, subject position) with vólwî (form A, locative complement).

ònjalî îváñà épakò	The parent gave them the fruit.
ònjalî îlyecà kómáña	The parent gave it to the children.

Here, we have two different verbs translating as 'to give', both with a pronominal object incorporated into the verb form. The first of these verbs, ókwîñà, takes the recipient as its most direct complement, in our example represented by the object concord -va- referring to (the noun class of) ómáña 'children'. The less direct complement, épakò 'fruit', appears in form A (OC). The other verb, ókwęcà, takes the transferred item as its direct object, here represented by the object concord -ly- referring to (the noun class of) épakò. The recipient, kómáña 'to the children', appears with a locative pre-prefix but still in form A, i.e. OC.

(ii) After kwénda and là- 'and/with':

òhósi kwénda óngandú vyáliyáka	The lion and the crocodile were fighting.
òhósi lóngandú vyáliyáka	(idem)

In these examples, the subject is a conjoined noun phrase. The first noun, òhósi 'lion', appears in form B (CC) as is the rule for subjects. However, the second noun, óngandú 'crocodile', appears in form A (OC). The example below proves that a syntactic condition is involved and not merely a tone rule:

Hósí làNgandú váliyáka	Lion and Crocodile were fighting.

Here, Ngàndú appears in form B which for nouns without augment is the form for both OC and CC. (Note that forms A and B cannot be distinguished in a noun such as Hósi which has neither an augment nor a syllabic prefix.)

2.4. Use of the Common Case

The Common Case is used in all other environments. The term is borrowed from English grammar where it may designate the uninflected form of the noun as

opposed to the inflected Saxon genitive. The parallel is functional rather than formal because in our system of tonal case marking it is not obvious which (if any) of the two forms should be regarded as "uninflected". All nouns, whether with or without an augment, use form B to mark this case, and we shall see later that there are synchronic and diachronic reasons to regard this form as more basic than form A. The label "Common Case" is meant to suggest absence of any particular syntactic function. The list of environments in which CC is used is therefore longer and more divers than those above for PRED and OC.

(i) Subject:

òlusapò lwápwá	The story is finished.
vòmbénje múĩi óváva	In the calabash there is water.
tánga úkándà èkamba lyángè ásoneña	Read the letter my friend wrote.
tánga úkánda Kàmba lyángè ásoneña (idem)	

A noun functioning as subject, whether in the main clause or in a relative clause, whether with or without an augment or a locative pre-prefix, always appears in form B (CC).

(ii) Second complement:

ònjalî yáñá ómáĩa èpako	The parent gave the children the fruit.
ònjalî yácá épakò kòmáĩa	The parent gave the fruit to the children.

In these two examples, the two verbs 'to give' are used with two nominal objects. In both sentences, the first object appears in the OC and the second in the CC. The second object is a simple noun when the verb ókwîñà is used, and a locative noun after the verb ókwecà.

ólongisà ómáĩa òkuténda	He teaches the children to count.
ókasî lókulongisà òmáĩa òkuténda	He is teaching the children to count.

The first of these examples simply demonstrates the use of OC for the first and CC for the second complement which happens to be an infinitive, i.e. a noun of class 15. The second sentence contains a progressive construction consisting of the inflected auxiliary verb form ókasî 'he is' followed by an infinitive which itself contains the proclitic index l(à)-. This infinitive is treated as the first complement (OC), and both subsequent nouns now take the form of the CC.

átundè-mó vùlivî	May he get out of the trap.

Here, the verb form has an enclitic object "substitutive", -mó (cl.18), referring to the locative class of vùlivî 'in the trap'. Unlike the incorporated

object concord in pre-stem position, the enclitic substitutive, which can only be used in the three locative classes, does count as the first complement. Therefore, the nominal complement takes second position and appears in the B-form appropriate for CC. Compare the same sentence without the enclitic:

átundè vúlivî	May he leave the trap.

The next example is an UMbundu proverb:

òcîli cúkongò ónumbá pèká	The truth of the hunter is the piece of meat in (his) hand.

This sentence has a non-verbal predicate. Its first part, ónumbá 'piece of meat', stands in the PRED form (indistinguishable from OC for this type of noun). The second part is a locative noun derived from éká 'palm' and functioning as an attribute; this noun, too, appears in form B (CC).

(iii) Complement of a negative verb form:

syálandéle òmbîsi	I did not buy (a/the) fish.

(iv) Complement in a subordinated clause:

ndàsangá éŋangà lyáponda òhósi	I met the hunter who killed the lion.
èci wáŋisilé òkulu ...	When he had inserted his leg ...
ndà wálilè òmbîsi ...	If he had eaten the fish ...

The first of these examples shows the CC being used for an object of a relative clause. The last two examples are subordinated clauses introduced by the conjunctions èci 'when' and ndà 'if', respectively. No complete survey of subordination has been undertaken, and it is possible that other types exist which have different case frames.

(v) Subordinated infinitives:

nóké Hósi òkucîyeva ...	When Lion heard this ...

In the UMbundu sentence, the verb is not inflected but an infinitive, i.e. a class 15 noun, appearing in its CC form.

(vi) Complement of a progressive verb form:

There are several progressive tenses without an auxiliary. These tenses are morphologically deviant from other conjugational forms. They are also special in that the object of such verb forms appears in the CC.

vóvalandisâ àpako — They are selling fruit(s).

(vii) Before a numeral:

wálandá òlombísi vîvalî — She bought two fish.

Here, òlombísi 'fish (pl)' is the direct object but it nonetheless stands in form B (CC). Actually, in this environment, both CC and OC are acceptable:

wáponda ó ɲama vîtatu
or: wáponda óviɲamà vîtatu — He killed three animals.

In subject position, CC is used for a noun followed by a numeral, and as far as I know, OC would not be acceptable:

àtémo átatu áɲaniwa — Three hoes were stolen.

On the other hand, a predicative noun followed by a numeral will appear in its PRED form (form A); compare:

óciɲamà cîmosî — It's one animal.
òciɲama cîmosî — One animal.

The first of these phrases would be an appropriate answer to the question "What is this?"; the second could be used answering the question "What did you see?".

(viii) Nouns outside the predication frame:

Most of my examples concern sentence initial nouns or noun phrases.

ètéke lîmwe, Kàndîmba wáfetika ókwendà — Once upon a time (lit. day one), Mr Hare set out on a journey.

When the object of the verb is preposed it also appears in the CC. However, the verb should then receive an object concord or an enclitic referring to (the class of) the fronted noun.

ònjalî yácá épakò kòmâ͡la — The parent gave the fruit to the children.

èpako, ònjalî îlyecà kómâ͡la
kòmâ͡la, ònjalî yácá-ko èpako

Either of the two objects, when fronted, appears in its CC form. When this happens to the direct object, the verb form incorporates the matching object con-

cord, -ly- (-li-), and the other object moves up to first position with OC. when the other complement is fronted, the locative object agreement has to be expressed by an enclitic substitutive, and thereby the direct object is pushed into second position with CC.

lîkutulula, èpundá Untie it, the donkey.

This is one of my few examples with a postposed noun: èpundá (CC), which is a kind of an afterthought. The imperative verb form has the matching object concord -li- in pre-stem position (here: word initially). The sentence is felt to be clumsy, preposing would be better. Even so it is clear that syntactically èpundá cannot be the direct object in spite of its being semantically the patient and immediately following the verb.

3. PHONOLOGICAL DERIVATION OF TONE CASES

3.1. Tone Case Marking and Its Derivation

To facilitate the following discussion I shall summarize the tone types presented above in section 1.3. In the table below (and thereafter), the symbol = represents the pre-stem boundary. Infinitives occur only in the tone types marked V.

	Form A	Form B
(1-1)	(H)H = L	(L)L = L
(1-2) V	(H)H = ˈH	(L)L = H
(2-1) V	(H)H = H L	(L)L = L L
(2-2) V	(H)H = ˈH H	(L)L = H H
(2-3)	(H)H = HˈH	(L)L = L H
(2-4) V	(H)H = ˈH L	(L)L = H L
(2-5)	(H)H = ˈHˈH	(L)L = HˈH
(3-1) V	(H)H = H H L	(L)L = L L L
(3-2) V	(H)H = ˈH H L	(L)L = H H L
(3-3)	(H)H = ˈH H H	(L)L = H H H
(3-4)	(H)H = HˈH H	(L)L = L H H
(3-5)	(H)H = H HˈH	(L)L = L L H
(3-6)	(H)H = HˈH L	(L)L = L H L
(3-7)	(H)H = ˈH HˈH	(L)L = H HˈH
(3-8)	(H)H = HˈHˈH	(L)L = L HˈH
(4-1) V	(H)H = H H H L	(L)L = L L L L
(4-2) V	(H)H = ˈH H H L	(L)L = H H H L

All A-forms ("A" from Portuguese alto 'high') start with a high tone, all B-forms (from baixo 'low') start with a low tone. The relation between A- and B-forms is absolutely regular. A-forms differ from B-forms in that they have a word initial sequence of low tones in place of a sequence of high tones; this sequence is then followed by a downstep if the B-form contains at least one high tone, but if the B-form contains no high tone the final syllable remains low in the A-form. Otherwise, A- and B-forms are identical. This suggests that A-forms contain an initial high tone not present in the B-forms. Assuming such a tone in the underlying representation of A-forms, two simple rules could handle the derivation:

SPREADING: $L^{n}_{1} \rightarrow H^{n}_{1}L_{\delta}$ / #H__

FINAL LOWERING: $HL_{\delta} \rightarrow L$ / __#

The symbol L_{δ} may be understood as a floating low tone. After the application of SPREADING it occurs either between two high tones where it is to be interpreted as a downstep ($HL_{\delta}H$ is realized as $H^{!}H$), or else after a high tone at the end of a word in which case FL applies and changes the word final high tone to low.

Something must now be said about the morphological status of this word initial high tone in A-forms. It has been shown in section 2.1 above that A- and B-forms do not directly represent cases as nouns with and without augment take A- and B-forms, respectively, in the Object Case. Therefore, the underlying or base forms (here represented by a small raised circle; high and low tones fully marked) should be able to express a three-way distinction. The following solution is proposed:

	with augment	without augment
PRED	°ɔ̀-ɔ̀-ǹ=gèvé	°ɔ̀-ǹ=gèvé
OC	° ɔ́-ǹ=gèvé	° ǹ=gèvé
CC	° ɔ̀-ǹ=gèvé	° ǹ=gèvé

The Common Case forms are distinguished from the Object case forms by a low tone augment. Thus, no distinction is possible when the noun lacks the augment. Phonologically, the low tone augment is the unmarked form; correspondingly, CC functions as the unmarked, residual case. In the Predicative, nouns have an initial high tone the presence of which is not dependent on that of any augment. Therefore, I propose a floating high tone with the morphological status of a "predicative index", rather comparable to other preclitic indexes such as associative index là- and the negative index há-.

3.2. Base Forms and Rules For Noun Stems

It has become clear that B-forms are closer to base forms than are the A-forms. As for monosyllabic stems, B-forms are identical to base forms, and the same is true for the disyllabic tone types (2-1) and (2-3). The respective A-forms are correctly derived by SPREADING and FINAL LOWERING.

(1-1)	°ó-và=yò	°ò-và=yò	teeth
	→ H H L	→ L L L	
(1-2)	°ó-tù=lǒ	°ò-tù=lǒ	sleep
	→ H H ꜜH	→ L L H	
(2-1)	°ó-cî=pètâ	°ò-cî=pètà	bark
	→ H H H L	→ L L L L	
(2-3)	°ô-lû=sîngá	°ô-lû=sîngá	vein
	→ H H H ꜜH	→ L L L H	

It would be tempting now to analyse the stems of types (2-2) and (2-4) as °=HH and °=HL, respectively. Such an analysis, however, would be defeated by the infinitives, i.e., nouns of class 15. All infinitives have a final morpheme °-à. Observe the following three nouns representing the possible tone types of disyllabic infinitive stems:

(2-1)	ókusangà	to meet
(2-2)	ókutánga	to read
(2-4)	ókutólà	to tear

Clearly, we would like to avoid analysing the final morpheme as °-à in types (2-1) and (2-4), and as °-á in type (2-2). A similar difficulty arises with the extensions in longer infinitives which I cite here in their B-forms:

(3-1)	òkusonama	to kneel
(3-2)	òkutálamà	to stand
(4-1)	òkupandulula	to untie
(4-2)	òkukútululà	to untie

The first pair of verbs contains the stative verb extension -am-, the second pair contains the separative extension -ulul-. Both extensions appear with low tone (in (3-1) and (4-1)) as well as with high tone (in (3-2) and (4-2)). Obviously, the SPREADING rule is more general than has been formulated above: It is not restricted to word initial position.

GENERAL SPREADING: $L^{n}_{1} \rightarrow H^{n}_{1}L$ / H__

Tone types (3-1), (3-2), (4-1), and (4-2) can now be analysed as follows:

(3-1)	ºó-kù=sòn-àm-à	ºò-kù=sòn-àm-à
	→ H H H H L	→ L L L L L
(3-2)	ºó-kù=tál-àm-à	ºò-kù=tál-àm-à
	→ H H ! H H L	→ L L H H L
(4-1)	ºó-kù=pànd-ùlùl-à	ºò-kù=pànd-ùlùl-à
	→ H H H H H L	→ L L L L L L
(4-2)	ºó-kù=kút-ùlùl-à	ºò-kù=kút-ùlùl-à
	→ H H ! H H H L	→ L L H H H L

Note that our analysis of the final º-à as having low tone has by now been strengthened. I therefore suggest to analyse type (2-2) as º=HL, i.e. º=táng-à. To this form, it seems, high tone spreading applies but not FINAL LOWERING. There are many ways to express this in rules, but I prefer to view high tone spreading as a two stage process: First, all stem initial high tones spread to the next syllable (or rather: vowel), at least in disyllabic stems. Then, the GENERAL SPREADING rule as formulated above applies giving rise to floating low tones and creating the environment for FINAL LOWERING or downsteps.

PRIMARY SPREADING: L → H / =H__#

Sample derivation of type (2-2):

		ºó-kù=táng-à	ºò-kù=táng-à
PR.SPR.	→	H	H
GEN.SPR.	→	HL_o	
F.L.	→	_____	_____
		ó ku táng a	ò ku táng a

Monosyllabic infinitive stems all belong to type (1-2). Their base form has to be analysed as consisting of a CV root plus the final morpheme º-à. The root vowel changes into a glide or is deleted before another vowel; the segmental and tonal details of this glide formation or SYLLABIFICATION rule are not discussed here.

Derivation of a monosyllabic verb stem, type (1-2):

		ºó-kù=lî-à	ºò-kù=lî-à
PR.SPR.	→	H	H
GEN.SPR.	→	HL_o	
F.L.	→		
SYL.	→	_____y_____	_____y_____
		ó ku ly á	ò ku ly á

The next problem arises with type (2-4): Why does the final syllable become or remain low? The answer is provided by verb roots of the shape =C(w,y)VC-. All such verbs fall into two tone types, type (2-2) being notably absent.

(2-1)	ókusyetà	to approach
(2-4)	ókukwátà	to take

Our problem disappears when we analyse the glide as an underlying vowel:

(2-4)		°ó-kù=kúàt-à
PR.SPR.	→	
GEN.SPR.	→	HL_{σ} H HL_{σ}
F.L.	→	L
SYL.	→	w
		ó ku kwát à

The SYLLABIFICATION rule also specifies that in a sequence of two identical vowels the first one is lost, e.g., the verb ókulîsá 'to give to eat' contains the morpheme sequence °=lî-is- 'eat-CAUS'. As there is no contrastive vowel length in UMbundu, this analysis can be extended to all nouns of type (2-4).

(2-4)		°ó-kù=tóòl-à
PR.SPR.	→	
GEN.SPR.	→	HL_{σ} H HL_{σ}
F.L.	→	L
SYL.	→	Ø
		ó ku t ó l à

It should be noted that tone type (2-4) is a marked type in that it is much less frequent than types (2-1) and (2-2). The remaining disyllabic tone type (2-5) is even rares but presents no additional complications.

(2-5)		°ó-lù-ṅ=jáàlá
PR.SPR.	→	
GEN.SPR.	→	HL_{σ} HL_{σ}
F.L.	→	
SYL.	→	Ø
		ó lu n j á lá

The absence of an underlying tone type °=HH and the PRIMARY SPREADING rule support and help to explain each other. The rule is marked as "deep" or "early"

by its including the morphological conditioning "after pre-stem boundary". By this rule, °=HL stems become =HH; no distinction from °=HH stems is possible. No further rules are needed to account for polysyllabic noun stems. For tone types (3-3) through (3-8) the following base forms are proposed:

(3-3)	°=HHH	°ó-à=sénjélé →	ásénjele	milk
(3-4)	°=LHH	°ó-ǹ=vùtésá →	ómbutésa	snuffbox
(3-5)	°=LLH	°ó-ǹ=kòlòsî →	óŋolosî	time between sunset and night
(3-6)	°=LH̬LH	°ó-ǹ=vàl̃áàw̃ù →	ómbal̃áw̃ù	aeroplane
(3-7)	°=HLH	°ó-ù=mál̃ẽ́hé →	úmál̃ẽ́hé	younger brother
(3-8)	°=LH̬LH	°ó-è=cèl̃áàl̃á →	écel̃ál̃á	eight

It is possible that further research will lead to modifications of these base forms. The areas of verb conjugation and verb-to-noun derivation are of particular interest in this respect. There are indications that in tone types (3-1) through (3-4) the first and the last syllables only carry distinctive tone, and that there is a stem structure condition specifying that intermediate syllables must carry the same tone as the final syllable.

(3-1) °=L.L → °=LLL
(3-2) °=H.L → °=HLL
(3-3) °=H.H → °=HHH
(3-4) °=L.H → °=LHH

Compare, for instance, the following derivationally related pair of words:

from (3-2) °ó-kù=cît-îw-à →	ókucîtiwà	'to be born'
derives (3-3) °ó-ǹ=cît-îw-é →	óŋîtiwe	'native'

It is less clear how the residuary tone types (3-5) through (3-8) should be analysed if this approach for an analysis were to be adopted.

4. DIACHRONIC PERSPECTIVE

4.1. History of Tone Types

The tone types (1-1) and (1-2) of noun stems either continue the same distinction in Proto-Bantu or are contractions of PB *=CV(C)V stems (*LL or *HL, no examples for *LH or *HH).

(1-1)	óvalẫ	←	°=lẫ	< *=nà	intestines
	óngwè	←	°=gwè	< *=gòɨ̀	leopard
(1-2)	útî	←	°=tî	< *=tî	tree
	ótuló	←	°=ló	< *=dóò	sleep

Verb roots of the structure CV are distinguished tonally in Proto-Bantu but in UMbundu they all belong to the tone type (1-2).

ókunyá	←	°=nî-à	< *=nè-	to defecate
ókulyá	←	°=lî-à	< *=dî-	to eat

The merger probably took place because these syllables were tonally overcharged. In addition to being complex and word final, they also have to carry the load of differentiating tonally distinct final morphemes in the conjugational paradigm.

Tone types (2-1), (2-2), and (2-3) continue a four-way distinction of Proto-Bantu. The merger of the PB types *HL and *HH occured when the PRIMARY SPREADING rule was added to the grammar of pre-UMbundu.

(2-1)	ónjalà	←	°=jàlà	< *=jàdà	hunger
(2-2)	úlúme	←	°=lúmè	< *=dúmè	man
	úkáỹi	←	°=káỹî	< *=kádɨ̀	woman
(2-3)	óngevé	←	°=gèvé	< *=gʉ̀bú	*hippopotamos*

Tone type (2-4) is a vestige of PB double vowels which were reduced to short vowels or to glide-plus-vowel sequences in UMbundu. No trace of double vowels is left where the two vowels had low tone in Proto-Bantu.

(2-4)	úwálò	←	°=wáàlò	< *=dʉ́àd-ò	clothing
(2-1)	óndukò	←	°=lùk-ò	< *=dùùk-ò	name

The origin of the remaining disyllabic tone type (2-5) is less clear. In compounds, it can synchronically be derived from °=H+LH. My notes contain five apparently not compounded stems belonging to this tonal type.

ólunjálá	fingernail
ólumóĨó	castor-oil plant
ónónó	galago (?)
ómbúlá	*kind of fruit tree*
óvitúlá	newly founded village

The reconstructions for 'fingernail' and 'castor-oil plant' are *=jâdà and *=bónò (b/m), respectively. The last item in this list is probably derived from

the verbal root °=túùl- 'to put down, to rest' followed by the suffix °-á (or -àá?). No etymologies exist for the remaining two items.

Two specific statements in the literature about the history of tone in UMbundu should be corrected. Crabb (1964:13) states that "the material published by Hambly (1934) demonstrates that Umbundu does share in the tonal reversal". I am not sure how exactly Crabb arrived at this interpretation of Hambly's data. His erroneous identification of UMbundu with CiLuba tonal history is probably based on some reflexes of *HH and *LH stems in which downstepped high tones were transcribed as low. The other statement comes from Guthrie's Inventory (1967-71, 2:60): "*CV_1 only tonally distinct". As we have seen, tonal distinctiveness has also been preserved on the second syllable where the first syllable was low in Proto-Bantu. In Guthrie's terms, the statement should read as "IIA, IIB > II".

4.2. History of Case Marking

No case marking is reconstructable for Proto-Bantu. But, Proto-Bantu did have an augment which was noun-class sensitive and could be either absent or present. If present, it preceded the nominal prefix and had a "determinative function" (De Blois 1970:152). The augment developed out of the pronominal concord, thus it presumably had a low tone in classes 1 and 9 and a high tone in all other classes. (I know of no language which has preserved this tonal distinction in the augment.) Present-day languages in which neither the presence nor the absence of the augment has been generalized often let its use depend on morphological and on syntactic conditions. The details of the syntactic conditions vary from language to language but certain recurring features are strikingly similar to the distribution of tone cases in UMbundu. A good example is the marking of the direct object after affirmative and negative verb forms, respectively. Compare:

LuGanda	UMbundu	
gula ekibbo	làndá úhambà	Buy a/the basket.
togula kibbo	húkalandé ùhamba	Don't buy the/any basket.

I suggest that the tone cases OC and CC of UMbundu have developed out of the PB augment and its absence, respectively. The following stages are assumed, and it seems that each development is shared by successively smaller groups of present-day languages.

(i) Generalization of the high tone for all classes.
(ii) Loss of the initial consonant of the augment.

(iii) Generalization of the back-rounded vowel o at the expense of e and a for all classes (with special development in classes 5 and 10).

(iv) Generalization of the segmental presence of o- for all syntactically defined environments.

Tonally, the old distinction was preserved; thus, UMbundu OC continues the PB presence of the augment, and CC continues its absence. Semantically, it seems problematic to start from De Blois' determinative function of the augment. If "determinative" may be interpreted as "making definite", it should have become a subject marker whereas in fact it has turned into an object marker. This is no specific problem for UMbundu but concerns the general history of the augment. The augment started as a demonstrative in pre-noun position. Preposing implies semantic weakening of demonstratives even in some present-day Bantu languages, e.g. Swahili, whereas normal demonstratives in Bantu follow the noun. It therefore seems possible that the augment further weakened to an indefinite determiner.

The UMbundu Predicative, historically speaking, has nothing to do with the Object Case and the augment. A predicative index *nî- has been reconstructed for Proto-Bantu (Meeussen 1967). This morpheme, however, does not seem to be the source of UMbundu ʉ̀-, cf. the development of the associative index *nâ- > là-. Other Bantu languages have vocalic predicative indexes, e.g. Kongo i- and Bemba e- (tones not known), and such a vowel - if it had a high tone - would probably have changed into a floating high tone in pre-vocalic position in UMbundu.

It has been shown that the UMbundu case system developed from the use of a weak demonstrative, the augment, and a predicative index. These origins provide a helpful perspective for understanding the particular syntactic distribution of the cases that would appear aberrant in a classical case system. UMbundu is by no means the only Bantu language in which such a case system has evolved. It is, in this respect, similar to most languages of the western zones H, K, and R, and more manifestations emerge with the increasing number of tonal descriuptions of Bantu languages. Of course, no sharp line separates augment from case languages. Also, the tonal marking of focus that has been claimed for Makua (Stucky 1979) is very likely to be another derivative of the augment.

The history of UMbundu case system bears some typological interest. It provides an alternative scenario forGreenberg's cycle of the definite article by showing that it may end up as a marker of case rather than of gender (cf. Greenberg 1978). This is consistent with the important rôle of definiteness in conditioning alternative case markings of objects (Moravcsik 1978).

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