THE REALITY OF HAUSA "LOW TONE RAISING":
A Response to Newman & Jaggar*

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Paul Newman and Philip Jaggar in an article in this issue of Studies in African Linguistics argue that a rule of Low Tone Raising (LTR), proposed in Leben [1971] is not a synchronic rule in Hausa. This rule, as originally formulated in Leben [1971], raises a final low tone (L) of a word if the syllable bearing the L (1) follows a L and (2) has a long vowel.

Newman & Jaggar's method of argumentation is, first, to show eight types of phonetic violations of LTR (§§1.1-8). Next (§§2.1-4), they show that four putative cases of LTR as a productive synchronic rule are problematic and/or have other, better explanations. They conclude that LTR is not "a synchronically viable rule on the same level as other regular rules in the language, such as the shortening of long vowels in closed syllables or the simplification of LH on a single syllable to H" (p. 229). While Newman & Jaggar argue only that LTR is not a "synchronically viable rule", the force of their paper, with its listing of many "counterexamples" to LTR, is to suggest that LTR has no reality at all in modern Hausa. I agree with them that LTR is not a rule; indeed, contrary to their assumption (first paragraph of §2), I would claim that it never has been a rule. The question which I wish to raise is whether there is any synchronic (and/or historical) reality to the phenomenon which originally attracted Leben's attention, viz. "Much checking with informants and with sources that mark a long-short distinction on final low-toned vowels...reveals no word in Hausa which ends in two low-toned syllables, the last of which contains a long vowel" [Leben 1971:202]. Newman & Jaggar's answer is that this "generalization" is the residue of a rule which is no longer productive, as shown by a multitude of surface violations. My answer is that this is a valid generalization about Hausa phonology, and if we are precise in our formulation of LTR, there may be no violations at all. The value of Newman & Jaggar's paper is to provide a clear and

* I would like to thank Will Leben and Paul Newman for comments on a draft of this reply. In particular, I credit Leben for the basic idea of English stress and vowel reduction being a possible factor in accounting for the apparently anomalous tones of borrowed words like filnasmanatèe 'primary'.
by specifying that LTR applies only to singly associated tones. (If, as assumed here, the final tone of multi-tonal verbal templates are always singly associated, LTR would also take care of verbal tones. Leben [1985], however, argues for left to right association, with multiple association of the final tone.)

In §1.6 Newman & Jaggar present recent loanwords such as firaamârêe 'primary' as counterexamples to LTR. These words do constitute an indisputable violation of LTR which cannot be accounted for by a generalization about lexical category or derivation. However, they raise issues, worthy of further investigation, related to the phonological adaptation of loanwords in Hausa. In their example (11) Newman & Jaggar give only six words that are problematic for LTR, and these are, in fact, the only six such words that I have been able to find in looking through Hausa Language Board [n.d.], supplemented with a number of borrowed items from other sources. Five of these words have a common feature, viz. the material represented by the last two syllables of the Hausa words has been reduced to a single syllable in British English, which would be the model for Hausa pronunciation, e.g. dispensary [dispénsri] becomes Hausa diʃânsârêe. The sixth word, ãsambûlêe < assembly, has a single syllable corresponding to two Hausa syllables in all English dialects (this is also the case with ðeeleûwêe ‘railway’, cited in (12)). In other words, the penultimate vowel in these words in Hausa is epenthetic, not the vowel seen in the English orthography! In English borrowings with two final unstressed syllables where the penultimate vowel is pronounced in all varieties of English, the Hausa rendering either obeys LTR (kamfânii ‘company’), has H on the penultimate syllable (ðeedíyô ‘radio’), and/or has a short final vowel (leebûrâ ‘laborer’). The latter two cases would not meet the structural description for LTR, of course. It may thus be the case that an epenthetic vowel does not serve as part of the environment for LTR, even where it bears L.

Another feature unites the six examples in Newman & Jaggar's item (11), viz. they all end in -ee. In §1.7, Newman & Jaggar point out that another category of counterexample to LTR comprises words originally ending in diphthongs which have monophthongized (kásasârêe < kásasârâi 'contemptuously'). They further note that diphthongs can never have counted as long vowels for the purpose of LTR. It may be that neither diphthongs nor mid-vowels, at least mid-vowels which are not in some sort of regular alternation relation with high vowels [Newman 1979], are in the domain of LTR. In short, further research is needed to tell us whether or not some more general explanation consistent with LTR can account for the borrowed items in Newman & Jaggar's (11), but this small and equivocal set of apparent violations is not sufficient grounds to discard LTR as a true generalization in modern Hausa phonology.

In §1.8, Newman & Jaggar present their final counterexample to LTR. This involves lengthening of the final vowel of the last word of a question as a concomitant of a morpheme, q, which is the sole mark of yes/no questions and
also accompanies WH questions. (The q morpheme also carries properties which affect tones; these properties differ from dialect to dialect.) Thus, the word gwàdò ‘blanket’ is pronounced with a long final vowel at the end of a question, e.g. kun sàyi gwàdò? ‘did you (pl.) buy a blanket?’, and since the vowel is now long, it should be subject to LTR were it a productive rule. This putative counterexample is a red herring. Vowel lengthening associated with q is one of the intonational properties of questions and would thus not provide input for LTR if it were a phonological rule, much less if it were a lexical condition on tone.

Newman & Jaggar specifically address this suggestion for why q lengthening should not be subject to LTR, citing an analysis by Inkelas, Leben, & Cobler [1987] that the L component of the q morpheme “is added to the lexical tier” by a purely local process, resulting in surface neutralization of underlying H and underlying falling (= H L on one syllable) to falling. Leben [personal communication] has pointed out that “lexical tier” here does not refer to the “lexical level” as this term is used in lexical phonology. Hence, Inkelas et al.’s analysis of Hausa intonation is irrelevant to the issue of whether the question intonational phenomena of Hausa can serve as input to LTR. Moreover, in footnote 15, Newman & Jaggar themselves inadvertently demonstrate that question intonation can produce output to which a well-attested phonological rule could, but does not apply. They say, “… some speakers have a final Rise … rather than a fall” in questions [my italics], yet in example (13), they demonstrate that Rise regularly becomes H in Hausa. Surely a Rise observed as a concomitant of question intonation is not a “counterexample” to this well-documented rule of Rise simplification! In short, there is no reason to believe that the effects of the q morpheme, applied at the phrase level, should feed entirely word-internal and local phonological phenomena such as LTR.

I believe that I have shown that Newman & Jaggar have not produced convincing counterexamples to LTR. The examples from the verbal system in §1.1 are probably irrelevant, but in any case, they are not inconsistent with LTR. The four examples in §§1.2-5 all constitute a single case which does not even meet the environment for LTR. The examples from borrowing in §1.6 raise interesting questions about tonal and syllabic adaptation when words are borrowed. While definitive answers to these questions must await further research, the examples suggest that generalizations may be available which exclude these cases from or make them consistent with a reformulated version of LTR. Lengthening as part of question formation in §1.8 is an intonational phenomenon which would not create input to LTR in any formulation.

If LTR is not a productive rule, yet is not counterexamplified in the surface phonology of Hausa, what, then, is its status? In modern Hausa, it seems that LTR is best viewed as lexical constraint on prosody. This includes both the prosody of non-verbal, non-derived items, which I have argued have their tones prespecified syllable by syllable, and the prosody of templates which apply to verbs and derived forms. Newman & Jaggar have set out to support the premise
that LTR is at most a remnant of a historical process by trying to show that it is massively violated in modern Hausa. Even accepting a few (for the moment) problematic cases as true violations, LTR (perhaps better called “Low Tone Restriction” than “Low Tone Raising”) expresses an extraordinarily robust generalization about Hausa phonology—much more robust, say, than the generally accepted restriction in English against fricative clusters as syllable onsets, forcing one to list exceptions such as *sphere and *stenic. In short, LTR is real in modern Hausa.

Where did LTR come from? Although Newman & Jaggar discount LTR as a modern synchronic rule, they accept the idea (§2) that historically it did operate as such. I pointed out that their “counterexamples” would pose as much of a problem for LTR having been a rule in the past as for its being a synchronic rule, inasmuch as most of the cases they cite have probably existed throughout the history of Hausa, but if LTR were reformulated so as to exclude these “counterexamples” from its domain, it could well have functioned as a rule at one time, with a lexical condition on prosody as its modern legacy. There is reason to believe, however, that the modern condition expressed by LTR has a source other than a phonological rule. Hausa has two phonological properties which make it unique, as far as I know, among its Chadic relatives. One is the existence of LTR, but the more important is the fact that the overwhelming majority of items in the nominal vocabulary end in long vowels whereas nouns longer than one syllable in other Chadic languages always end in short vowels (see Newman & Jaggar, p. 237, and references cited there). There is no question that the source of final vowel lengthening in Hausa is intimately related to the source of LTR. Newman & Jaggar point out (footnote 25, pp. 245-246, and example (31)) that the final vowels of all nouns lengthen before the genitive linkers, regardless of lexical length. (Newman & Jaggar, p. 246, cite Schuh [1977:74] for this phenomenon, but Carnochan [1951] was the first to describe it.) In “Standard” Hausa, lengthening shows up only with a first person singular possessor -aa, e.g. gwàdò ‘blanket’ but gwàdòo-n-aa ‘my blanket’, because this is the only possessor which begins in a vowel (all nouns and all other pronouns are C-initial). In Western Hausa, lengthening also takes place before the third masculine possessor, e.g. gwàdòo nai ‘his blanket’ (cf. “Standard” Hausa gwàdòo-n-sà ‘his blanket’, where the effect of lengthening is obliterated by a rule shortening long vowels in closed syllables). In Schuh [1977:74] I claimed that lengthening before genitive linkers is a reflex of a more general rule which lengthened final vowels of nouns before all cliticized determiners. Nouns with lengthened final vowels must have at one time occurred with great frequency, though today many constructions originally expressed with determiner clitics have been replaced by analytic constructions, e.g. wannàn gwàdò ‘this blanket’, or the clitics have apocopated their final vowels, creating closed syllables with concomitant vowel shortening when they are cliticized, e.g. the Previous Reference Marker ñ in
gwâdô-n 'the blanket'. It is the reflexes of nouns with lengthened vowels that we find today as the citation forms of nouns. Evidence that lengthening before determiners is probably the source of Hausa long vowels in nouns comes from the fact that the classes of native words which typically do not have long vowels are those which would rarely, if ever, have had determiners as modifiers, e.g. adverbs, proper names, place names, etc. On the other hand, Hausa now has many common nouns with short final vowels, such as ‘blanket’ just cited. A large proportion of these words are identifiable borrowings which have probably come into the language since the time when lengthening before determiners ceased to be a common and productive surface phenomenon.

My suggestion is that determiner clitics probably conditioned not only lengthening, but also a polarizing tone shift. Tone polarization as part of the determiner system can still be seen in the particles marking equational sentences, nee (m, pl), cee (f), themselves originally determiners, though in this case it is the determiners which polarize, not the preceding syllable, e.g. farii nèe ‘it’s white’ vs. farîi nee ‘its a drought’. If the scenario here is on the right track, then LTR would be the effect of the combination of pre-determiner lengthening and polarization of a L syllable to H after a L. Since modern Hausa nouns with final short vowels do not show the effects of pre-determiner lengthening in their citation forms, they obviously would not show the effects of polarization either in cases where they end in a L L sequence. The fact that tone does not polarize, even in cases where lengthening applies in modern Hausa, shows that this has been lost as part of modern Hausa pre-determiner lengthening (gwâdô ‘blanket' → gwâddô nai 'his blanket', not *gwâddoo nai).

In sum, the proposal here is that LTR has never been a phonological rule. Rather, its origin is in a morphologically conditioned process which has left its mark in a (nearly) absolute condition on the lexical prosody of words. This condition remains a valid generalization about modern Hausa.

REFERENCES


1Greenberg [1978:71-72] proposes a vocalic determiner suffix which has fused with the final vowel as the source of lengthening the final vowels of nouns in Hausa. In Schuh [1984:196-197] I suggest that this vowel was *i. However, I no longer believe this is the source of lengthening. A vocalic determiner source would account for the final long vowels of nouns as opposed to other categories, but it would not explain why short vowels are lengthened before the genitive linker.
Hausa Language Board. n.d. "Alphabetical list of words imported into Hausa." Kaduna: Northern Region Ministry of Education.


