

THE HISTORY OF HAUSA NASALS

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1. Loss of word final nasals

Early in the history of Hausa the following sound change took place:

- (1) *N > Ø / ___# i.e. nasals were lost at the end of a word

*N in (1) represents *m and *n, the only two nasal phonemes reconstructable for proto-Hausa or for proto-Chadic.

Comparative Chadic evidence for this sound change is given in (2):

(2)	<u>Hausa</u>	<u>Bole group</u>	<u>Other West Chadic</u>	<u>Biu-Mandara</u>
	<u>final *m</u>			
'rat'	kúusùu	Bo kòsúm	Mi kusam	Te kusum
'crocodile'	kádòo	Bo káadàm	Ba ègdém	Te jiraŋ, Mu kurum, Bacama gilanè
'thirst'	kíshìi	Bo kújàm	RB hwem	Te xujùm
	<u>final *n</u>			
'elephant'	gíiwàa	Bo yàunó	Du gíiwén	Te jùwàn
'guinea fowl'	zàabóo	-----	Ngi záabànú	Te cívàn
'Nile monitor'	gúzàa	Ka gábèŋ	Ba ègzàn	Te kwàzà
'grass'	gàajíi (a type of grass)	KK gézèn	Mi əwès̀n	Te wùzèn, Bu kusar
'grindstone'	fáa 'rock outcropping'	Bo b̀ǹí	Ba v̀ènyí	Te v̀èna, Mu f̀uǹi
'three'	úkù	KK k̀uǹù	Ba kwán	Te k̀uǹú

Ba	Bade (Gashua dialect)	Bade-Ngizim group
Bo	Bolanci	Bole group
Bu	Bura	Bura-Margi group
Du	Duwai	Bade-Ngizim group
Ka	Kanakuru	Bole group
KK	Karekare	Bole group
Mi	Miya	North Bauchi group

Mu	Muzgu	Biu-Mandara, isolated language
Ngi	Ngizim	Bade-Ngizim group
RB	Ron (Bokkos dialect)	Ron group
Te	Tera	Tera group

Hausa belongs to the West Chadic subfamily of Chadic.¹ Cognates to the Hausa items have been selected from three classes of languages: those most closely related to Hausa within West Chadic (Bole group), those somewhat more distantly related but still in West Chadic, and those from a different Chadic sub-family (Biu-Mandara). Cognates from varying historical depth show that all the words in question probably date from proto-Chadic and that the word-final $*N > \emptyset$ sound change has taken place only since the separation of Hausa from its closest relatives. This selection of cognates also anticipates a possible objection to the reality of this hypothesized sound change. Over half the words listed in (2) are animal names. Jungrraithmayr [1971] suggests that animal names in proto-Chadic terminated in certain consonantal suffixes, among them $-m$ and $-n$. One might argue that Hausa merely discarded the animal suffixes (a morphological change) and did not undergo the sound change in question. This cannot be the case. In the first place, four of the nine words listed in (2) are not animal names. Secondly, for the animal names, the consistent appearance of the final nasal at all depths of relationship in Chadic demonstrates that even if the nasals were originally suffixes, they became frozen to the root at a very early date in the history of Chadic and were not analyzable as suffixes at the time of the much more recent $*N > \emptyset / _ \#$ sound change in Hausa.

A potential objection to the Chadic cognate status of the words for 'crocodile' and 'Nile monitor' is their resemblance to the Kanuri words *kárám* and *gújàn* respectively. The similarity of the Chadic and Kanuri words cannot be the result of inheritance from a common ancestor since

¹See Greenberg [1963], Newman and Ma [1966], Hoffmann [1971], and Newman [in press] for progressive refinements of Chadic classification. Newman's most recent work divides Chadic into four subfamilies: West Chadic, Biu-Mandara, East Chadic, and Masa.

Kanuri is not Chadic. While chance resemblance is not impossible, borrowing is a more likely explanation. Because of the long political dominance of the Kanuri in northeastern Nigeria, Chadic-speaking peoples in contact with them have borrowed much Kanuri vocabulary (cf. Greenberg [1960] for examples of Kanuri borrowing into Hausa). However, the words for 'crocodile' and 'Nile monitor' have clearly been borrowed from Chadic into Kanuri. Because borrowing by Chadic from Kanuri has taken place relatively recently and because it has happened more or less simultaneously in all the recipient languages, Kanuri loans in Chadic tend to look very much alike from language to language, e.g. Kanuri *kóró* 'donkey': Bo *kóró*, Ba *kóráu*, Te *kóró*, etc. The words for 'crocodile' and 'Nile monitor', on the other hand, show the effects of regular, and in some cases, fairly old sound shifts particular to the specific languages or language groups. Note particularly the words for 'Nile monitor' in Hausa and Kanakuru which are directly related by the Hausa sound law $*N > \emptyset / __\#$ and the Kanakuru sound law $*z > *w > \text{b} / V__V$ (see Newman [1970] for the latter). We can even ascertain that Kanuri borrowed these words from a Biu-Mandara language since in the word for 'crocodile', $*d$ was replaced very early in Biu-Mandara by $r (> l)$. Recognition of the $*N > \emptyset / __\#$ sound law in Hausa thus allows us to confirm as native to Chadic two words whose status as Chadic cognates may have previously been in doubt.²

2. Other nasal changes and their implications

The sound change described in section 1 is but one of a series of "weakenings" affecting syllable final consonants in Hausa. The maximum

²In thus far unpublished work, Douglas Saxon gives evidence for a long history of reciprocal lexical borrowing between the Chadic family and the Saharan family, of which Kanuri is a part. This borrowing dates from long before the dessication of the southern Sahara and the movement of these peoples south. To the two Chadic loans into Kanuri discussed here can be added the word for 'baobab', which is *kúwà* in Kanuri--cf. Hausa *kúkàa*, Bo *kùshí*, Ba *kúkwàu*, Bacama *kawai*, etc. The Chadic to Kanuri direction for borrowing of these words suggests that the Kanuri moved into the Lake Chad area from a drier region and borrowed words for unfamiliar flora and fauna from the indigenous Chadic speakers.

syllable in Hausa is C_1VC_2 , i.e. a syllable can begin and end in at most one consonant, and these weakenings have affected all consonants in the C_2 position. The literature has concentrated on the changes in obstruents, probably because those changes are more palpable than the ones affecting sonorants.³

The changes occurring when C_2 is a nasal have not previously been described in detail. They are of particular interest, however, because they show that syllable final consonant weakening is an old but continuing process in Hausa. The $*N > \emptyset / __\#$ change was described above as having taken place "early in the history of Hausa". There are two types of evidence for its relative antiquity. First, its effects are uniform in all Hausa dialects, indicating that it must have taken place before the split of Hausa into distinct dialect areas. Second, there are few if any surviving morphophonemic alternations involving the lost nasals. Presumably, the sound change would have left situations where \emptyset would alternate with n or m , e.g. noun singulars with \emptyset and noun plurals or derived forms with a nasal. However, this sound change is so old that analogical leveling has left the language with only a few doubtful cases of the nasal alternate. One such case is the plural of *fáa* ($< *fán$) 'rock outcropping', which is *fànníi* or *fànnáí*. However, we cannot be entirely certain that this is a surviving alternation resulting from the sound change since nasals appear irregularly in many derived and plural forms where there is no comparative support for an etymological nasal in the root, e.g. *kàréé* 'dog' pl. *kár-n-úkàa* (cf. RB *kyàrá*, Bu *kílà*, etc.); *záákìi* 'lion', *záak-á-n-yàa* 'lioness' (cf. Du *èzgaí*).

On the basis of the universal typology of syllable-final nasal weakening and loss, we can reconstruct the sound change in (1) as having had the intermediate states in (3):

³Briefly, the changes affecting obstruents as C_2 , known collectively as Klingenberg's Law, are $*K > w$, $*T > f/l$, $*P > w$ (where K = any velar obstruent, T = any alveolar obstruent, P = any labial obstruent). Examples are $*tálákèi > táláucèi$ 'poverty' (cf. *tálàkà* 'commoner'), $*bàtnéa > bārñáa$ 'damage' (cf. *bàatàa* 'destroy'), $*jìbjìi > jùújìi$ 'rubbish heap' (cf. plural *jìbàajéé*). See Klingenberg [1928] and Schuh [1972, 1974] for details and further examples.

(3) *VN# > *Vŋ# > *v#

Modern Hausa is undergoing a repetition of this same sound change. The new sound change, first mentioned in Klingenberg [1928], is given in (4):

(4) *N > ŋ / ___#

We know that this change began only recently since it has reached only the second stage in (3), and alternations with the original nasals survive, as in (5):⁴

(5)	<u>final *m</u>				
	'person'	[mùtùŋ]	< /mùtùm/	cf. [mùtùmì-ŋ]	'the person'
	'teacher'	[máalàŋ]	< /máalàm/	cf. [máalàmì-ŋ]	'the teacher'
	<u>final *n</u>				
	'muezzin'	[làadâŋ]	< /làadân/	cf. [làadâanì-ŋ]	'the muezzin'
	'the horse'	[dóokìŋ]	< /dóokì-n/	cf. [dóokìi-n-áa]	'my horse' (horse-that of-me)

Syllable final nasals have been subject to continuous weakening throughout the history of Hausa. For nasals in phrase final position we have documented this weakening as the two discrete but essentially identical sound changes (1) and (4). Phrase final is only one of two positions for C₂ of a syllable. The other position is preconsonantal. The phonetic changes in preconsonantal nasals are different from those in phrase final nasals, but this is merely a function of their being in different phonological positions. The overall process--syllable final weakening--is the same.

The first relevant case involves a rule inherited from proto-Chadic, viz. the phoneme /n/ assimilates to the point of articulation of a following obstruent, nasal, or semivowel.

(6)	'they got lost'	/sún b́átàa/	→	[súm b́átàa]
	'they gathered'	/sún tàarú/	→	[sún tàarú]

⁴Some dialects still retain word final [m] (perhaps in free variation with [ŋ]). As far as I know, no dialect allows word final [n].

(6) cont.

'they ran'	/sún gúdù/	→	[sún̄ gúdù]
'they died'	/sún mútù/	→	[súm̄ mútù]
'they melted'	/sún nárkèè/	→	[sún̄ nárkèè]
'they did'	/sún yí/	→	[sún̄ yí]
'they scattered'	/sún wáatsèè/	→	[sún̄ wáatsèè]

The same assimilations hold for /n/ followed by an obstruent or semi-vowel within a word.

Before liquids (Hausa has three--a retroflex flap written here as *r*, a tap or trill written as *ř*, and *l*), *n* assimilates completely.⁵

(7) 'they became confused'	/sún rúúǎèè/	→	[súr̄ rúúǎèè]
'they wrote'	/sún řúbùutáá/	→	[súř̄ řúbùutáá]
'they paid attention'	/sún lùurá/	→	[súl̄ lùurá]

Like the assimilations illustrated in (6), those in (7) may have been inherited from proto-Chadic in view of the fact that other Chadic languages share a similar phenomenon. In any case, assimilation of /n/ to a following liquid is of considerable antiquity in Hausa as I will attempt to demonstrate from instances of the fairly common geminate *ll* in native Hausa lexical roots, e.g. *kállóo* 'watching', *kúllèè* 'lock', *tsállée* 'jumping', *gúllèè* 'sprain', etc. I believe that many of these geminate *ll*'s come from **nl*,⁶ though direct internal and comparative support for this hypothesis is still scanty. The hypothesis is based on several interlocking observations: (i) Hausa underwent a change **r > y*, followed by **i > r*, so that most *r*'s in modern Hausa would have been **l* in proto-Hausa, and most modern *l*'s would have a more recent origin such as borrowing (see Newman [1970]). (ii) In modern Hausa, the only unanalyzable

⁵M. Dauda Bagari and I carefully checked the phonetics of phrases like those in (7) for his dialect, that of Azare, east of Kano. There is sometimes nasalization of the vowel preceding /n/, but this is never strong and is not obligatory.

⁶The discussion in this paper is limited to changes affecting nasals. Actually, geminate *ll*'s come from any of the combinations **t, d, d̄, ñ, *l*, i.e. [+alveolar, -continuant] + *l*. Note, for example, doublets like *kúduráa* = *kúllàa* 'tie a knot' (< **kúduláa, *kúdlàa*).

lexical geminate consonant commonly found in native roots is || . Virtually all other geminates are indisputably known to result either from complete assimilation of one consonant to another, e.g. in reduplication such as rárràbáá 'distribute' < *rab-rabaa or borrowings such as líttáafìi 'book' < *líktaab , or from morphological processes requiring gemination, e.g. in certain plurals such as jákkáí 'donkeys' from singular jáákíi . (iii) Jungraithmayr [1970] reconstructs a number of "derivational augments", including -r- (< *-l-) , which were added to verb roots in some earlier stage of the language but which are now frozen to the old verb roots as inseparable radicals. My hypothesis is that whenever a root final *-n (or other alveolar non-continuant--cf. fn. 6) came in contact with the derivational augment *-l- , the result was *|| . This assimilation predated the *l > r sound change, and that sound change did not apply to geminate *|| . This explains why lexical geminate | 's, but not other geminate consonants, are fairly common, and why we find occasional etymologically related pairs such as d'ánàa 'cock gun, set trap' and d'ál|àa 'flip, project with springlike action'.

The phoneme */m/ in proto-Chadic did not undergo assimilation to a following segment and even today many Chadic languages, including some Hausa dialects, allow [m] in all environments. In the Hausa dialect of Kano and neighboring areas, *m has undergone the preconsonantal weakenings described in (8) and illustrated in (9):

(8) a. *m > n / ___ alveolar obstruents

ñ / ___ y

ŋ / ___ velar consonants⁷

b. *m > w / ___ r, n⁸

⁷The category "velar consonants" probably includes w . There are no words in any Hausa dialect with the sequence mw , so this may have been a separate, very early assimilation. If the word [kyânwáa] 'cat' (where -wáa is a feminine noun suffix) is a cognate with Bade gáyim , this would be an example of *m > ŋ / ___ w .

⁸Omitted from (8b) is the environment / ___ l . The sequence ml is rare because of the limited distribution of l . In the few cases where m precedes l it seems not to have changed, e.g. jímlàa 'sum' (< Arabic) (cf. variant jìml|làa).

(9)	Kano Hausa	<u>alternates with m</u>	<u>other dialects</u>
a. 'filth'	kàzântáa	kàzáamíi 'filthy person'	kàzâmtáa
'nutshell'	kwànsóo		kwâmsóo
'spur-winged goose'	[díñyáa]		dúmyáa
'idol'	[gúŋkìi]	pl. gúmàakáa	gúmki
'fence'	[shíngée]		shímgée
b. 'marriage'	áurée	ámáryáa 'bride'	ámrée
'arrow shaft'	kyáuróo	pl. kyámàarée	kyámróo
'sit down'	záunàa	zámá 'stay, remain'	zámnaa
'affection'	kàunáa		kàmnaa

The change in (8b), illustrated in (9b), has generally been included in that part of Klingenberg's Law affecting labial obstruents (see fn. 3), viz. *P > w in syllable final position (e.g. sàuká 'get down'--cf. dialectal sàbká). Although the changes in (8a)-(9a) have not previously been related to Klingenberg's Law, they all clearly involve the same phenomenon, viz. syllable final nasal weakening. The phonetic realization of the weakening differs depending on environment.

In summary, the following sound laws affecting syllable final nasals have been identified:

(10) Early, perhaps inherited from proto-Chadic:

*/n/ > m, n, ñ, ŋ before following obstruents, nasals, or semivowels, depending on point of articulation

*/n/ > r, ř, l before r, ř, l respectively

Very early in Hausa:

*N > ∅ / ___ #

More recent in Hausa:

*N > ŋ / ___ #

Late in Hausa (found only in certain dialects):

*m > n, ñ, ŋ before following obstruent or semivowel, depending on point of articulation

*m > w before n or r

This series of changes illustrates two general facts: (i) weakening of nasals (actually all consonants) in syllable final position has been a continuous process throughout the history of Hausa; (ii) a general process of "weakening" can be identified separately from its specific phonetic effects, which differ depending on environment.

3. Some problematic Hausa etymologies

A number of Chadic roots where *m can be reconstructed have n in Hausa:

(11)	<u>Hausa</u>	<u>Bole group</u>	<u>other W. Chadic</u>	<u>Biu-Mandara</u>
'ear'	kùnnée	Bo kùmó	Ngi kèmwáw 'hear'	Te dlìm (cognate?)
'hand'	hánnúú ⁹	Bo mbáa'á 'upper arm'	Ba ámì	Buduma yumai
'blood'	jíníí	Bo dòm	Ba tédém	-----
'farm'	góonáa/ gwáanáa	Kofyar goon 'bush'	Ba kàm	Higi gèmbá 'bush'
'name'	súunáa	Gera séma	Pa'a sím	Te dlìm

Establishment of the sound law described in section 1 provides at least two hypotheses which would explain why Hausa has n rather than the reconstructable *m: (i) The first possibility is that in early Hausa, all final nasals were weakened to *ŋ (cf. (3) above). Because of this phonetic neutralization, all final nasals were reinterpreted as */n/ and in root alternates where a vowel followed the nasal, e.g. where words appeared in environments requiring an epenthetic vowel after the nasal, *[m] was replaced by *[n]. (ii) The second hypothesis is that the n's in (11) are not etymologically related to *m or the reconstructed roots, but are rather instances of the common -n plural suffix found throughout Chadic.¹⁰

⁹In addition to the Chadic cognates, note Hausa hámaatáa 'armpit', which may be a doublet with hánnúú.

¹⁰All the words in (11) are now grammatically singular, but it is not uncommon for plural forms of both mass nouns and body parts that come in groups to be reinterpreted as singulars. This is followed by complete loss of the singular form and development of a new plural. For example, in Hausa the words kúfíí 'money' (originally the plural of wúrìí 'cowry shell'; now with new plural kúdaadée) and rúwáa 'water' (old singu-

The history of the words in (11) would thus be similar to that suggested for fáa 'rock outcropping' above, (p. 4). The final *m was lost through the *N > ∅ / ___# sound change, leaving a singular of the shape C₁V₁, but a plural of the shape C₁V₁-nV₂, where -nV₂ is a plural suffix. The plural, for whatever reason, was reinterpreted as a singular and use of the old singular was discontinued.

In fact, the explanations for the forms of words in (11) could involve a combination of hypotheses (i) and (ii) as well as other factors. The words for 'ear' and 'hand' are originally plurals *kûm-née and *(h)ám-núu respectively, either with very early assimilation of the *m to the following *n, or with replacement of *m by *n through the reinterpretation suggested in (i).¹¹ The words for 'blood' and 'farm' would be equally explicable by hypothesis (i) or (ii). If góonáa 'farm' is an old plural, it probably meant 'farmland' as opposed to a single farm (cf. Bade where this distinction is made lexically-- kàm 'farm', kèríbà 'farmland', translated by Bade speakers as Hausa gòonàkíi 'farms'). It is unlikely that súunáa 'name' was formerly a plural, which excludes hypothesis (ii) as an explanation. While we are left with hypothesis (i) as only a tentative explanation, we know that the etymology for this word is not *súm-náa with *m > w / ___n (cf. (8b)) as suggested by Lukas [1968:105]. The *m > w change took place in a limited dialect area only, whereas the word for 'name' is phonologically súunáa in all dialects.

lar not used; plural is now rúwàayée) were originally plurals but are now treated by many speakers as grammatical singulars. Likewise, the words dúwàawúu 'buttock, pair of buttocks' (old singular not used; there is a new plural dúwáiwáyàa) and hánjii 'guts' (plural in Sokoto where the singular is hánzányàa , with feminine suffix -ányàa) were originally plurals but are now usually treated as grammatical singulars in Kano Hausa.

¹¹Lukas [1968:105] proposes a similar etymology for 'hand' to the one given here except that he calls the second -n- "nunation", a morpheme having a determinative function. This seems less likely than the hypothesis advanced here since addition of "nunation" in Hausa is invoked to explain just those cases with problematic n 's. It appears nowhere else in the language. An -n- plural suffix, on the other hand, is used with large numbers of nouns.

Finally, consider the following common Chadic words which have no known cognates in Hausa:

(12)	<u>Bole group</u>	<u>other West Chadic</u>	<u>Biu-Mandara</u>
'water'	Bo àmmá, KK àmù	Ngi âm, Pa'a ambi	Te d'ým
'ram'	Bo, KK gám	Ɖu gàám, Pa'a gan	Te gàam
'bull'	Bo kòm 'cow', KK kwàm	Ngi kwàm	-----

The *am root for 'water' is probably the most solidly reconstructed pan-Afroasiatic root and is found in every Chadic subgroup; the *gam root for 'ram' is also very widespread in Chadic [Newman and Ma 1966]; the *kwam root for 'bull', though not found outside West Chadic, is found in at least two major subgroups there. But why does Hausa have no reflexes of these roots?

Assuming these roots were inherited into proto-Hausa as *am, *gam, and *kwam respectively, consider what the effect of the sound change *N > Ø / ___# would have been on them: they would have become *a, *ga, and *kwa. Anttila [1972:184] notes that "it has been maintained [by some linguists] that excessive shortness necessitates replacement of a term to increase redundancy." In Hausa, replacement of these words by longer words in order to increase redundancy would have been abetted by a strong disfavoring of monosyllabic noun stems. The words for 'water' and 'ram' are now rúwáa and ràagóo respectively. The origins of these roots have not been satisfactorily determined, but they are functionally more amenable to the language than the roots they putatively replaced. In the case of 'bull', one modern word is sâa, itself a monosyllabic noun stem, but my impression is that the word bìjímíi is the more commonly used term.

We would have expected the word fáa 'rock outcropping', seen in (2), to have met the same fate as the roots in (12). Though it is still used, its semantic function has become more restricted than that of its cognates in other languages. Moreover, it is normally used in the phrase kân fáa 'head of rock outcropping', rather than alone.

To conclude, then, recognition of a sound law *N > Ø / ___# in Hausa allows us not only to relate a number of Hausa words in a systematic way

to cognates in other languages, as in the case of the words in (2) and (11), it also gives us a possible explanation for why Hausa lacks cognates for certain common Chadic roots.

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