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NDEBELE AND ZULU: SOME PHONETIC AND TONAL COMPARISONS

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1. INTRODUCTION

Since it was the Ndebele who asserted their independence in 1822 and broke away from the Zulu, and not the other way round, one tends to take it for granted that linguistic divergence has been unilateral, Ndebele having changed, while Zulu has not. But this may not be altogether true.

The scope of this article is confined to pronunciation. No attention will be given to lexical or grammatical divergence, which is an absorbing topic in its own right, as is evident from the examples presented in an earlier paper by Fortune.[1]

Findings presented here are rather general and tentative, since opinions differ as to what constitutes the norm, both in Ndebele and in Zulu, as no systematic dialect research has yet been completed. Future investigations in that direction may well expose shortcomings in this brief article, but it may still serve a purpose, even if only in provoking argument and refutation.

1.1. Statements regarding Ndebele pronunciation are here based on sporadic and intermittent encounters with Ndebele-speaking informants and friends from various areas over a number of years. Findings so far have not brought much evidence of regional variation among Ndebele speakers, but rather of slight differences which perhaps relate not so much to area as to age—'older generation' or 'senior' speakers (say over 40 years) as against more junior ones.[2]

1.2. The existence of a 'standard form' of Zulu is nowadays generally taken for granted, the so-called Natal dialect usually being implied. The Zululand dialect, spoken north of the Tugela River, does not differ greatly from this, but there are a few small tonal differences.[3] This needs to be borne in mind in our present discussion, because Mzilikazi came from Zululand, not from south of the Tugela.

1.3. Modern Ndebele and modern Zulu are in many respects so similar that it is plausible (though probably somewhat simplistic) to postulate that they both derive from a single 'proto-Zulu' parent language spoken in Zululand before 1822. Absence of reliable linguistic evidence from that period is of course a setback to reconstruction,

[1] G. Fortune, 'Differences between Zulu and Ndebele' (Bulawayo Teachers' Conference, 1964; copy kept in Salisbury, Univ. of Zimbabwe, Dep. of African Languages).

[2] The present findings are based largely on speech samples provided by the Revd Joshua Danisa (interviewed in London throughout 1961; born at Essexvale, descendant of Nsindwane Danisa who left Zululand with Mzilikazi in 1822; Mr Richard Mpande, of the Matopo Mission (tape by G. Fortune, 1958, kindly made available to me); Mr E. L. Bulle, from near Plumtree (interviews, 1970–7, at the University of Rhodesia); Mr S. J. Mhlabi, from Ntabazinduna area (interviews, 1975–7, at the University of Rhodesia); Mr S. Nondo, from Zimnyama area (interviews, 1970–80, at the University of London); and Mr. C. Sileya, from Ntabazinduna, later Essexvale area (1978–9, at the University of Rhodesia).

[3] Most published works on Zulu are based on the Natal dialect, but the Zululand dialect is covered in D. Rycroft and A. B. Ngcobo, *Say It in Zulu* [manual and tapes] (Univ. of London, School of Oriental and African Studies, 1979).

but valuable clues to pre-Shakan Zulu could be gleaned by examining what modern Ndebele and modern Zulu have in common. Such an exercise is not pursued in any depth in this paper, but it might be a fruitful area for future research.[4]

1.4. We shall here mainly be concerned, not with similarities, but with differences, regarding pronunciation, and we shall examine a sampling of synchronic evidence in that connection. This is an essential first stage, before one proceeds to find explanations for such differences, and ventures to attempt serious historical reconstruction. Occasional working hypotheses below, in the way of explanations for changes, and speculative reconstruction, are premature and tentative. Far more spadework needs to be done regarding differences; and for explanation, rigorous attention would need to be paid to outside influences on Ndebele during the past 158 years, besides influences on Zulu (including possible effects from orthographic conventions); but such matters are far beyond the scope of the present exploratory sketch.

2. SEGMENTAL PHONETIC DIFFERENCES BETWEEN NDEBELE AND ZULU

2.1. Vowels Regarding vowels there appears to be little or no observable difference except perhaps in the following respects:

(a) The quality of *e* and *o* in Ndebele seems to be less affected by the following vowel than in Zulu.[5] They appear to match cardinal vowels 3 and 6, [ɛ] and [ɔ], fairly closely, rather than numbers 2 and 7, [e] and [o], in most environments.

(b) Word-finally, however, there is a tendency among some speakers[6] to render *e* and *o* with closer articulation, as [e] and [o] or even closer, especially when preceded by a fully close front or back vowel, *i* or *u*.

Also the Ndebele cognates for certain Zulu nouns with final *-e* (e.g. *ítholе*, 'calf') seem to have optional variants with final *-i*; but how extensive this is has not yet been established.

[4] Very little phonetic divergence between the two languages is recorded in C. M. Doke, *The Southern Bantu Languages* (London, Oxford Univ. Press for International African Institute, 1954), 94–118, or in L. W. Lanham, 'The Comparative Phonology of Nguni' (Johannesburg, Univ. of Witwatersrand, unpubl. Ph.D. thesis, 1960). Doke in his *Bantu: Modern Grammatical Phonetical and Lexicographical Studies since 1860* (London, International African Institute, 1945), 82, even expressed the view that: 'It is very questionable whether separate linguistic and literary work should be continued in a dialect so little different from Zulu'. Nevertheless see W. A. Elliott, *Notes for a Sindebele Dictionary and Grammar* (Bristol, Sindebele Publishing, 1911); J. O'Neil, *Grammar of the Sindebele Dialect of Zulu* (Bulawayo, Ellis Allen, 1912); J. Pelling, *Practical Ndebele Dictionary* (Salisbury, Longman, 1966); and J. and P. Pelling, *Lessons in Ndebele* (Salisbury, Longman, 1974).

Historical details concerning the Ndebele and their ancestry appear, *inter alia*, in A. T. Bryant, *Olden Times in Zululand and Natal* (London, Longmans, 1929), 417–45, and A. J.-B. Hughes, *Kin, Caste and Nation among the Rhodesian Ndebele* (Manchester, Manchester Univ. Press for Rhodes-Livingstone Institute, 1956). Arising, no doubt, from Mzilikazi's sojourn in the Transvaal until 1838, some vestiges of linguistic influence from Northern Sotho are certainly apparent in Ndebele; but Bryant's statement seems far too extreme when he claims that, even before 1830, 'the whole Mzilikazi horde had by this time become a profoundly Sutuized community, not in name alone, but in members, habits, language and blood; for many of its men were Sutu captives and practically all its females', *Olden Times in Zululand and Natal*, 425.

[5] cf. C. M. Doke, *The Phonetics of the Zulu Language* (Johannesburg, Witwatersrand Univ. Press, 1926), 16 ff.

[6] Notably Mr R. Mpande; see above, fn.2.

2.2. Consonants[7] There are several small but noticeable divergences between Ndebele and Zulu. The consonants involved are *b, h, k, ng, zw.* Also, Ndebele uses *tsh* in place of Zulu *sh*, and in some instances substitutes *l* for Zulu *n*.

2.2.1. Ndebele *b* is not implosive (as it is in Zulu and Xhosa) among speakers so far encountered. It varies from a lenis bilabial stop with delayed voicing, when initial, to a fully-voiced bilabial approximant, resembling *w* but without lip-rounding, which is more common in non-initial positions. The divergence from the Zulu articulation may here be due to influence from Shona or from Northern Sotho. In certain Shona dialects (e.g. Karanga), however, the cognate bilabial sound is a voiced fricative, while Ndebele *b* has little or no fricative quality.

2.2.2. The *h* sound in Ndebele may optionally be rendered as a glottal fricative (like English *h*) or as a velar fricative (as Scottish *ch*), the latter probably being more common. This alternation, though it is not widely found in Zulu, does occur dialectally. Moreover, documentary evidence suggests that the two varieties may have been distinctive in Zulu, in earlier times, as in Xhosa today.[8]

2.2.3. In both Ndebele and Zulu, *k* is rendered as an ejective velar stop when initial in a root (or as a reduplicated root initial). In other positions, Zulu allows ejective, or lenis voiced plosive, as free variant realizations, the latter being more common; while Ndebele allows these, plus a voiced approximant articulation as free variants (the latter matching the approximant variety of *b*, but with velar articulation).

2.2.4. The Ndebele use of *l* in place of Zulu *n* in certain prefixes and pronouns is probably an innovation, possibly under Northern Sotho influence (though this is conjectural). Notable instances are the following:

(a) *liná* ('you', plural, absolute pronoun). Zulu has *niná;* N. Sotho has *lená.* It is interesting, however, that the addition of prefixal formatives requires a reversion to *ni,* as in *kíni, l̤ăni, ŋg̤ăni,* as in Zulu. Also the cognate pronominal stem is *-inu,* as in Zulu, not **ilu.*

(b) *l̤i-* ('you', plural, subject concord for the second person plural). Zulu has *ni-*; N. Sotho has *le-*.

(c) *l̤a-* ('and' or 'with', conjunctive extra prefix used with nouns or pronouns). Zulu has *n̤a-* (or *na-*, in Zululand dialect); N. Sotho has *le-*.

2.2.5. In 'standard Zulu', *ng* is rendered as [ŋg̤] (roughly as in English 'finger') in all environments. In Ndebele this rendering occurs only root-initially. Elsewhere, *ng* = [ŋ], or sometimes [ŋ] (as in English 'singer'). This conditioned alternation, between prenasalized *g̤* and the velar nasal sonorant, does occur similarly in some Zulu

[7] For Zulu consonants, see Doke, *The Phonetics of the Zulu Language,* 41ff; Lanham, 'The Comparative Phonology of Nguni', 46ff. (also Ndebele); A. T. Cope, 'Zulu Phonology, Tonology and Tonal Grammar' (Durban, Univ. of Natal, unpubl. Ph.D. thesis, 1966), 19ff.; Rycroft and Ngcobo, *Say It in Zulu,* Appendix B. Brief notes on Ndebele consonants in P. Ladefoged, *Preliminaries to Linguistic Phonetics* (Chicago, Univ. of Chicago Press, 1971), 14, contain some typographical errors (for comments, see D. K. Rycroft, *The Depression Feature in Nguni Languages and Its Interaction with Tone* (Grahamstown, Rhodes Univ., Dep. of African Languages, Communication 8, 1980), fn.37). Regarding use of a subscript diaeresis sign under certain consonants, in this article, see below, 6.2.

[8] cf. R. C. Samuelson, *King Cetywayo Zulu Dictionary* (Durban, The Commercial Printing Co., 1923), xxxiv; Doke, *The Phonetics of the Zulu Language,* 91, notes that 'they seem to be phonemically distinct, though possibly not so with all speakers'.

dialects, as also in Swati. The Ndebele may therefore have brought this with them from Zululand, rather than having introduced it subsequently.

2.2.6. The ejective palato-alveolar affricate [tʃʼ] occurs in both Ndebele and Zulu in words such as *-tshéla* (tell). But Ndebele additionally employs the aspirated variety [tʃʰ] (also written as *tsh*). This is found wherever Zulu has [ʃ] (*sh*), e.g. Zulu: *-shaya* (hit) = Ndebele: *-tshaya.* The sound *sh* is absent in Ndebele except in one or two loan words.

The use of [tʃʰ] in Ndebele may possibly represent a retention of an earlier proto-Zulu pronunciation, while Zulu has in fact changed. Many Zulu words nowadays spelt with *sh* appear, in nineteenth-century publications, with a *tsh* or *ty* spelling instead, or as an alternative; and the earlier spelling of the name Shaka, as Chaka, may well be significant here.[9]

2.2.7. With some Ndebele speakers,[10] the post-labialized cluster *ẓw* is rendered as a labialized *ẓ*, with a 'whistling fricative' quality, when followed by *i* or *e*. This possibly represents Shona influence but it seems not to be universal among Ndebele speakers.

3. SUPRASEGMENTAL FEATURES

A few minor differences have so far been observed, though their universal validity has yet to be tested.

3.1. Imposed lengthening of the penultimate syllable, as an utterance-terminal or pre-pausal marker, operates indentically in Ndebele and Zulu, its suppression (linked with lack of 'final low' pitch; see 6.3.1) serving to indicate interrogation. But what is usually referred to as 'inherent extra length', pertaining to certain Nguni formatives, is less evident in Ndebele than in Zulu, e.g. in the class 2a noun prefix and in the contracted forms of the class 5, 10 and 11 prefixes. Also the Remote Past tense prefixal formative *-â-*, which has extra length in Zulu examples like *wâlimá* (he ploughed), seems to lack such extra length in Ndebele, e.g. *wálimá.*[11]

3.2. In Ndebele, the initial vowel in a noun prefix possibly has a greater propensity for dynamic stress than in Zulu.[12] This might perhaps account for, or be somehow

[9] Doke, *The Phonetics of the Zulu Language,* 112, regards the aspirated affricate when used in Zulu, as being 'only found as the emphasized form of the fricative *sh*'; but in C. M. Doke and B. W. Vilakazi, *Zulu–English Dictionary* (Johannesburg, Witwatersrand Univ. Press, 1948), 818, it is stated as occurring also 'as an alternative pronunciation, used individually and dialectally, to *sh*'. In most earlier dictionaries there is much overlapping of entries under *sh* and *tsh,* but a few words occur under only *sh,* or only *tsh*; see, *inter alia,* Bishop J. W. Colenso, *Zulu-English Dictionary* (Pietermaritzburg, P. Davies, 1861), A. T. Bryant, *A Zulu-English Dictionary* (Pinetown, Mariannhill Mission Press, 1905), and R. C. Samuelson, *The King Cetywayo Zulu Dictionary.* From my personal recollections of elderly Zulu speakers, in the 1930s, I recall hearing *tsh* used rather than *sh* in many cases. The late James Stuart (1868–1942), whose Zulu was impeccable, used *tsh* frequently in his sound recordings (on Zonophone, 1927 to 1930) ; also my maternal grandfather, A. W. Baker (1856–1952), born in Pietermaritzburg and a fluent Zulu speaker since boyhood, always used *tshisa, tshiya* and *Tshaka,* rather than *shisa, shaya* and *Shaka.*

[10] Notably Mr R. Mpande ; see above, fn.2.

[11] Surface suppression of underlying extra length might possibly be attributable to 'speech rhythm' requirements, in D. Abercrombie's sense *(Studies in Phonetics and Linguistics* (London, Oxford Univ. Press, 1965), 16–34), if Ndebele speakers in fact employ 'syllable timing'—as against 'stress timing' which seems to apply in Zulu (see Rycroft and Ngcobo, *Say It in Zulu,* Appendix B, 7–8); but this is uncertain yet.

[12] Otherwise, as stated for Zulu in Rycroft and Ngcobo, *Say It in Zulu,* Appendix B, 7, stress in Ndebele seems to be potentially associated with the first syllable of each root or stem, and with certain formatives. In practice, stress may be suppressed on certain stressable syllables in favour of stronger claims for its realization on a neighbouring syllable, or when, as in rapid speech, the number of stresses becomes reduced.

connected with, both the realization of initial high tone in type-A nouns in Ndebele, as compared with Zulu (see 4.1), and also the fact that an abutting final depressor in the previous word does not affect them in the same way (see 3.4).

3.3. Tonally, almost identical rules appear to operate (see 6.0), although initial high tones are more prevalent in Ndebele (e.g. in nouns and verbs of tonal type A; see 4.1) and, conversely, final high tones and penultimate falling tones are less prevalent (see 4.2.–3).

3.4. The effects of depression upon tone (see 6.3.4) are almost identical in Ndebele and Zulu (while they are less extensive in Xhosa), but whereas in Zulu an abutting final depressor in the previous word displaces prefix tone in examples like *ngiṱhâṇḍ' inyâma* ('I like meat', < *ínyama*), this has not been observed in Ndebele.

4. TONE-PATTERN DIFFERENCES BETWEEN NDEBELE AND ZULU[13]

4.0.1. Tone-marking employed in this paper is as follows:

> The acute accent, e.g. *á*, denotes high tone. The circumflex accent, e.g. *â*, denotes falling tone (high + low). Low tone remains unmarked.
> (For tonal realization, see 6.0 below).

Depressor consonants, which in all Nguni languages have a pitch-lowering effect, are marked with a subscript diaeresis sign, e.g. *ṵ*. The diaeresis is placed under the vowel, e.g. *u̱*, if the depression feature is not conditioned by a depressor consonant (see 6.2).

Although a rising-pitch on-glide to high or falling tone is predictable from the symbol combinations, as in *ṵá* and *ṵâ*, or *ú̱* and *û̱*, the rising-pitch and rising-falling pitch signs [˘] and [˜] are used here, to mark it more clearly, e.g. *ṵă*, *ṵã*.

In certain Zulu examples (in 4.2.3 ff) the tonal downstep sign [ꜜ] is employed. It does not seem necessary in Ndebele.[14]

It should be noted that the tone-marking conventions employed in this paper differ slightly from the system used for Swati and for Zulu in several previous publications, the difference being that *all* surface high tones are here marked as 'high', even if they are in fact predictable from their context, i.e. when they result from assimilation to a previous high tone.[15]

4.0.2. Tonal Typology: In Nguni languages in general, monosyllabic-stem nouns can be assorted into one or other of two tonal types, A and B, with low and with high

[13] Terms used here for 'parts of speech' follow those for Zulu in C. M. Doke, *Textbook of Zulu Grammar* (Johannesburg, Univ. of Witwatersrand, 1927). If the following observations seem obscure at some points, readers are advised to refer to either D. K. Rycroft, 'Tonal formulae for Nguni, *LIMI* (1979), VII, 20, or Rycroft and Ngcobo, *Say It in Zulu*, where the present approach to Nguni tone is covered in greater detail. See also D. K. Rycroft, 'Tone patterns in Zimbabwean Ndebele', *Bulletin of the School of Oriental and African Studies* (forthcoming).

[14] See below, fn.32.

[15] Most medial high tones are unmarked in D. K. Rycroft, *Say It in siSwati* [manual and tapes] (Univ. of London, School of Oriental and African Studies, 1976; Mbabane, Websters, 2nd edn, 1979), and in Rycroft and Ngcobo, *Say It in Zulu*. An explanation of that simplified, but more abstract tone-marking system appears in Rycroft, 'Tonal formulae for Nguni', 20. Such a system is indeed applicable to Ndebele also, because in most Ndebele words with more than two high or falling surface tones it can be demonstrated (as in Swati or Zulu) that the medial ones are attributable to tonal assimilation. This can be established through a process of substitution, choosing words which are comparable, but which have depressor consonants in various positions. For the present paper, however, a more direct marking of surface tones seems preferable.

tone on the stem, respectively. Polysyllabic-stem nouns are mostly divisible into four tonal types. In several earlier publications,[16] these have been termed A, B, C and D, to avoid stating actual tone patterns, because some tonal types have several variant patterns. Monosyllabic stems are labelled as A1 and B1; disyllabic stems as A2, B2, C2 and D2; trisyllabic as A3, B3, and so on. Stems retain their basic tonal type when suffixally extended: A1 stems when extended take the same patterns as A2 and A3 stems; B1 stems graduate to B2 and B3, and so on. Adjective and relative stems can be similarly grouped.

Verbs are of two tonal types in most Nguni languages. But Xhosa, and the Zululand dialect of Zulu, employ three types, in polysyllabic verbs; the distinction between types B and C appears to match the vowel-length distinctions in Common Bantu starred forms.[17]

4.0.3. While Ndebele largely conforms to general Nguni practice regarding tonal typology, certain deviations in tone-pattern are apparent. Notably, Ndebele employs initial high tone in all nouns of tonal type A,[18] while most other Nguni languages (except the Gcaleka-Rharhabe or 'Ciskeian' dialect of Xhosa[19]) do not.[20] A similar difference is apparent with Ndebele verbs of tonal type A, in certain usages.

4.0.4. While favouring initial high tone in such cases, Ndebele conversely tends to discard final high tones and penultimate falling tones quite frequently, as compared with other Nguni languages. In some cases this has led to an apparent fusion between two, and in some instances three, tonal types, among nouns in particular; and this presents certain classificatory problems if one attempts to deal with Ndebele tone-patterns synchronically, without considering their Zulu counterparts.

4.1. Prefixal high tones in Ndebele 'type-A' nouns and verbs In Table I, it will be seen that the Ndebele nouns have initial high tones where their Zulu cognates have low. As Ndebele derives originally from Zulu, one might expect that these initial syllables must have become raised, for some reason, after the Ndebele exodus from Zululand in 1822.

Table I

ZULU	NDEBELE	
abántu	*ábántu*	(people)
abántwana	*ábántwana*	(children)
abantwányana	*ábántwányana*	(small children)

[16] See, *inter alia,* Rycroft, 'Tonal formulae for Nguni', 9–23.

[17] See D. K. Rycroft, 'Nguni tonal typology and Common Bantu', *African Language Studies* (1980), XVII, 34–8.

[18] 'Tonal type A', for nouns in most Nguni languages, implies 'those nouns which bear nothing but low tones in vocative usage', e.g. *bantu!* (O people!); *bantwana!* (O children!). But in Ndebele, certain 'pseudo type-A nouns' need to be excluded (see 4.2.3.ff).

[19] Regarding Xhosa dialects, see A. S. Davey, 'Some Aspects of the Phonology of the Noun in Xhosa' (Edinburgh Univ., unpubl. M.Litt. thesis, 1975); H. W. Pahl, 'The distribution and functional roles of certain significant tones and tonal sequences in Xhosa', *LIMI* (1977), V, 18–35. J. A. Louw, 'Some remarks on Nguni tone', *LIMI* (1979), VII, 45–6.

[20] An exception here is monosyllabic-prefix nouns of type A with CV or CVCV stem. These do take initial high tone in all Nguni languages.

4.1.1. Upon deeper investigation, however, this assumption becomes untenable. There are stronger grounds for believing the converse to be true, namely that it is in fact Zulu that has changed since 1822, having discarded high tone from initial syllables, while Ndebele has retained what was an earlier Zulu practice. The argument in support of this view has been expounded in an earlier paper,[21] where it was proposed that the presence of certain high tones in Nguni nouns, sometimes realized non-initially, could be ascribed to underlying +H pertaining to the initial prefix vowel, which has 'spread' from that vowel up to a predetermined later syllable.

4.1.2. In Table II, the second line of examples shows three Ndebele nouns, tonally 'derived' in this way from the underlying constructs in line 1. Besides Ndebele, the Gcaleka-Rharhabe (or 'Ciskeian') dialect of Xhosa employs these tone patterns also. On the other hand, Zulu, like most other Nguni dialects, employs the patterns shown in line 3 of Table II. It seems most likely that Ndebele-type patterns represent an earlier stage than the latter: that is, that the apparent 'delayed realization', as found in Zulu, has come about first through tonal spreading, and then subsequently through anterior deletion of all high surface tones except the last one.

Table II

'Proto-Nguni' *underlying* form	* *ábantu*	* *ábantwana*	* *ábantwanyana*
by H-spreading (Rule 1)*	N. *ábántu*	N. *ábántwana*	N. *ábántwányana*
by Anterior H-deletion (Rule 2)†	Z. *abántu*	Z. *abántwana*	Z. *abantwányana*

*H-spreading rule: $-H \rightarrow +H \;/\; +H \_\_\_\_$ (subject to stem-type constraints: i.e. for stems of Tone Group A1, the last syllable is exempt; otherwise the last two syllables are exempt (i.e. for Tone Groups A2 and longer).

† Anterior H-deletion rule: $+H \rightarrow -H \;/\; \_\_\_\_\_ +H$ for Type-A nouns.

4.1.3. Depressor-Conditioned Variant Patterns: In type-A nouns which contain a depressor consonant, Ndebele and Zulu respond identically to depressor-conditioned displacement of high tone (as formulated in the 'Depressor H-displacement rule' under 6.3.4.2). However, they differ again regarding initial high tones. The effect of depressors on type-A nouns with two or more stem syllables is as follows (being merely a particular application of the H-displacement rule).

If the third-last syllable has a depressor consonant, and is followed by a non-depressor, high tone moves from that syllable to the next, the second-last syllable. There it is realized as a falling tone, if the word is utterance-final (but as high tone if another word follows). Table III shows utterance-final examples with two, three and four stem syllables, for Zulu and Ndebele. As with the Table II examples, the tone patterns of these words can be 'derived' from underlying initial high tone, but in this case, the Ndebele patterns require insertion of the Depressor H-displacement rule (or its specific abbreviation stated above), after the H-spreading rule; while the Zulu patterns require, after this, the Anterior H-deletion rule, as before.

[21] Rycroft, 'Tonal formulae for Nguni', 6–9.

Table III

'Proto-Nguni' *underlying* form:	* *íẓihlahla*	* *ímyumelo*	* *úphonḍwanyana*
by H-spreading	*(íẓĭhlahla)*	*(ímyŭmelo)*	*(úphónḍwănyana)*
by Depressor H-displacement	N. *íẓihlâhla*	N. *ímyumêlo*	N. *úphónḍwanyâna*
by Anterior H-deletion	Z. *iẓihlâhla*	Z. *imyumêlo*	Z. *uphonḍwanyâna*

Note: The meanings of these words are: 'bushes', 'permission', and 'tiny horn'.

In passing, it may be of interest to note that the intermediate patterns in the second row are in fact used in the 'Ciskeian' dialect of Xhosa, neither of the subsequent rules being applicable there. In Transkeian Xhosa, Anterior H-deletion is added, however, but not Depressor H-displacement, thus yielding *iẓĭhlahla, imyŭmelo* and *uphonḍwanyâna.*[22]

4.1.4. Type-A Verbs: Tone-patterns vary considerably in different tenses, but in certain instances exactly the same differences between Ndebele and Zulu regarding high initial tones as those noted above are also found with type-A verbs.

4.1.4.1. With the infinitive prefix *uku-*, verbs such as *-lwa* (fight), *-lima* (plough), and *-hlakula* (weed) take identical patterns to those shown in Table I, above, for Zulu and Ndebele respectively. This would be expected, of course, since verbs in this form also qualify as nouns of class 15.

4.1.4.2. Depressor-conditioned variant patterns also occur. The verb *-yumela* (consent), with prefix *uku-*, for example, has the following patterns:

Ndebele: *úkúyumêla;* Zulu: *ukuyumêla* (to consent).

It will be seen that these tones tally with those of the second noun in Table III.

4.1.4.3. Among other usages where type-A verbs are tonally comparable with type-A nouns is the Present Indicative tense, in its 'long' form with infix *-ya-*, when occurring with a third person subject concord, but with no object concord. Table IV shows examples.

Table IV

ZULU	NDEBELE	
bayálwa	*báyálwa*	(They are fighting)
bayálima	*báyálima*	(They are ploughing)
bayahlákula	*báyáhlákula*	(They are weeding)
bayayumêla	*báyáyumêla*	(They consent)

4.2. Loss of Falling Tone Quite frequently, where Zulu has falling tone, Ndebele has low tone, but there are exceptions to this. The matter will not be treated exhaustively here but some notable instances will be cited, with reference to

[22] Ibid., 8–9.

possessive pronouns, locative demonstratives, nouns, adjective and relative stems, and verbs.

4.2.1. Possessive Pronouns: Zulu and Ndebele use identical high + low tone patterns in possessive pronouns of the first person singular, as in *índlu yámi* (my house), or *índlu yákho* (your house); but for all other persons and classes, where Zulu has falling tone, as in *yâkhe* ('his/her', class 1), or *yâbo* ('their', class 2), Ndebele has low + low tone instead, e.g. *yakhe, yabo,* etc.

4.2.2. Locative Demonstratives: These provide an exception, because Ndebele *does* employ initial falling tone in the disyllabic forms, when utterance-final, as in *ǹângu* ('here he is', class 1), or *ǹâmpa* ('here they are', class 2). It should be noted, however, that this falling + low pattern is not used in Zulu. Zulu has high + low, for classes 1, 4 and 9, e.g. *ǹăngu* (class 1), and falling + high, with a *non*-depressor initial '*n*', for all other classes, e.g. *nâmpá* (class 2). Ndebele appears unique among Nguni languages in using one tone pattern for all classes; Xhosa and Swati make similar class distinctions to Zulu in this respect.

4.2.3. Nouns: Nouns of tonal type C2 in the other Nguni languages bear falling + low tone on the stem when pre-pausal or final.[23] Most cognate nouns in Ndebele bear low + low stem tones instead, and are tonally indistinguishable from type-A nouns, in such usage, e.g.

ZULU (C2)	NDEBELE (=A2)	Cf. TYPE A2 EXAMPLES NDEBELE/ZULU
ín'kâbi (ox)	*ínkabi*	*íntaba* (mountain)
ím'bũzi (goat)	*ímbuzi*	*índoda* (man)
ín'dãwo (place)	*índawo*	*índaba* (matter)
isí'khwâma (bag)	*isíkhwama*	*isíhlahla* (bush) (Zulu: *isíhlahla*)
ízi'gõdo (logs)	*ízigodo*	*ízíziba* (pools) (Zulu: *izíziba*)

4.2.3.1. An exception occurs, however, with those type-C2 nouns in which the third-last consonant is a depressor, and the second-last is a non-depressor. Here Ndebele employs the same tone pattern as Zulu, with falling + low stem tones:

ZULU	NDEBELE
ízi'khwâma (bags)	*ízikhwâma*
yinkâbi (it is an ox)	*yinkâbi*

Note, however, that if the second-last consonant is a depressor, this pattern does not occur in Ndebele, e.g. *ízigodo* cited above, or *yímbuzi* (it is a goat), as against Zulu: *yím'bũzi.*

4.2.3.2. Although this falling + low stem pattern, when occurring in such situations in Ndebele, appears to represent a retention of the Zulu C2 pattern, this is in fact questionable. As previously demonstrated under 4.1.3 above, the same falling + low

[23] Ibid., 13ff.

tones occur with normal type-A Ndebele nouns, as a variant pattern conditioned by the same consonantal sequence as our present falling + low examples; and in such nouns the falling tone was ascribable to depressor-displaced prefixal high tone. A further test shows that the assumption that our 'exceptional nouns' had, like Zulu C2 nouns, inherent falling tone on the stem, was misguided. When such nouns occur without an initial prefix vowel, as in vocative or in post-axiomatic-negative usage, the Zulu and Ndebele patterns differ radically; the stem pattern is then low + low in Ndebele, which is the normal type-A2 pattern, while the Zulu cognates retain their inherent falling + low type-C2 tones:

ZULU	NDEBELE
akúna zikhwâma	*akúla zikhwama* (cf. *zihlahla*
(there are no bags)	type A2, 'trees')
asithéngi nkâbi	*asithéngi nkabi*
(we buy no ox)	

4.2.3.3. We must conclude, I think, that when falling tone does in fact occur in these 'quasi-type-C' Ndebele nouns, it represents consonantally-displaced high tone, as in type-A nouns in Table III above, from which these nouns are indistinguishable in Ndebele. It does *not* represent inherent falling tone pertaining to the stem (which is the case in Zulu, Xhosa and Swati, for genuine type-C2 nouns), because it disappears when the initial prefix vowel is elided.

4.2.3.4. To say that Ndebele cognates of Zulu C2 nouns are tonally indistinguishable from those of type A2 requires further qualification, however. This is true only when their stems remain uninflected. If the stems are extended, by suffixes, the tone patterns of such Ndebele nouns do in fact differ from those of true type-A nouns: Their stem patterns tally with those of Zulu type-C nouns when similarly extended:

ZULU	NDEBELE
Type-C derivatives:	
énkáˡbíni (< *inˡkábi*)	*énkábíni* (< *ínkabi*)
(on the ox)	
ísíkhwáˡmána (< *ísíˡkhwâma*)	*ísíkhwámána* (< *ísíkhwama*)
(small bag)	
ímbuˡzăna (< *ímˡbūzi*)	*ímbuzăna* (< *ímbuzi*)
(small goat)	
éndaˡwéni (< *inˡdāwo*)	*éndawéni* (< *índawo*)
(in the place)	
Type-A derivatives:	
entábeni (< *íntaba*)	*éntábeni* (< *íntaba*)
(on the hill)	
Depressor-conditioned variants:	
endabêni (< *índaba*)	*éndabèni* (< *índaba*)
(in the matter)	

4.2.3.5. The fact that, unless extended, Ndebele cognates of Zulu C2 nouns are tonally indistinguishable from type-A2 nouns raises certain classificatory problems not found in other Nguni languages, since it is in the citation forms that neutralization has taken place, between two tonal types, while differentiation has been retained only in the derivative forms.

4.2.3.6. Though we have dealt here only with disyllabic-stem nouns, loss of falling tone is also apparent in longer nouns. This point will not be pursued here, beyond citing a few examples:

ZULU	NDEBELE
ínhlá'bâthi (soil)	*ínhlábathi*
íthé'nḍȇle (partridge)	*íthenḍele*
íntómḅa'zȃne (young girl)	*íntomḅazane*

A sequence of three or more low tones on the stem, as in the last two Ndebele examples, never occurs in uninflected Zulu nouns.

4.2.3.7. Falling tone does occur in certain Ndebele polysyllabic nouns, however, when it represents displaced high tone from a depressed syllable (as in the disyllabic-stem nouns covered in 4.2.3.1), e.g.

índatshâna (small matter)	cp. *íntátshana* (small mountain)
ámáḍoḍakâzi (daughters)	cp. *ámákhósíkazi* (queens)

4.2.3.8. With monosyllabic noun stems, falling tone occurs on certain prefix syllables exactly as it does in Zulu, i.e. with the following nouns of tonal type B1 when pre-pausal or final:

(a) Nouns with class 9 prefix: e.g.
îinto (thing); *îimvu* (sheep)

(b) Nouns with a disyllabic prefix (other than classes 8 or 10 which contain a depressor) when preceded by depression in a prefixal formative, which conditions the displacement of its initial high tone, e.g.

yikûḍla	(< *úkuḍla*)
(it is food)	(food)

It should perhaps be noted, however, that in Zulu these three examples have high tone on the stem, not low. Loss of final high tones in Ndebele is discussed under 4.3. below.

4.2.4. Adjectives and Relative Stems: In attributive usage these are closely comparable with nouns, in tone. Those of tonal type C2 in Zulu, bearing falling + low tones on the stem, take low + low in Ndebele, just like the nouns cited in 4.2.3, e.g.

ZULU	NDEBELE
ábá'khûlu ('big ones', class 2)	*ábákhulu*
é'mânzi ('a wet one' class 9)	*émanzi*

4.2.4.1. Unlike comparable type-C2 nouns (cf. 4.2.3.1), Ndebele adjective and relative stems do not seem to accept displaced prefixal tone, realized as penultimate

falling tone on the stem, when the prefix contains a depressor; the second prefix syllable just loses its high tone altogether, e.g.

ézinkulu ('big ones', class 10)

4.2.4.2. In adverbial usage, type-C2 stems in Ndebele (also in Swati) take high + low stem tone while Zulu has falling + low, e.g.

ZULU	NDEBELE
kakhûlu (greatly)	*kakhúlu*

4.2.4.3. Polysyllabic stems in Ndebele lose penultimate falling tone in the same way as nouns (cf. 4.2.3.6), eg.

ZULU	NDEBELE
élú'hlâza ('a green one', class 9)	*élúhlaza*

4.2.4.4. With monosyllabic stems of tonal type B1, falling tone occurs on a class 9 prefix, just as with B1 nouns (cf. 4.2.3.8), e.g.

êntsha ('a new one', class 9) cf. Zulu: *êntshá*

4.2.5. Verbs: In Ndebele, the characteristic penultimate falling tone of type-C2 verbs in the kwaZulu dialect and in Xhosa (in certain usages) has largely disappeared. In the kwaZulu dialect and in Xhosa, three tonal types are distinguishable among CVC-root verbs.[24] In infinitive usage (i.e. with noun class 15 prefix, and final *-a*) they resemble nouns of tonal types A2, B2, and C2 (with penultimate falling tone when pre-pausal or final), e.g.

Type A:	*ukúlima*	(to plough)
Type B:	*úkú'fúnda*	(to read/learn)
Type C:	*úkú'fûna*	(to want)

It should be noted, however, that verb tone patterns vary considerably in different tenses, often obscuring typological distinctions.

4.2.5.1. Ndebele cognates of type-C2 verbs in the kwaZulu dialect differ from them tonally in some respects, but in addition to this, tone patterns tend to vary with different Ndebele speakers. Whether such variation has a regional basis has not yet been established.

Tentative findings have been that speakers of the 'older generation' (say, 40 years and over) still distinguish type-C2 verbs from the other tonal types, but that the younger speakers tend not to do so. The label 'Ndebele I' will here denote tonal renderings by several informants drawn from the 'older generation', while Ndebele II' applies to those of younger informants. The following examples show tones used by older, and by younger Ndebele informants consulted, for cognates of verbs which are of type-C2 in the kwaZulu dialect, in infinitive, imperative and present tense indicative usage:

[24] Unfortunately, Zulu verbs of the third tonal type, type C, are indistinguishable from those of type B in the standard dictionaries and grammatical works, since these favour the Natal dialect; but see Rycroft and Ngcobo, *Say It in Zulu*, Appendix E; and also Rycroft, 'Nguni tonal typology and Common Bantu', Appendix I.

KWAZULU DIALECT	NDEBELE I	NDEBELE II
Type-C2 patterns		
úkú¹fúna	*úkúfuna*	*úkúfuna*
(to want)	(= type-A2 pattern)	(= type-B2 pattern)
fúna	(as Zulu: type-C2	*fúna*
(want!)	pattern)	(= type-B2 pattern)
ngiyafúna	*ngiyafúna*	*ngiyafúna*
(I want)	(= type-B2 pattern)	(= type-B2 pattern)

4.2.5.2. With 'Ndebele I' speakers, type-C2 verbs tested seemed to retain their distinctive falling tone in imperative usage, but to assimilate with either type-A2 or B2 in other usages. Type-C2 verbs tend to remain distinct in present participial usage, however, taking an 'all low' tone pattern, e.g.

nxá efuna (if he wants) [cf. kwaZulu dialect: *nxá efúna*]

in contrast to 'low-high-low' for types A2 and B2, e.g.

A2: *nxá elíma* (if he ploughs);

B2: *nxá efúnḍa* (if he reads).

4.2.5.3. With 'Ndebele II' speakers, total assimilation, mainly with tonal type B2, seems to occur, and this tallies with Natal Zulu and Swati practice; but a small proportion of type-C2 verbs seem to have joined type A2 instead, e.g. *-ḅhala* (write); *-hleba* (slander); *-liṅga* (tempt). Further research may find differences among individual speakers here, however.

4.3. Loss of Final High Tone Lack of high tone on word-final syllables is more prevalent in Ndebele than in other Nguni languages, though some elderly Ndebele speakers follow Zulu practice to some extent.

4.3.1. Monosyllabic-Stem Nouns: With many younger speakers, stem tones are identical in pairs of nouns such as the following. When used without an initial prefix vowel they are tonally indistinguishable in Ndebele, while in Zulu the stems have low and high tone, respectively (representing tonal types A1 and B1):

NDEBELE		ZULU
(*akúla*) *nḍlu*	(there is no) house	(*akúna*) *nḍlu*
(*akúla*) *nja*	(there is no) dog	(*akúna*) *njă*
Plural:		
(*akúla*) *zinḍlu*	(there are no) houses	(*akúna*) *zinḍlu*
(*akúla*) *zinja*	(there are no) dogs	(*akúna*) *zinjă*

4.3.1.1. In normal use, however, with a full prefix, such nouns are tonally distinguishable through their prefix tones, in Ndebele. In Zulu, the stem tones differ also, but in Ndebele, tonal distinction on the stem itself seems to have been discarded as redundant, since in normal usage an adequate clue is provided by the prefix tone pattern.

	NDEBELE	ZULU
A1	*ín̤dl̤u* (house)	*ín̤dl̤u*
B1	*în̤ja* (dog)	*în̤jă*
Plural:		
A1	*ín̤ĭndl̤u* (houses)	*ín̤índl̤u*
B1	*ín̤inja* (dogs)	*ín̤injă*

4.3.1.2. Monosyllabic adjective stems in Ndebele similarly show loss of high stem tone and reliance on prefix-tone distinctions, e.g.

	NDEBELE	ZULU
A1	*ín̤de* ('a long one', class 9)	*ín̤de*
B1	*ím̤bi* ('a bad one', class 9)	*ím̤bĭ*
Plural:		
A1	*ín̤ĭnde* ('long ones', class 10)	*ín̤ĭnde*
B1	*ín̤imbi* ('bad ones', class 10)	*ín̤imbĭ*

4.3.1.3. When Ndebele nouns of tonal types A1 and B1 are extended by suffix, however, the stem tones do differ, taking the same patterns as disyllabic-stem nouns of tonal types A2 and B2, low + low and high + low, respectively, e.g.

	DERIVED STEMS	NON-DERIVED STEMS
A2	*ísím̤bana* (small mattock)	cf. *ísígo̤do* (tree stump)
B2	*ísíd̤lwăna* (small feast)	cf. *ísígŭb̤hu* (drum)
Plural:		
A2	*ín̤ĭmbana* (small mattocks)	cf. *ín̤ĭgo̤do* (tree stumps)
B2	*ín̤id̤lwăna* (small feasts)	cf. *ín̤igŭb̤hu* (drums)

4.3.2. CVCV-Stem Nouns: In most Nguni languages, disyllabic-stem nouns of one tonal type, D2, take low + high stem tones. Though elderly Ndebele speakers sometimes retain the Zulu pattern, such nouns are mostly rendered with low + low stem tones in Ndebele, or falling + low if prefixal high tone is displaced by a depressor, as in the last example:

NDEBELE	ZULU
ínkomo (head of cattle)	*ínkomó*
íntom̤bi (marriageable girl)	*íntom̤bĭ*
ísíkhathi (time)	*ísíkhathí*
ín̤ikhàthi (times)	*ín̤ikhàthí*

4.3.2.1. Adjective and relative stems which take type-D2 tones in other Nguni languages similarly show loss of final high tone in Ndebele (with many speakers):

NDEBELE	ZULU
àbàbili ('two', class 2)	*àbábilí*
èbom̤u ('a red one', class 9)	*èbom̤ŭ*

4.3.2.2. Whereas prefix tones give a clue to tonal type, for monosyllabic-stem nouns, adjectives or relative stems in Ndebele, they do not, in the case of disyllabic words like those above. In their normal usage, such words are tonally identical to ones from tonal type A2, and also to ones which are cognates of type C2, with falling + low stem tones, in other Nguni languages. For example, the following three Ndebele nouns, with identical tone patterns, have three different tone patterns in Zulu, representing tonal types A2, C2 and D2, respectively:

NDEBELE	ZULU
íntaba (mountain)	*íntaba* type A2
ínkabi (ox)	*ínkâbi* type C2
ínkomo (bovine)	*ínkomó* type D2

4.3.2.3. As demonstrated previously, in 4.2.3.4, suffixally extended derivatives from Ndebele types A2 and C2, like *íntaba* and *ínkabi*, are in fact tonally distinguishable from each other, taking penultimate low and high tone, respectively. Type-D2-derived items, like *ínkomo* when similarly extended, differ from A2 derivatives, but share the same pattern as C2 derivatives:

< A2	< C2 or D2
éntábeni (on the mountain)	*énkábíni* (on the ox)
	énkóméni (on the bovine)
Depressor-conditioned variants:	
éṇḍabèni (in the matter)	*èṇḍawéni* (in the place)

4.3.3. Verbs: For Ndebele verbs, some similar instances of the loss of final high tone could be cited, e.g. with type-B1 verbs, in some tenses, as in *ngiyaḍla*, 'I am eating' (cf. Zulu: *ngiyaḍlá*).

4.3.3.1. Besides cases of *final* high tone loss, one finds that earlier high tones have disappeared in certain tenses, as in *asihlakúli*, 'we are not weeding' (cf. Zulu: *asíhlakúli*). In this instance there has been a neutralization of tonal contrast, between verbs of types A and B, in Ndebele. Zulu uses the 'penultimate high only' pattern for type-B (or -C) verbs only, in this tense, e.g. *asisebénzi* (we are not working); and the 'high except first and last' pattern, for type-A verbs. Ndebele uses 'penultimate high' for either type.

4.4. Overall picture of tonal changes To sum up our findings presented in this section, concerning tone-pattern differences, I think the general picture that emerges is that Ndebele tends to favour early rather than late realization of high tone, while Zulu tends to prefer the reverse. An exception occurs, of course, in the case cited in 4.3.3.1 where Ndebele discards all high tones except on the penultimate syllable, compared with Zulu; but this arises from a standardization of patterns for that tense, distinctiveness between tonal types A and B being neutralized. This standardizing tendency is evident in certain other instances, in Ndebele, as for example with locative demonstrative tone patterns (4.2.2), and in the fusion of tonal types B and C among verbs (4.2.5).

5. TONAL FORMULAE

As a convenient means of referring to Nguni tone patterns, a concise 'tonal formulae'

system has been outlined in an earlier paper.[25] It involves symbolizing stem syllables by counting backwards from the end and labelling them as Z, Y, X, etc. Thus all Ndebele 'penultimate high' patterns, as in *asilímí* or *asihlakúli* (we are not ploughing; we are not weeding) can be represented as Ý; and all 'antepenultimate high' patterns, as in *siyayihlákula* or *siyayilimísisa* (we are weeding; we are ploughing it intensively) as X́, and so on. For additional, earlier high tones, syllables are numbered from the beginning, as 1, 2, etc. But conditioned, or assimilated high tones remain unmarked: e.g. *ísíkhwámána* and *ízikhwamána* (small bag; small bags) are both symbolized as ÍÝ, since the presence or absence of intervening high tones is predictable (in terms of the Assimilation rule; see 6.3.3, iii and iv).

5.1. The tone patterns found in most Zulu and Ndebele nouns, for example, can be represented by the formulae shown in Table V. The symbol Ź in parenthesis for Ndebele B1 and D2 nouns denotes final high tone, which seems to be unrealized except by some 'older generation' speakers. As they stand, these formulae refer to normal 'full prefix' forms with an initial vowel. Tone-patterns for the corresponding 'short' forms, without initial vowel, can be directly derived from these, by just deleting the first term in each of the formulae; but for Ndebele type-A and type-D2 nouns, the first two terms need to be deleted. The footnotes marked as † and * within the Table merely cite various realizations of the 'depressor H-displacement' rule, stated in the Appendix to this paper.[26]

Table V

TONE-PATTERN FORMULAE FOR NOUNS
OF TONAL TYPES A, B, C & D

No. of of stem syllables	(a) ZULU				(b) NDEBELE			
	A	B	C	D†	A	B	C	D
1	Ý	ÍŹ↔			ÍÝ	Í(Ź↔)		
2	X́*	ÍÝ	ÍŹ‡	2́Ź	ÍX́*	ÍÝ	ÍX́*	ÍX́*(Ź)
3	"	ÍX́*	ÍÝ	2́Ý	"	ÍX́*	ÍÝ	ÍÝ
4	"	"	ÍX́*	2́X́*	"	"	ÍX́*	ÍX́*

† 2́ → 3̂ /depr_____non-depr;
3̂ → 3̂ /3 = pre-pausal Y

↔ Pre-pausally: Í → Î /monosyllabic prefix

‡ Pre-pausally: Ź → Ý

* X́ → Ŷ /depr_____non-depr; Ý → Ŷ /pre-pausal

Key:
1 & 2 = prefix syllables (with monosyllabic prefix, 2 = 1).
3 = next syllable.
Z, Y & X = last, second-last, and third-last syllable.

[25] Rycroft, 'Tonal formulae for Nguni'.
[26] See ibid., 23–8, for fuller details of this formula system, plus examples of nouns of each tonal type.

5.2. A rather different and somewhat problematical tonal typology for Ndebele nouns emerges if no account is taken of the cognate Zulu forms. For example, there is no way of distinguishing type-A2 nouns, by their surface tones, from type-C2 (or, with younger speakers, from type-D2 nouns either). Yet it is desirable to identify them in order to be able to predict their differing A3 and C3/D3 tone patterns when such nouns are suffixally extended.

5.3. **Conclusion** This paper gives only a tentative sketch of certain phonetic and tonal differences between Ndebele and Zulu. Divergences concerning vowel and consonant pronunciation are minimal, and in some cases the evidence suggests that it is in fact Zulu that has changed, since 1822, while Ndebele has retained earlier forms of pronunciation, intact. Similarly with tone, the fact that Ndebele uses initial high tone instead of low in certain nouns may well represent a survival of proto-Nguni practice no longer retained in Zulu. On the other hand certain tonal innovations are also apparent in Ndebele, especially among the younger generation: there is a definite tendency to discard final high tones and, in certain instances, penultimate falling tones, in words in which these occur in all other Nguni languages. Also there are some instances of standardization (or generalization) of tone patterns in Ndebele, in some cases involving a reduction of distinctiveness between 'tonal types' among lexical items.

For the future, I think Nguni comparative studies, particularly concerning tone, offer a rewarding field for systematic exploration.

6. APPENDIX: TONAL REALIZATION IN NDEBELE[27]

6.1. **Tone** At a phonetic level of description, many fine gradations of absolute pitch occur in Ndebele, as in Zulu.[28] At a phonological level these can be systematized into three significant categories of tone (or tonemes),[29] their actual pitch realization being subject to modification by three additional factors: downdrift, assimilation, and depression, as explained below.

6.2. **Depression**[30] In all Nguni languages, so-called depressor consonants condition initial breathy-voice phonation, in place of normal voicing, in the following vowel, and this has a pitch-lowering effect. The following Ndebele consonants are depressors: *bẖ, d̤, dl̤, g̤, gc̤, gq̤, gx̤, j̤, mb̤, mv̤, nd̤, ndl̤, ng̤, ngc̤, ngq̤, ngx̤, nj̤, nz̤, v̤, z̤*. Also the following, if marked with a subscript diaeresis, in this paper: *ḧ, l̈, m̈, n̈*. Most of these can also be followed by *w*. All other Ndebele consonants are non-depressors.

[27] For Zulu, a statement which is closely similar to what is given below appears in Rycroft and Ngcobo, *Say It in Zulu*, Appendix B, 8–24.

[28] cf. Doke, *The Phonetics of the Zulu Language*, 199ff., regarding 'nine different pitches' in Zulu.

[29] Regarding Xhosa tonemes, see D. M. Beach, 'The science of tonetics and its application to Bantu languages', *Bantu Studies* (1924), II, 75–106; A. N. Tucker, 'Sotho-Nguni orthography and tone-marking', *Bulletin of the School of Oriental and African Studies* (1949), XIII, 200–24; Lanham, 'The Comparative Phonology of Nguni'. For Zulu, see Cope, 'Zulu Phonology, Tonology, and Tonal Grammar', and 'Zulu tonal morphology', *Journal of African Languages*, 1970), IX, 111–52; D. K. Rycroft, 'Tone in Zulu nouns', *African Language Studies* (1963), IV, 46–68, and 'Tonal formulae for Nguni'; and Rycroft and Ngcobo, *Say It in Zulu*.

[30] A fuller account of this feature appears in Rycroft, *The Depression Feature in Nguni Languages and Its Interaction with Tone*.

In a few instances, breathy voicing occurs without a preceding depressor consonant, notably in subject concords of the first and second person in certain tenses, and initially in nouns under copulative inflection, e.g. *u̬mùntu* ('it is a person', < *úmùntu,* person).[31] In such cases it is here referred to as the 'depression feature', and the diaeresis sign appears under the vowel instead of under a consonant.

6.3. Tonal Realization The effects of downdrift, assimilation and depression upon high, falling and low tones in Ndebele are as follows:

6.3.1. Downdrift: Except in questions, successive low tones, high tones, and the onset pitches of falling tones, respectively, become progressively lower in actual pitch towards the end of of an utterance, as may be seen in examples (a) and (b) below. 'Final low' pitch appears to serve as an utterance-terminal marker. In terms of what might be called the 'Final low' rule: Lowest pitch must be reached on either or both of the last two syllables.[32]

6.3.2. For early unmarked syllables, depression conditions low-mid pitch realization instead of mid pitch: see example (g), as compared with (e).

6.3.3. Assimilation:

(i) Low tone on a penultimate syllable (after H) begins with a falling-pitch onset glide (see example (c));[33] but

(ii) No falling onset occurs if that syllable commences with a depressor consonant (see example (d)).

(iii) Low syllables that precede a penultimate or earlier high tone in a word, assimilate to high pitch if another H tone precedes them (see examples (e) and (f));[34] but

(iv) No assimilation occurs if such syllables follow a depressor (see examples (g) and (h)).

6.3.4. Depression: This feature, conditioned either by a preceding depressor consonant or, more rarely, by imposed depression, affects tonal realization as follows:[35]

6.3.4.1. High tone is lost or displaced, in certain contexts. Conditions for this are that the affected syllable must:

(i) be earlier than penultimate in the word;
(ii) not be followed immediately by a depressor;
(iii) not have extra length.

[31] An alternative interpretation could posit an unwritten breathy-voiced *ɦ* here, as an 'invisible' initial depressor. But this is not feasible when there is an initial non-depressor consonant, as in *bu̬tshâni* ('it is grass') < *útshani* (< *úbú-*, class 14).

[32] This 'final low pitch' rule applies in all Nguni languages except Xhosa. In most Nguni languages, besides 'final lowering', a drop in pitch between successive high tones generally occurs, between words, and also within words, throughout the utterance, thereby delimiting the separate domains of underlying morphemic high tones. In Ndebele, high-pitch down-step *within* words seems rare (except utterance-finally). When it does occur it appears to be optional and arbitrary.

[33] Note that a penultimate syllable takes extra length (see 3.1).

[34] These syllables are marked as 'high' under our present system, employed in this article; but they would be unmarked under the system cited above, fn 15.

[35] In Ndebele, depressor H-displacement seems to observe word-boundaries; see 3.4.

Provided that these conditions are fulfilled, the affected syllable then takes low tone instead of high (see example (i)). Furthermore, the next syllable, if normally low, then adopts high tone instead or, if it bears imposed extra length (through being utterance-penultimate), adopts falling tone (see examples (j) and (k)).

6.3.4.2. This 'Depressor H-displacement' rule, which is relevant in all Nguni languages except Xhosa, may be expressed as follows:

$$\begin{bmatrix} \text{CV} \\ +\text{H} \\ +\text{depr} \end{bmatrix} \quad \begin{bmatrix} \text{CV} \\ -\text{depr} \end{bmatrix} \quad (\text{v})_{\circ}\,\text{C} \rightarrow \begin{bmatrix} 1 \\ -\text{H} \end{bmatrix} \quad \begin{bmatrix} 2 \\ +\text{H} \end{bmatrix} \quad 3 \quad 4$$

1 2 3 4

Items 1 and 2 must have depression and lack depression, respectively, and item 4 is obligatory. Item 3 represents an optional increment of imposed extra length, extending item 2 if the word is final or pre-pausal. This increment, when present, does not accept displaced high tone; so $[\overset{2}{+\text{H}}]$ and 3, together, represent falling tone (unless item 2 already bears non-displaced high tone, in which case 2 + 3 = high tone).

6.3.4.3. If the above conditions for loss or displacement do not apply, then high or falling tone on a depressed syllable commences with a rising-pitch on-glide and takes slightly lower pitch (see examples (l) and (m)).

6.3.4.4. The question of what constitutes a 'high tone' is relevant here. Syllables only realised at high pitch due to assimilation are exempt: they merely lose that high pitch, after a depressor (see 6.3.3, iii-iv).

EXAMPLES

(a) *ábálimi abalímí* (the farmers do not plough)

(b) *ábálimi bâhle* (the farmers are handsome)

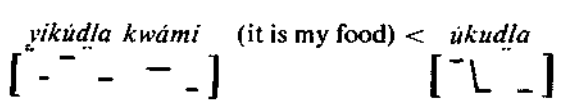
(c) *ábálimi* (farmers) (d) *ámáḍoḍa* (men)

(e) *sisebénzi* (O servant!) > (f) *isisébénzi* (a servant)

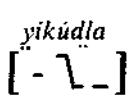
(g) *zisebénzi* (O servants!) > (h) *izisebénzi*

(i) *(y)inqóla* (it is a wagon) < *inqóla* (wagon)

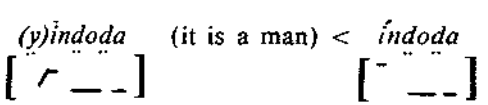
(j) *yikúdla kwámi* (it is my food) < *úkudla* (food)



(k) *yikúdla* (it is food)



(l) *(y)índoda* (it is a man) < *índoda* (man)



(m) *nãmpa* (here they are)