

The Development of Falling Contours from Tone Bending in Hausa*

Paul Newman
Indiana University

0. Hausa has three surface tones: H(igh), which is notationally unmarked, L(ow), indicated by a grave accent (\grave{a}), and F(alling), indicated by a circumflex (\hat{a}). (With long vowels, indicated by double letters, tone is marked on the first vowel only.) Evidence from a number of areas, such as contractions, paradigmatic patterns, and morphological formations, shows clearly that the falling tone represents H + L on a single syllable, where, moreover, the level tones originally belonged to two separate syllables. For example, the items in (1) illustrate contours resulting from tone retention following vowel loss.

- (1) $k\bar{a}r$ = $ka\grave{d}\grave{a}$ 'don't', $d\grave{a}bgii$ = $daab\grave{u}gii$ [W dialect] 'anteater'; $b\hat{e}lbeel\grave{a}$
'cattle egret' < * $beel\grave{a}beel\grave{a}$; $d\grave{a}ndaan\grave{a}$ 'an herb' < * $daan\grave{a}daana$

The examples in (2) show falling tones occurring in H-L pronominal paradigms.

- (2) a. $z\hat{a}n$ (< $zaani$) 'I will', $z\hat{a}i$ (< $zaay\grave{a}$) 'he will', cf. $z\hat{a}ka$ 'you (m) will', $z\hat{a}at\grave{a}$ 'she will'
b. $m\hat{i}n$ (= $mini$) 'to me', $m\hat{a}r$ (= $mas\grave{a}$) 'to him', cf. $m\hat{a}ka$ 'to you (m)', $mu\hat{s}u$
'to them'

The plurals in (3a) and the verbs in (3b) illustrate disyllabic F-H words corresponding to trisyllabic H-L-H words. For example, plurals of the form $z\hat{o}bbaa$, which are derived from CVCV singular nouns, pattern with H-L-H plurals such as $s\hat{i}r\grave{a}adaa$ 'saddle(s)', derived from CVCCV nouns. Similarly, surface disyllabic verbs with the tone pattern F-H, e.g. $m\hat{a}ntaa$ 'forget' behave just like trisyllabic H-L-H verbs such as $ka\hat{r}\grave{a}ntaa$ 'read'.

- (3) a. $z\hat{o}bbaa$ (< * $zoob\grave{a}baa$) 'rings' (sg. $zoob\grave{e}e$); $s\hat{a}ssaa$ (< * $saas\grave{a}sa$)
'districts' (sg. $saas(h)\grave{e}e$), cf. $s\hat{i}r\grave{d}\hat{i}$, pl. $s\hat{i}r\grave{a}adaa$ 'saddle(s)', $turk\grave{e}e$, pl.
 $tur\grave{a}akaa$ 'tethering posts'
b. $m\hat{a}ntaa$ 'forget', $sh\hat{a}idaa$ 'inform', $sh\hat{a}nyee$ 'drink up', cf. $ka\hat{r}\grave{a}ntaa$
'read', $bayy\grave{a}naa$ 'explain', $binc\hat{i}kee$ 'investigate'

Compelling evidence regarding the analysis of the falling tone in Hausa as HL is provided by the "stabilizer" nee/cee , whose tone is always opposite that of the immediately preceding tone. (The cee allomorph is used with feminine singular nouns; nee is used with masculine and with plural nouns.) After words with final H tone, nee/cee is L; after words with final L tone nee/cee is H, see 4a. The tonal polarity shows up particularly clearly with words that have tonal variants, see 4b.

- (4) a. $j\hat{a}akii\ n\hat{e}e$ 'it's a donkey', $r\hat{i}igaa\ c\hat{e}e$ 'it's a gown'; $zoob\hat{e}e\ n\hat{e}e$ 'it's a ring', $moot\hat{a}\ c\hat{e}e$ 'it's a car', $huulun\hat{a}\ n\hat{e}e$ 'they're caps'
b. $k\hat{e}ek\hat{e}\ n\hat{e}e$ = $k\hat{e}eke(e)\ n\hat{e}e$ 'it's a bicycle', $\hat{y}\hat{i}lm\hat{i}\ n\hat{e}e$ = $\hat{y}\hat{i}l\hat{i}m\hat{i}\ n\hat{e}e$
'it's knowledge'

As we would expect based on the interpretation of F as H + L, *nee/cee* after a word-final F is invariably H, e.g.

(5) *hārām nee* 'it's religiously unlawful', *māi nee* 'it's oil'

Finally, the fact that falling tones in Hausa only occur on heavy syllables (Newman 1972), i.e. those with two potential tone-bearing-units, further supports the interpretation of F as consisting of two tones.

1. None of the above is controversial in Hausa studies: the treatment of F as a sequence of level tones has been accepted for a long time. For example, over 50 years ago, R. C. Abraham, the remarkable lexicographer and grammarian wrote, "The falling tone . . . has arisen from the fusion into a single tone of an original *high and low*" (Abraham 1941:139, italics his). Greenberg (1941:320) commented similarly: "Examples of the compound [= falling] tone can be considered . . . as the results of a succession of a high tone and a low tone." Thus, given a tone typology in which contour tones in some languages appear to constitute primes, the East Asian tone type, and in others are analyzable as sequences of level tones, the African tone type,¹ it is not surprising that Hausa is often taken as the prototype of the African type. What is surprising to discover is that historically F tones in Hausa do *not* all come from H-L sequences. Rather, in some cases F tone derived from a simple monotone by a process that I think of as "tone slurring", "tone slipping", or "tone bending". Specifically, F tone in monosyllabic nouns came directly from a single level H by a downglide in pitch comparable to the non-phonemic diphthongization of the long vowels /ee/ and /oo/ in English. According to this analysis, a word such as *wāa* 'elder brother', for example, did not come from a CVCV word with H-L tone, as has been implicitly assumed by all Hausaists, including myself, but rather from a monosyllabic word with simple H tone, i.e. [wāa] < */waa/.

2. First I shall describe some facts about Hausa that led to the historical hypothesis being presented here. Then, I shall show how this discovery elucidates certain synchronic tonal alternations that previously had been unexplained.

2.1. Excluding ideophones, monosyllabic words in Hausa are not very common. They are the norm in pronouns, with variable tone and vowel length depending on function, and in grammatical morphemes, e.g. *dā* 'with', *sai* 'until'. With content words, monosyllables are limited to about ten, almost exclusively H tone, verbs, e.g. *ci* 'eat', *shaa* 'drink',² and about twice that number of nouns, some of which are H and some which have F tone. Surprisingly, with the nouns, the H tone words are the ones where it is easiest to find a disyllabic source, e.g.

(7) *sau* 'foot' < and = *saawuu* (cf. pl. *saawāyee*), *kwai* 'egg' < and = *kwaayii* (cf. pl. *kwaayāyee*); *yau* 'saliva' < and = *yaawuu*, *sai* 'urine' < ? = *sanyii*, *shuu* 'silence' = and < *shiruu*, *jaa* 'red(ness)' < **jaajaa* by back formation (cf. pl. *jaajāyee*); *yaa* 'daughter' < **yāa* < and = *ɗiyaa*.³

Most of the remaining monosyllabic nouns turn out to have F tone, e.g.

- (8) *d̄i* [W] ‘bamboo canoe pole’, *k̄i* ‘head’, *m̄i* ‘oil’, *r̄i* ‘life’, *s̄a* ‘ox, bull’,
s̄u ‘fishing’, *w̄a* ‘elder brother’, *ȳa* ‘elder sister’, *ȳu* ‘today’

In some of the above words, the F tone may in fact reflect an old H-L sequence. For example *r̄i* ‘life’ is probably a deverbal noun, originally **raaȳi*, related to the verb *raaȳa* ‘give life’, whereas *k̄i* ‘head’ is probably a bimorphemic form consisting of the root **ka* (which reflects the reconstructed Proto-Chadic form) plus the definite article suffix -i. In others, however, there is no evidence to support the assumption of a disyllabic/ditonal source underlying the present F tone. Instead, one finds comparative evidence that indicates strongly that these words were always monosyllabic (and presumably monotonal). The Hausa word *m̄i* ‘oil’, for example, is a direct reflex of a word reconstructed for Proto-Chadic with confidence as a monosyllabic form **mar* (Newman 1977). Similarly, the Proto-Chadic word for ‘bovine’, **hla*, of which Hausa *s̄a* is probably a reflex, is invariably monosyllabic in present-day Chadic languages as it clearly was in the proto-language, e.g.

- (9) *m̄i* ‘oil’ < PC **mar*; *s̄a* ‘ox, bull’ < PC **hla* ‘bovine’ (hl = [t])

In sum, the hypothesis being presented here is that *all* monosyllabic nouns in Old Hausa were originally monotonal (H) and all of them subsequently altered into falling tone words by a phonetic process of tone bending. The present-day monosyllabic nouns with H tone presumably all have a more recent origin, either from reduced disyllabic words, see (7) above, or from other tonal adjustments. Since the rule did not affect verbs, we now have an explanation for why monosyllabic verbs almost all have H tone whereas F tone is normal with monosyllabic nouns.

2.2. Additional evidence that F on monosyllabic nouns is an intrinsic tonal property of words of that shape rather than reflecting a tonal sequence comes from loanwords (see Hyman 1970). Although monosyllabic words in Hausa used to be uncommon, the language now has many more such words as a result of recent borrowing, e.g.

- (10) *b̄al* ‘ball’, *b̄om* ‘bomb’, *f̄im* ‘film’, *kȳat* ‘cake’, *n̄as* ‘nurse’, *z̄u* ‘zoo’

As one can see, all of the words have falling tone. One’s first thought might be that the F is simply a reflection of the English intonation pattern. But note the following examples of French loanwords in the Hausa of Niger:

- (11) *b̄ik* ‘ballpoint pen’, *k̄ar* ‘bus’, *kȳas* ‘box’; *p̄il* ‘battery’, *s̄o* ‘bucket’

Again we find the Hausa words with F tone, but in this case the donor language is not characterized by an intonational downglide at the end of words or phrases. So where does the F come from? My answer is that this is a further manifestation of the Hausa tendency to pronounce monosyllabic nouns with a falling contour.

3. Given the *H > F rule, we can now account for some anomalous falling tones that are found in a couple of common contractions, e.g.

(12) *bâi* F < *baayaa* H-H ‘back’ ; *gũu* F < *gurii* H-H ‘place’

Previously, there seemed to be no reason at all why the monosyllabic forms should have F tone since the words from which they were derived contained level H tones. However, if we view these forms as old contractions that fed the tone slurring rule, then we have a plausible historical explanation for the modern-day alternations. Note, by the way, that we must assume that these were lexically specific old contractions, since more recent contractions, e.g. *yaawuu* > *yau* ‘saliva’ keep their original H tone. The hypothetical derivation is shown as follows:

(13) *baayaa* HH ‘back’ > (contraction) **bai* H > (tone slippage) *bâi* F

4. While it is interesting to be able to explain scattered lexical anomalies, the real significance of the historical contour tone rule is that it throws a totally new perspective on the grammatically important formation of verbal nouns from finite verbs. In Hausa, “verbal nouns”, which correspond to gerunds and progressive participles in English, are formed in a variety of ways. Those corresponding to simple H tone monosyllabic verbs all have a long vowel and falling tone, e.g.,⁴

(14) *shâa* ‘drinking’ < *shaa* ‘to drink’, *jâa* ‘pulling’ < *jaa* ‘to pull’, *sôo* ‘wanting’ < *soo* ‘to want’, *bîi* ‘following’ < *bi* ‘to follow’; *cîi* eating < *ci* to eat

As far as I am aware, no one has accounted for the tone/vowel length alternation in an explicit, formal way, but the common assumption has been that forms such as *jâa* and *bîi* were bimorphemic, made up of the verb root plus a verbal noun ending consisting of a floating L tone with length. What this analysis leaves unanswered is why the L tone resulting in the falling contour isn’t added to verbal nouns formed from disyllabic verbs, which also under lengthening, e.g.

(15) *fîtaa* ‘going out’ (not **fîtâa*) < *fîta* ‘go out’; *tsuufaa* ‘aging’ < *tsuufa* ‘to grow old’, *kôoshii* ‘being replete’ < *kôoshi* ‘be replete’

The explanation I would suggest is the following. In the course of Hausa linguistic history, all common nouns came to have long final vowels (see Schuh 1984, esp. 196-97, Newman 1979). As a result, verbal nouns automatically acquired long final vowels just by virtue of their being nouns. The change from *fîta* to *fîtaa* or *bi* to *bîi*, for example, was not due to the linear attachment of an additional morpheme; rather it was a consequence of a category shift. What this means is that contrary to our usual view, regular verbal noun formation in Hausa was a case of zero derivation.

Verbs with an underlying short final vowel would have added length as an automatic result of a category shift from verb to noun. Verbs with an intrinsic long final vowel would initially have undergone no phonological change. On becoming nouns, however, some of the erstwhile verbs would have been subject to the tone bending rule, thereby appearing with the falling tone that synchronically serves to mark verbal nouns.⁵ Presumed sample derivations are as follows:

- (16) [bi]V ⇒ [bii]N > (by tone slippage) bīi 'following'
 [jaa]V ⇒ [jaa]N > (by tone slippage) jāa 'pulling'

Note that for the F tone to appear, the forms would have to be (a) nominal and (b) monosyllabic. Verb forms such as *jaa* 'to pull', although monosyllabic wouldn't have been affected, and disyllabic verbal nouns such as *fitaa* 'going out' and *tsuufaa* 'aging', although nouns, wouldn't have been affected. The tone rule would have applied to all and only monosyllabic verbal nouns—which is exactly what we find.

5. Originally, I had thought of contour tone formation in Hausa as manifesting weakening or intonational type downglide. I suspect that a better way to view the historical change, however, is as a strengthening phenomenon, which served to prop up monosyllabic nouns, all of which originally had H tone. This case would then fit in with the type of historical tonological process described by Hyman (1978:262–63): "A tone which occurs under the influence of an accent may change to make that tone (or syllable) more prominent. What this usually means is that a level tone will become a contour"

6. In describing the development of falling tones from high as a process of tone bending/slurring/slipping, my aim has been to show that the contours developed, not from the addition of a discrete L tone, nor even from the addition of a discrete, linear L feature, but rather from the phonetic deformation of a level H tone. The erstwhile H tone was modified, not added to. Once these falling tones appeared, however, they ultimately merged with falling tones produced by H + L sequences resulting from vowel loss, so that synchronically, all of the falling tones regardless of their origin behave like HL sequences on a single syllable. It is of course commonplace in African languages for HL tones to be phonetically realized as a fall. What happened in Hausa is the opposite, namely that in the specific case of monosyllabic nouns, basic contours that were produced by a low level phonetic process underwent phonological decomposition into H + L.

7. Synchronically, Hausa appears to be a typologically very typical, African-type tone language in which surface contours represent tone sequences. In this paper I have shown how a casual acceptance of such a typology can mask diachronic developments of a totally unsuspected and interesting nature.

NOTES

* Research for this paper was supported by grants from the U.S. Department of Education (P0-17A10037) and from the National Endowment for the Humanities (RT-21236).

¹ In the terminology of Yip (1989:149-50), contours in African languages tend to be "tone clusters" whereas in East Asian languages they are "melodic units or branching tones".

² The pattern of monosyllabic verbs all having H tone, with no lexical contrast, is reconstructed by Schuh (1977) as a feature of proto-West Chadic.

³ Hausa does not have surface rising tones. As first described by Parsons (1955), these generally simplify to high (although not always, as is normally assumed). Gwandara, a closely related creolized offshoot of Hausa, on the other hand, still preserves rising tones (Matsushita 1972), cf. *yǎ* 'daughter' and *pǎ* 'a flat rocky outcrop' with Hausa *'yaa* and *faa*.

⁴ The verbs *zoo* 'come' and *jee* 'go' are irregular in many respects and do not follow the pattern described here.

⁵ The process described here only applies to "Primary verbal noun", i.e. phonologically regular gerundives. Hausa also has "Secondary verbal nouns", which are formed by suffixes and vowel ablaut patterns, the choice being lexically specific.

REFERENCES

- Abraham, R. C. 1941. *A Modern Grammar of Spoken Hausa*. London: Crown Agents for the Colonies (published on behalf of the Nigerian Government).
- Greenberg, Joseph H. 1941. Some problems in Hausa phonology. *Language* 17: 316–23.
- Hyman, Larry M. 1970. The role of borrowing in the justification of phonological grammars. *Studies in African Linguistics* 1: 1–48.
- _____. 1978. Historical tonology. In *Tone: A Linguistic Survey*, ed. by Victoria Fromkin, pp. 257–69. New York: Academic Press.
- Matsushita, Shuji. 1972. *An Outline of Gwandara Phonemics and Gwandara-English Vocabulary*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa.
- Newman, Paul. 1972. Syllable weight as a phonological variable. *Studies in African Linguistics* 3: 301–323.
- _____. 1977. Chadic classification and reconstructions. *Afroasiatic Linguistics* 5: 1–42.
- _____. 1979. The historical development of medial /ee/ and /oo/ in Hausa. *Journal of African Languages and Linguistics* 1: 172–88.
- Parsons, F. W. 1955. Abstract nouns of sensory quality and their derivatives in Hausa. In *Afrikanistische Studien* [Festschrift Westermann], ed. by J. Lukas, pp. 373–404. Berlin: Akademie-Verlag.
- Schuh, Russell G. 1977. West Chadic verb classes. In *Papers in Chadic Linguistics*, ed. by Paul Newman and Roxana Ma Newman, pp. 143–66. Leiden: Afrika-Studiecentrum.
- _____. 1984. West Chadic vowel correspondences. In *Current Progress in Afro-Asiatic Linguistics*, ed. by James Bynon, pp. 167–223. (Current Issues in Linguistic Theory, 28.) Amsterdam: John Benjamins
- Yip, Moira. 1989. Contour tones. *Phonology* 6: 149–74.