



**A FOCUS ON SOME SEGMENTAL AND
SUPRASEGMENTAL FEATURES IN HAUSA
PHONOLOGY**

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*Bayero University, Kano. Inaugural Lecture Series
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M. O. M. A. Z. Sani
Inaugural Lecture 5

Published for the Bayero University, Kano
By the Public Lecture Series Committee

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ISBN 978-2035-97-1 V

Bayero University, Kano. Inaugural Lecture Series
No. 5

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He was, until recently, the Head of Department of Nigerian Languages, Bayero University, Kano.

A. ACKNOWLEDGEMENTS

We would like to seize this opportunity to express sincere gratitude to Dr. Lawan Danladi Yalwa of the Centre for the Study of Nigerian Languages for painstakingly taking the trouble of typesetting this lecture, with all the technicalities characteristic of linguistics paper. We are similarly grateful to the Public Lecture Series Committee of the Bayero University, Kano for making the presentation practically possible. And, to everybody else who has played a role towards the success of this lecture, we owe indebtedness.

B. ABSTRACT

This Lecture Comprises two parts, namely:

I. The Phonological Peculiarities of /i/ and /u/ in Hausa and, II. Non-contrastive Rising Tone in Hausa. While part I. specifically highlights the alternations of /i/ and/or /u/ with /ɨ/, as well as their neutralization to [ɨ], part II on the other hand, identifies certain attributes and function of a rising tone in Hausa. It ends by briefly discussing current state of affairs in the study of Hausa phonology in B.U.K. as well as Hausa studies generally in the university. The position of Hausa in the modern world is also highlighted.

C. METHOD OF PRESENTATION

This presentation is based on standard Hausa, a variety closest to Kano dialect. Phonetic, phonemic and morphemic units are enclosed in brackets [], oblique strokes // and braces {} respectively; a long vowel is doubled; a raised vertical line (l) denotes a stress, a grave accent (̀) on a vowel indicates a low tone, a circumflex (^) indicates a falling tone, while a high-toned syllable is left unmarked. An arrow (→) reads 'becomes'; a tilde (~) signifies alternation. In addition, each Hausa example cited is accompanied with English gloss; an asterisk (*) marked on an utterance denotes unacceptability in terms of pronunciation.

D. INTRODUCTION

Phonology is a branch of linguistic science like morphology, syntax and semantics. It studies the sound system or sound patterns of a language. In other words, it deals with how a language naturally organizes or structures its sounds to form meaning (Hyman, 1975). By sounds here, the reference is to consonants and vowels, the building blocks of the syllable which, in turn, makes up the morpheme and/or word in every language.

Every natural language, so to speak, has a very unique phonological system. The phonology of language 'A' for instance, would not be the same at all as that of language 'B'. No two languages are found to share the same phonological system. They may have the same inventory of sounds. But when it comes to the concatenation of these sounds in a word, certain fundamental differences are bound to arise. A few practical examples are worth citing here to clarify matters. Both English (a Germanic language in the Indo-European family) and Hausa (a Chadic language in the Afro-

Asiatic family) happen to have consonants /b/, /d/ and /g/. However, the distributions of these sounds in the two languages differ to a certain extent, as reflected in the following table:

Table 1: ENVIRONMENTAL DISTRIBUTIONS OF /b/, /d/ AND /g/ IN ENGLISH AND HAUSA.

	<u>Word-Initial</u>	<u>Medial</u> <u>Intervocalic</u>	<u>Syllable-final</u>	<u>Final</u>
ENGLISH	bank desk goat	abattoir adult again	zebra admit signal	cab bed big
HAUSA	bana 'this year' danshii 'wetness' gudù 'run'	kibàà 'fatness' idòò 'eye' màganaà 'speech'	tsabgàà 'whip' addaa 'matchet' gàggaa 'huge ones'	NIL NIL NIL

It can be noticed that in English, while all the three consonants occur in all phonetic environments, their occurrence in word-final position is very much constrained in Hausa. Furthermore, with the exception of tsabgàà where /b/ occurs syllable-final, for /d/ and /g/ gemination normally applies, as in addaa and gàggaa, which is not obtained in English.

Take another example between English and Thai (a language spoken in Thailand, South-East Asia). There is aspiration in both languages. Aspiration is the audible breath that may accompany the articulation of a sound (Crystal, 1980). However, while this feature of aspiration is contrastive in Thai, it is not so in English. There are words for instance in Thai, p^hàà 'to split' and pàà 'forest' (Hyman, 1975 in Ladefoged, 1971:12). On the other hand, the voiceless stops /p/, /t/ and /k/ in English are aspirated in word initial position (Gimson, 1970) and that is all. The aspiration does not affect meaning. It does not matter seriously whether one pronounces the word pig with or without aspiration on the /p/. Here, the meaning remains the same except that pronunciation without the aspiration would naturally sound foreign to the

ear of an English native speaker. It is therefore clear that although aspiration exists in both English and Thai, the role it plays in these languages is not entirely the same.

One final example with 'stress' in English and Hausa: Both languages make use of stress, i.e. give prominence to a particular syllable of a word under certain circumstances. In a stressed syllable, more air is pushed out of the lungs (Ladefoged, 1975). However, the function of this stress in the two languages differ. That while it serves a grammatical purpose at times in English, it plays an emphatic role in Hausa invariably, as demonstrated in the following table:

Table 2: GRAMMATICAL STRESS IN ENGLISH AND EMPHATIC STRESS IN HAUSA.

ENGLISH	Con vict	-	verb
	convict	-	noun
	pro duce	-	verb
	produce	-	noun
HAUSA	im port	-	verb
	import	-	noun
	zo in contrast with zo 'come'		
	shiga in contrast with shiga 'enter'		
karantaa in contrast with kàrantaa 'read'			

It is noticeable that while 'stress' in English distinguishes between a verb and a noun, the same stress plays an emphatic role in Hausa.

These three sets of examples buttress the point that phonology is language specific. In other words, every natural language, as it were, has a phonological system distinct from that of any other language.

Although implied covertly in the above paragraphs, it is important to highlight the dual dimension of phonology as 'segmental' and 'suprasegmental'. Segmental phonology on the one hand, deals with natural processes affecting an individual sound segment within a word. Here, a particular process does not go beyond the level of a consonant or a vowel. Labialization process in Hausa for example, affects a plain velar consonant /k/, /k/ or /g/ when followed by a rounded vowel /u/ or /o/ (Sani, 1989). Hence, the /k/ in the word for 'trap' is pronounced with labialization or lip rounding as a result of a following o, tark^woo. Suprasegmental phonology on the other hand, has to do with natural processes that affect a syllable and beyond.

'Stressing' for instance, is a suprasegmental process associated with a particular syllable within a word. The verb convict has a stress on the second syllable -vict, while the corresponding noun has its stress on the first syllable con-. Apart from stress, 'tone' whose jurisdiction is also the syllable and, 'intonation' that relates to a longer utterance are also suprasegmental properties.

Having briefly introduced 'phonology', the discussion in this part of the lecture revolves around two seemingly interesting phenomena that touch on both segmental and suprasegmental phonology. We shall examine vowel alternation and neutralization as they affect short /i/ and /u/ in Hausa under segmental phonology and, discuss non-contrastive rising tone under suprasegmental phonology.

PART I: THE PHONOLOGICAL PECULIARITIES OF /i/ AND /u/ IN HAUSA

The short vowel /i/ and /u/ are among the ten contrastive monophthongal vowels in Hausa. The others are: /e/, /o/, /a/, /ee/, /oo/, /aa/, /ii/ and /uu/. It is important to exemplify each of them in a word, as follows:

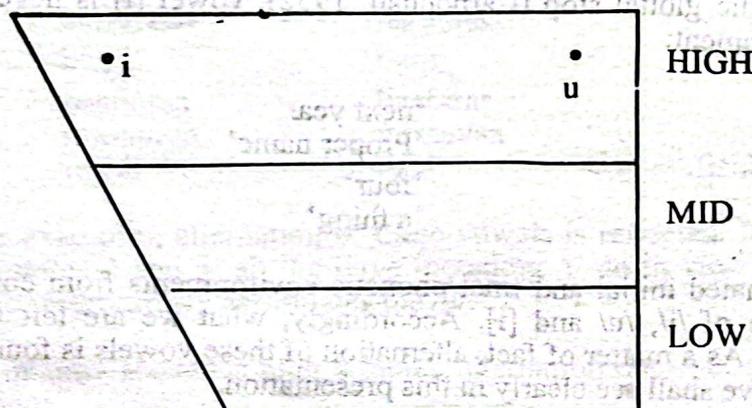
/i/	as in	kiɗàà	'drumming'
/u/	as in	ukù	'three'
/e/	as in	Duutsè	'place name'
/o/	as in	Gwarzò	'place name'
/a/	as in	bana	'this year'
/ii/	as in	kiifii	'fish'
/uu/	as in	tuuruu	'rebellion'
/ee/	as in	beenee	'upstairs'
/oo/	as in	zoomoo	'rabbit'
/aa/	as in	raaɓaa	'dew'

In addition, although not related directly to this work, Hausa has diphthongal glides, such as /au/ in the word auree 'marriage', /ai/ in gaisuwaa 'greeting', /ui/ in guiwàà 'knee'; etc.

Apart from these contrastive vowels, however, there is a non-contrastive vowel [ɨ] which accordingly is not reflected in the orthography. This vowel, as we shall witness, is used vis-a-vis /i/ and /u/. The vowels /i/ and /u/ in the word ɗigaa 'leakage of liquid' and tùnáàni 'thinking' respectively for instance, are similarly both pronounced with [ɨ].

From phonetic point of view, the articulation of /i/ involves raising the front part of the tongue close to the hard palate at the same time spreading the lips and pushing the pulmonic air out. Hence, it is specified [+ high + front - round]. For /u/, its articulation involves raising the back of the tongue close to the soft palate at the same time rounding the lips and pushing the air out. Accordingly, it is labelled [+ high + back + round]. Finally, to articulate the non-contrastive [ɨ], the centre of the tongue is raised close to the roof of the mouth, ejecting the air, but neither spreading the lips nor rounding them. It is therefore tagged [+ high + central - round]. As for duration or time taken to produce the three, each vowel is short or more technically 'lax' as opposed to /ii/ and /uu/ for instance, that are long or more technically 'tense'.

Therefore, on the whole, what these three vowels evidently have in common is that they are [+ high - long]. This is illustrated in the following diagram:



A vowel trapezium with particular articulatory locations of the three vowels under study.

Now, one of the peculiarities of these three high vowels is that they are, more often than not, found to alternate in the spoken form of Hausa (Sani, 1983). They alternate in a slow and careful speech as well as in a rapid and careless speech. Alternation refers to the relationship that exists between the alternative forms or variants of a linguistic unit (Crystal, 1980). Our aim in this particular part of the lecture is to highlight the circumstances that warrant this alternation, as well as the factors blocking its chances.

Generally speaking, alternation of these vowels largely depends on the kind of consonant that precedes within a word. Where /i/ or /u/ follows certain consonants, the tendency is to alternate with [ɪ]. Here, one often hears pronunciation with [ɪ] in place of /i/ and/or /u/.

Out of the 32 contrastive consonants in Standard Hausa, we shall examine 24 which are capable of preceding /i/ or /u/ in an utterance. The other 08 eliminated for not having such capability are: /f/, kw, kw, gw, ky, ky, gy and 'y/ (Sani, 1983). For convenience and clarity those 24 to be examined are hereby classified into their various points of articulation:

- The labials /b, ɓ, m, f/
- The alveolars /t, d, s, z, n, ts, l, r/
- The retroflex /ɽ, d/
- The palato-alveolars /sh, c, j/
- The palatal /y/
- The labio-velar /w/
- The back consonants /k, ƙ, g, h, ʔ/

We shall now be taking each category of consonants in turn to see whether alternation of /i/ and/or /u/ with [ɪ] applies, and if not, the explanation for that.

To begin with, a vowel never starts a word in Hausa (Dunstan (ed.), 1969). A word spelt with an initial vowel such as ido 'eye, uwa 'mother', aku 'parrot', etc. has a consonantal glottal stop preceding. Hence, ʔido, ʔuwa, ʔaku, etc. is what obtains practically speaking. Secondly, while /i/ and /u/ occur word-final with an accompanying prosodic glottal stop (Carnochan, 1952), vowel [ɨ] is never found in this particular environment:

bàdɨʔ	'next year'
Àlɨʔ	'Proper name'
huduʔ	'four'
àbùʔ	'a thing'

We have now eliminated initial and final phonetic environments from consideration regarding alternation of /i/, /u/ and [ɨ]. Accordingly, what we are left with is the medial environment. As a matter of fact, alternation of these vowels is found to occur exclusively here, as we shall see clearly in this presentation.

1.1 The labials followed by an underlying /i/:

Assuming here that we are taking a trip from exterior to the interior part of the mouth, we shall first be facing the labials /b, ʙ, m, f/. Hence, we will start by examining them where they are followed by /i/. Does this vowel alternate with [ɨ] in this particular situation? Well, consider the following items:

- | | | | | |
|----|-------------|---|------------|-----------|
| 1. | bYiri | ~ | birii | 'monkey' |
| 2. | caàʙYin | ~ | caàbɨn | 'the mud' |
| 3. | mYinshaarii | ~ | minshaarii | 'snoring' |
| 4. | fYita | ~ | fita | 'go out' |

It can be noticed here that each word has two possible pronunciations, i.e. either with [i] and palatalization of the labial or, with [ɨ] without such palatalization. As a matter of fact, pronunciation with [ɨ] after a labial is very typical of Kano dialect (Sani, 1983).

However, when these labials are followed by -iy- sequence, the chances of alternation of [i] with [ɨ] are blocked, as in these examples:

- | | | |
|----|-----------|------------------------|
| 1. | *beebiyaa | 'deaf/mute [+ female]' |
| 2. | *zoobiyaa | 'overlapping' |
| 3. | *zaamiyaa | 'slipping away' |
| 4. | *saafiyaa | 'morning' |

In none of these examples is the pronunciation of /i/ as [ɨ] possible. Why? The phonetic relationship between /i/ and /y/ both having attributes [+ high + palatal] is obviously the explanation.

1.2 The labials followed by an underlying /u/:

When preceded by a labial, an underlying /u/ is also found to get pronounced as [u] or [ɨ], as in the following examples:

1.	lambunàà	~	lambinàa		'gardens'
2.	bùkii	~	bìkii	~	bikʸii 'ceremony'
3.	baabùraa	~	baabìraa		'place name'
4.	mùsaayaa	~	mìsaayaa		'exchange'
5.	fushii	~	fìshii	~	fishii 'anger'

In all these examples, alternation of these vowels is reflected. It is also worth noting that in examples 2 and 5, all the three including /i/ do in view of the final /ii/. This final /ii/ here regressively assimilates the /u/.

However, in -uw- sequence after a labial, alternation does not apply, as illustrated in the following:

1.	bùwaayà	'be impossible'
2.	gaa bù waa	'fool [+ female]'
3.	dà àm waa	'worries'
4.	kà f waa	'establishment'

But never:

1. *bìwaayà
2. *gaa**bì**waa
3. *dà**àmì**waa
4. *kà**fì**waa

Why is there no alternation here? The phonetic affinity of /u/ with /w/ precisely has a direct bearing, they being both [+back +round].

In our march towards the interior part of the mouth, our next port of call is the alveolar region where we shall examine the alveolar sounds.

2.1 The alveolars followed by an underlying /i/:

In this environment, /i/ hardly occurs. On the contrary, it is found to surface as [ɨ] outright, as exemplified below:

1.	tik	'stark naked'
2.	dìra	'jump down'
3.	lìnzaamìì	'bridle'
4.	rìba	'usury'
5.	sìnaadàrii	'chemical'
6.	zìrnààkoo	'hornet'
7.	sanìn	'the knowledge'
8.	tsìra	'germinate'

Nevertheless, an alveolar when followed by -iy- sequence, only /i/ occurs in view of its affinity with /y/, as in these examples:

1.	tiyàà	'kind of measure'
2.	Sààdiyaa	'proper name'
3.	liyaafàà	'gathering party'
4.	bàtuuriyàà	'European [+ female]'
5.	siyaasàà	'politics'
6.	ziyaaràà	'visit'
7.	saaniyaa	'cow'
8.	tsiyaa	'poverty'

2.2 The alveolars followed by an underlying /u/:

Let us make reference to the following:

1.	tùrààree	~	tìrààree	'perfume'
2.	dumaa	~	dìmaa	'gourd'
3.	lùmaanàà	~	lìmaanàà	'peace'
4.	rùbùùtuu	~	rìbùùtuu	'writing'
5.	harsunàà	~	harsinàà	'languages'
6.	zumàà	~	zìmàà	'honey'
7.	manufaa	~	manifaa	'purpose'
8.	duutsunàà	~	duutsinàà	'stones'

It can be observed that each item is pronounceable with [u] or with [i]. In other words the two vowels clearly alternate in these circumstances.

However, when an alveolar is followed by -uw- sequence, alternation of [u] with [i] is automatically ruled out:

1.	mantuwaa	'forgetfulness'
2.	sààduwaa	'meeting with'
3.	koolooluwaa	'peak'
4.	kaarùwà	'prostitute'
5.	kààsuwaa	'market'
6.	zuwàà	'going'
7.	tàfarnuwaa	'garlic'
8.	rantsuwaa	'oath'

Again, the phonetic affinity of /u/ with /w/ is responsible for blocking the chances of alternation here. In this environment, [u] surfaces to the exclusion of [i] as we have witnessed.

Our third milestone after alveolars is the retroflex region. Hence

3.1 The Retroflex followed by an underlying /i/:

Consider the following:

1.	dòdõĩnaa	'hippopotamus'
----	----------	----------------

- | | | |
|----|------------|------------------|
| 2. | řigàà-kafi | 'prevention' |
| 3. | đigaa | 'liquid leakage' |
| 4. | đingishii | 'limping' |

Like alveolars, /i/ following a retroflex is found to surface as [ɨ] automatically. Again, like alveolars, when followed by -iy- sequence, only /i/ features, the reason being the phonetic affinity of /i/ with /y/:

- | | | |
|----|----------|----------------------|
| 1. | řaařiyaa | 'sieve' |
| 2. | goodiyaa | 'female horse, mare' |

3.2 The Retroflex followed by an underlying /u/:

Let us take these examples:

- | | | | | | |
|----|------------|---|------------|---|----------------------------|
| 1. | řugaa | ~ | řigaa | | 'Fulani cattle encampment' |
| 2. | řufii | ~ | řifii | ~ | rifii 'roof' |
| 3. | đumii | ~ | đimii | ~ | dimii 'warmth' |
| 4. | kwaadfunää | ~ | kwaadfinää | | 'padlocks' |

It is noticeable that both pronunciations with [u] and [ɨ] are possible. In effect, alternation occurs. In examples 2 and 3, we also observe that the alternation affects all the three vowels. Pronunciation with [i] is a case of assimilation motivated by the final /ii/. It will be recalled that we had something similar with the labial /b/ in bükii ~ bikii ~ bikii. Nevertheless, should a retroflex be followed by -uw- sequence, the chances of alternation are blocked:

- | | | |
|----|----------|------------|
| 1. | řuwaa | 'water' |
| 2. | kääřuwaa | 'increase' |
| 3. | duwääwuu | 'buttocks' |
| 4. | yääduwaa | 'spread' |

Having examined the retroflex consonants our next port of call is the palato-alveolar region:

4.1 The Palato-alveolars followed by an underlying /i/:

The following examples are noteworthy:

- | | | |
|----|------------|--------------|
| 1. | shinkaafaa | 'rice' |
| 2. | cikaa | 'being full' |
| 3. | jirää | 'waiting' |

Here, /i/ does not alternate with [ɨ] at all. Why? The palato-alveolars /sh, c, j/ as the term implies, and /i/ share a feature of palatality.

In other words they are [+palatal], and this would naturally prevent such alternation. Hence, the words in question are never pronounced with [ɨ]:

1. *shinkaafaa
2. *cikaa
3. *jiraa

In addition, it goes without saying that one would equally not expect alternation of /i/ with [i] here in -iy- sequence:

- | | | | |
|----|-------------|--|--------------|
| 1. | *buushiyyaa | | 'hedgehog' |
| 2. | *kwanciyyaa | | 'lying down' |
| 3. | *gajiyaa | | 'exhaustion' |

4.2 Palato-alveolars followed by an underlying /u/:

The following examples directly relate to this particular situation:

- | | | | | |
|----|-----------|---|-----------|--------------------|
| 1. | waashunaa | ~ | waashinaa | 'washers for nuts' |
| 2. | bencunaa | ~ | bencinaa | 'benches' |
| 3. | injunaa | ~ | injinaa | 'engines' |

It is vividly clear that /u/ alternates with /i/ here. The palatal element in the consonants in question is certainly what motivates the /u/ to turn into [i]. In effect, it is a kind of progressive assimilation. Nevertheless, when followed by -uw- sequence, such alternation is not possible. The underlying /u/ is invariably maintained:

- | | | | |
|----|-----------|--|-----------------|
| 1. | shùwaakaa | | 'bitter leaf' |
| 2. | cùwoo | | 'kind of fruit' |
| 3. | jùwaa | | 'dizziness' |

Our next consonant is the palatal /y/ which, as the term implies, is articulated in the palatal region of the mouth:

5.1 The Palatal /y/ followed by an underlying /i/:

Consider the following examples:

- | | | | |
|----|-----------|--|----------------|
| 1. | gawàyinsà | | 'his charcoal' |
| 2. | faayil | | 'office file' |

Alternation of /i/ with [i] does not obtain here. Why? The phonetic affinity of /y/ with /i/ is responsible, they being both [+ palatal].

5.2 The Palatal /y/ followed by an underlying /u/:

Let us examine the following:

- | | | | | |
|----|----------|---|----------|---------------|
| 1. | kauyukaa | ~ | kauyikaa | 'villages' |
| 2. | raayukaa | ~ | raayikaa | 'lives' |
| 3. | raayuwaa | ~ | raayiwaa | 'life' |
| 4. | sayuwaa | ~ | sayiwaa | 'purchasable' |

It can be noticed that two different pronunciations with [u] and [i] are manifested. The vowel /u/ alternates with /i/ in effect. Is there any clear motivation? What triggers pronunciation with /i/ in these circumstances? It is undoubtedly the palatality in /y/ that turns the /u/ into [i], a case of progressive assimilation.

The next consonant is the labio-velar /w/. This is partly a velar and partly a labial. In articulation, back of the tongue primarily makes contact with the soft palate and, at the same time the lips get rounded from outside.

6.1 The Labio-velar /w/ followed by an underlying /i/:

Actually, examples here prove difficult to lay hands on. In Hausa native words, a sequence of /w/ followed by /i/ is phonotactically very constrained. In a situation of this kind, the /w/ followed by /i/ (often across morpheme boundary) turns into a 'y', as in ciyaawàà 'grass' and ciyààyii 'grasses' rather than *ciyààwii, or ɓàraawòò 'a thief' and ɓàrààyii 'thieves' rather than *ɓàrààwii as one would have expected.

However, there is a non-native word wiìwîn 'the Indian hemp' which we shall examine. In fact, this word is pronounced with [i] or [u], wiìwîn ~ wiìwûn. What is the motivation for this alternation? 'No smoke without fire', going by the adage. The realization [u] is practically brought about by the preceding /w/, a case of progressive assimilation.

6.2 The Labio-velar /w/ followed by an underlying /u/:

The following examples are at hand:

- | | | | |
|----|----------|-------|----------|
| 1. | wutaa | | 'fire' |
| 2. | wurààree | | 'places' |
| 3. | wuyàà | wiyàà | 'neck' |

There is no case of alternation with [ɨ] here. The vowel /u/ is chiefly maintained in the pronunciation, while it alternates with /i/ in example 3 in view of the following /y/.

As our final destination, we have a group of back consonants that are produced at the rear part of the mouth.

7.1 The Back consonants followed by an underlying /i/:

Let us examine the following items:

- | | | |
|----|---------|-----------|
| 1. | kYiràà | 'calling' |
| 2. | ƙYibàà | 'fatness' |
| 3. | gYidaa | 'house' |
| 4. | hYimmàà | 'zeal' |
| 5. | ʔYidòò | 'eye' |

The fact that where a back consonant precedes a front vowel like /i/, there is a strong tendency for the consonant to get palatalized, this would naturally prevent this vowel to alternate with [ɨ]. Hence, pronunciation of those five words with [ɨ] is impracticable:

1. *kiràà
2. *kibàà
3. *gidaa
4. *himmàà
5. *ʔidòò

7.2 The Back consonants followed by an underlying /u/:

Let us refer to these examples:

- | | | |
|----|-----------|----------------|
| 1. | kʷùnaamàà | 'scorpion' |
| 2. | kʷurààjee | 'boils/rashes' |
| 3. | gʷùdaa | 'one' |
| 4. | hʷùkaa | 'tuberculosis' |
| 5. | ʔʷùbaa | 'father' |

The vowel /u/ does not alternate with [ɨ] here either. On the contrary, it remains invariably constant. What prevents alternation is, in fact, labialization rule that affects back consonants where they precede a rounded vowel like /u/. Therefore, pronunciation of those words with [ɨ] does not obtain in Hausa:

1. *kinaamàà
2. *kirààjee
3. *gidaa
4. *hìkaa
5. *ʔibaa

We have now seen one particular peculiarity of /i/ and /u/ where they alternate with [ɨ] in Hausa. Alternation of these vowels is a very common occurrence in the spoken form of the language. It does not matter whether the speech is slow or rapid. However, its occurrence or otherwise as we said before, very largely depends on the preceding consonant. Where /i/ or /u/ follows certain consonants, alternation with [ɨ] applies. Conversely, where the same vowel follows certain other consonants, such alternation is heavily constrained.

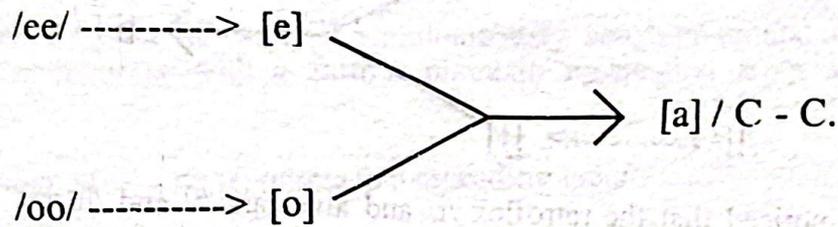
Let us now turn the other side of the coin. The reference here is to the situation where the same /i/ and /u/ neutralize. Like alternation, neutralization also features in a slow and careful speech as well as in a rapid and careless speech.

Neutralization in phonology is a process whereby two distinct phonemes become one and the same sound under a particular condition. In other words, these phonemes are pronounced identically. A good example will be cited here to ease understanding. Take the Hausa words for 'fat' and 'plaiting of hair' respectively - kitsèè and kitsòò. The final vowels in these words are /ee/ and /oo/ and that they are responsible for bringing about the differences of meaning in the pair we witness. However, if you add

the referential suffix {-n} to both, thereby creating a closed syllable, after applying reduction rule, they are pronounced identically as [a]:

kitsèè + -n ----> kitsàn 'the fat'
 kitsòò + -n ----> kitsàn 'the plaiting of hair'

Therefore, /ee/ and /oo/ are said to neutralize in a closed syllable:



Now, the short vowels /i/ and /u/ are, also at times, found to behave similarly as /ee/ and /oo/. In effect, they too neutralize. Take these examples:

1. tuurù + -n ----> tuurìn 'the log to which a lunatic is secured by an iron staple'
2. tuurii + -n ----> tuurìn 'pushing'

These two words have different meanings, the difference being created by the final vowels /uu/ and /ii/. Nevertheless, when the referential {-n} is suffixed to both to make a closed syllable, they are pronounced identically as [ɪ] after reduction rule application:

- | | | | | | |
|--------|---|----|-------|--------|--------------------------|
| tuurù | + | -n | ----> | tuurìn | 'the particular log....' |
| tuurii | + | -n | ----> | tuurìn | 'the pushing' |
2. sautù + -n ----> sautìn 'message'
 - sautii + -n ----> sautìn 'sound'

When we suffix the referential {-n}, we obtain the same result as in example 1:

- | | | | | | |
|--------|---|----|-------|--------|---------------|
| sautù | + | -n | ----> | sautìn | 'the message' |
| sautii | + | -n | ----> | sautìn | 'the sound' |
3. kùnu + -n ----> kùnìn 'gruel'
 - kùni + -n ----> kùnìn 'quinine'

We get identical result after suffixation of the referential and application of reduction rule:

*kuugn	>-----	-n	+	kuugii
'the rumblings...'				
kuugn	>-----	-n	+	kuugii
'the hip'				

But:

kuugii				kuugii
'rumblings in the abdomen'				
kuugii				kuugii
'hip'				

Take another example with /g/:

Here, pronunciation of both vowels as [ɨ] is not practicable in view of labialization and palatalization rules respectively on the preceding /k/ in each member of the pair. In effect, neutralization is absent.

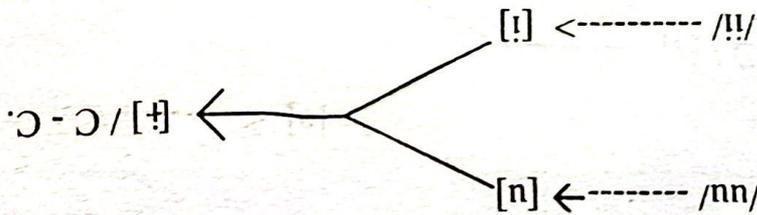
*taakin	>-----	-n	+	taakii
'the fertilizer'				
taakin	>-----	-n	+	taakii
'the footstep'				

distinct, [u] and [i]:

When we add the referential {-n} to form a closed syllable, the vowels remain sharply

taakii				taakii
'fertilizer'				
taakuu				taakuu
'footstep'				

It can be noticed that the retroflex /r/ and alveolars /l/ and /n/ are respectively the consonants that precede the vowels under consideration in these examples. Again, the examples certainly testify to the neutralizing behaviour of /l/ and /w/ in a closed syllable. Nevertheless, like alternation, neutralization has some limitation. This is because where the preceding consonant for example, is [+back], neutralization of /l/ and /w/ to [ɨ] does not apply at all. Take this minimal pair, for instance:



So that all these and other similar cases can be reflected thus:

kuunii	+	-n	>-----	kuunii
'the quinine'				
kuunuu	+	-n	>-----	kuunuu
'the gruel'				

Neutralization does not feature here either, because /g/ is [+ back] affected by labialization and palatalization rules in the same way as /k/ in the previous example.

To conclude, the following points summarize this part:

1. There are two prominent peculiarities associated with vowels /i/ and /u/ in Hausa. These are: (a) alternation with [ɨ] and, (b) neutralization to [ɨ].
2. In both alternation and neutralization, a preceding consonant plays a vital role.
3. Alternation of /i/, /u/ with [ɨ] simultaneously resolves around a preceding labial or retroflex with a further phonetic motivation from a following syllable.
4. Alternation of /i/ with [ɨ] relates to a preceding labial.
5. Alternation of /u/ with [ɨ] is associated with a preceding labial, alveolar or retroflex.
6. Alternation of /u/ with /i/ is tied down to a preceding palato-alveolar, palatal /y/ or labio-velar /w/.
7. Non-alternation of these vowels at all is observed to be typical of a preceding back consonant.
8. Vowels /i/ and /u/ neutralize to [ɨ] in a closed syllable.
9. Like alternation, neutralization of /i/ with /u/ is constrained where a back consonant precedes.
10. Both alternation and neutralization of these vowels occur in a slow and careful speech as well as in a rapid and careless speech.
11. In general, [ɨ] is not contrastive in Hausa, but a variant for /i/ or /u/, or sometimes for both.

Table 3: ALTERNATION PATTERNS OF HIGH SHORT VOWELS IN HAUSA BASED ON A PRECEDING CONSONANT.

<u>Preceding Consonant</u>	<u>Alternation</u>
labial/retroflex	/i/, /u/ with [ɨ]
labial	/i/ with [ɨ] only
labial/alveolar/retroflex	/u/ with [ɨ] only
palato-alveolar/palatal /y/ /labio-velar /w/	/u/ with /i/ only
back consonant	non-alternation

Investigation does not feature here either because it is [+back] affected by
labialization and the previous examples

**PART II: NON-CONTRASTIVE RISING TONE IN HAUSA:
ATTRIBUTES AND LINGUISTIC SIGNIFICANCE.**

Let us start with a question, what is tone? It is a pitch of voice on which each individual syllable of a word is uttered naturally so as to convey a proper meaning of the word to the listener (Sani, 1989). Being a tone language, like most African languages, every syllable of a Hausa word has an assigned tone. The disyllabic word for 'father' for instance, baba and that for 'mother' baba with the same vowel length, and spelt identically in the orthography have two tones each, low and high (L.H.) and high and low (H.L.) respectively.

Investigation to date has revealed two or three tones in Hausa. To those who see the number as two like Leben (1971, 1973, 1978), Hyman (1975), Meyers (1976), Schuh (1980), Zarruk (1985), Hausa has only high /' and /' tones as in the word gídáá 'house' and àyàbà 'banana'. Those who visualize the number as three include a falling tone /^/ found in the word ràssân 'the branches' for example. Those scholars in the first category do not regard falling tone as very distinct. For it is practically a combination of high and low tones occurring simultaneously on one syllable. At any rate, high, low and falling tones are contrastive in Hausa. They distinguish between words that are otherwise identical in the orthography, as in káu, kàu and kâu in the following sentences:

1. Audu yaa káu. 'Audu is dead'.
2. Audu kàu bai zoo ba. 'Audu indeed has not come'.
(kòò in standard Hausa)
3. Sai Audu ya ji kâu. 'Audu then heard a slapping sound'

It is pretty clear that tone is responsible for the three different meanings we witness here. When pronounced with a high tone, the word means 'to die'; with a low tone it means 'indeed', and when pronounced with a falling tone, it carries the meaning 'a slapping sound'.

Abdullahi (1990) on his part, goes to the extent of identifying four tones. To him, apart from high, low and falling tones, there is yet another one he calls a compound tone. He categorizes the falling tone here into two based on status. Where a falling tone features as a result of application of certain phonological rules, such as final vowel deletion and reduction of a preceding vowel like kyâu from kyááwùù 'beauty', râi from ráyìlì 'soul', it is a compound tone as far as he is concerned. If however, the tone is inherently falling as in the word dâa 'formerly' and the first syllable of the word yamma 'west', it is a falling tone.

Well, with all these different views on tone in Hausa, there is one fundamental question to ask. Is there a rising tone in Hausa? Almost all scholars agree that Hausa has no rising tone at all. Meausen (1970) says that there is a possibility for a tone language to combine low and high tones respectively to create a rising tone, or to combine high and low to make a falling tone. Some languages have particular phonetic contexts for the occurrence of a rising tone, while others do not have it at all. Hausa is one of them, according to Meausen.

Apart from these three tones, it is my belief that there is a RISING TONE [v] in Hausa. However, the fundamental difference from the other three is that it is not contrastive. Rather, it relates directly to the intonational system of the language.

8.0 ATTRIBUTES

Rising tone in Hausa has some particular phonological attributes, as follows:

1. It is derived from an underlying high tone, as in the following examples:

íí 'yes' (from íí)

dándasheeshiyaa 'beautiful' as in cap (from dándasheeshiyaa)

káátun-kààtùn 'big ones' (from káátun-kààtùn)

2. It is non-contrastive. In other words, it does not distinguish between orthographically identical words. In our previous examples, íí and í are one and the same word; similarly, dándasheeshiyaa and dándasheeshiyaa, and, káátun-kàatun and káátun-kàatun.

3. It occurs in utterance initial, medial and final positions, as follows:

Initial - In our previous examples, rising tone occurred in this environment all through:

íí, dán....., káá.....

Medial - wata dándasheeshiyar huulaa
'a certain beautiful cap'

yaa zoo da káátuwar saaniyaa
'he came with a big cow'

baabu abín da yakee soo sai baccii
'he likes nothing but sleep'

Final - yaaraa suka cee íí
'children said indeed yes'

4. It occurs on a heavy and extra-heavy syllable, as follows:

? íí
cvv

or

? ííí
cvvv

dándasheeshiyaa
cvc

or

dándasheeshiyaa
cvvc

5. Of the Hausa seven verbal grades, only grades I and IV may have their first CVC syllable pronounced with a rising tone:

Grade I:

ya dínga daariyaa
'he continuously laughed'

aka dándanaa masu azaabaa
'they were put in anguish'

suka dállaraa masa toočila a ido
'they set a beaming torch light on his eye'

Grade IV:

ta ḡárkee da kuukaa
'she burst into tears'

ya túnsúree da daariyaa
'he burst into laughter'

6. Rising tone does not immediately precede a falling tone, but a high or low tone on the contrary:

káátún-kaatun

díngíméemee

'huge [+ male]'

túnsúree

But never:

*dòógôn

'the long/tall one'

*mai gírmân

'the big one'

*tún yâmma

'since evening'

7. It can be preceded by a falling tone:

zâi dínga miitaa
'he will continuously gramble'

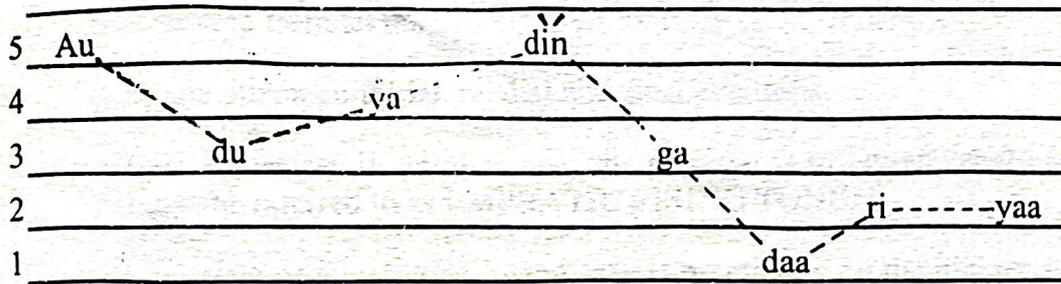
8. Since it is a variant of a high tone, it should be on the highest intonational pitch level like a first high tone, as exemplified with the following two sentences:

(a) Audu ya dínga daariyaa.
'Audu continuously laughed.'

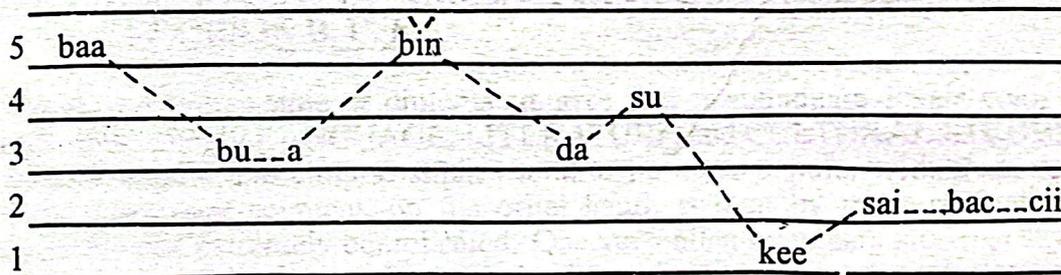
(b) baabu abín da súkee sai baccii.

...they were doing nothing but sleeping'.
 The intonational patterns of these two sentences could, accordingly, be reflected thus:

Sentence (a).



Sentence (b):



These two intonational patterns reflect the downdrift type generally obtained in Hausa. The rising-toned syllables - *dīn*- and -*bīn* respectively are placed on pitch level 5, the highest in the pattern. Downdrift is a kind of intonational system where a high tone after low is lower than a preceding high, and a low tone after high is lower than a preceding low (Kraft and Kirkgreene, 1973).

9.0 LINGUISTIC SIGNIFICANCE

The question here is, why do speakers at times modify a high tone to a rising tone on a particular syllable? Is it a speech style or something else? Well, if we go back to all those examples we have cited on rising tone, one thing is pretty obvious. Wherever a rising tone was employed, the purpose was to lay an emphasis on the utterance:

- | | | |
|----|---|---|
| 1. | <i>íí</i>
[- emphatic] | <i>íí</i>
[+ emphatic] |
| 2. | <i>dā́ndasheeshiyaa</i>
[- emphatic] | <i>dā̀ndasheeshiyaa</i>
[+ emphatic] |

Here, while pronunciation with a normal high tone is NEUTRAL, pronunciation with a rising tone is EMPHATIC.

To conclude, the following points summarize this part:

1. There is a rising tone in Hausa, but functionally NON-CONTRASTIVE.
2. It is tied down to the intonational system of the language.
3. It is derived from an underlying high tone.
4. It occurs utterance-initial, medial and final positions.
5. Where it surfaces in an utterance, the purpose is to lay an emphasis. It may perhaps be referred to as EMPHATIC RISING TONE.
6. As a variant of a high tone, rising tone is practically on the highest pitch level in the intonational pattern.

10.0 THE STUDY OF HAUSA PHONOLOGY: CURRENT STATE OF AFFAIRS IN B. U. K.

The Hausa Programme at diploma, degree and postgraduate levels comprise three segments, namely LANGUAGE, LITERATURE and CULTURAL STUDIES. Out of these, literature and cultural studies tend to be more popular with students over the years. Language segment, on the other hand, is seen by most students as highly technical and extremely complicated. One very often overhears students say the only way to get round the problem with Hausa language aspect is just to memorize whatever the lecturer presents in class.

Now, why do students make this kind of complaint against language segment of the Hausa Programme? The simple answer, to my mind, is that they do not want to work hard. If they would develop interest as they do in literature and cultural studies, this would certainly eliminate those technicalities alleged to scare them. How would one expect to have an output without an input? The output here, if I should interpret, is success that stems from hardwork, which is the input.

This particular language segment of the Hausa Programme includes chiefly phonology, morphology, syntax and semantics. Here, while morphology and syntax to be precise, are popular with the students, the reverse is the case for phonology and semantics.

Phonology being the study of the sound system of a language involves essentially a good background knowledge of phonetics. Phonetics is a science that studies (i) sound production in the mouth (ii) classification of the sounds based on common characteristics and, (iii) transcription of these sounds to reflect the actual pronunciation of an utterance. Now, this is normally what most students of phonology seem to lack and consequently find the subject tough. You find that one would teach and teach only to be misunderstood; one would give a list of references for further reading only to be ignored; one would ask questions only to be disappointed by poor responses. I repeat, one cannot possibly study the phonology of any language fairly well without having a reasonable knowledge of phonetics. The situation here is precisely comparable with that of Mathematics and Physics, the former being the essential key to the understanding of the latter.

This notwithstanding however, some significant improvement in students' performance has been recorded over the past few years. A change of attitude on the part of the students is clearly implied, as reflected in the following table:

Table 4: STUDENTS' PERFORMANCE IN A FEW SELECTED HAUSA PHONOLOGY EXAMINATIONS SHOWING SIGNIFICANT IMPROVEMENT OVER THE YEARS

COURSE: Hau. 1103/1202 - Introduction to the Hausa Sound System

1993/94	1996/97	1997/98	1999/2000
Candidates: 216	234	210	226
Passes: 99 (45.83%)	143 (61.11%)	132 (62.86%)	150 (66.37%)
Failures: 107 (54.17%)	91 (38.89%)	68 (37.14%)	76 (33.63%)

COURSE: Hau. 3204 - Introductory Hausa Phonology

1993/94	1996/97	1997/98	1999/2000
Candidates: 27	46	13	69
Passes: 17 (62.96%)	32 (69.57%)	9 (69.23%)	51 (73.91%)
Failures: 10 (37.04%)	14 (30.43%)	4 (30.77%)	18 (26.09%)

COURSE: Hau. 4203 - Hausa Morphophonology

1993/94	1996/97	1997/98	1999/2000
Candidates: 78	56	59	127
Passes: 40 (51.28%)	37 (66.07%)	40 (67.80%)	80 (62.20%)
Failures: 38 (48.72%)	19 (33.93%)	19 (32.20%)	47 (37.80%)

11.0 HAUSA STUDIES IN GENERAL: CURRENT STATE OF AFFAIRS IN B.U.K.

The Hausa Programme was first introduced in 1967 under the then Department of English and Languages, A.B.U. Zaria. Courses were at that time taught at pre-degree and degree levels only and the first set of graduates emerged in 1971. In 1972/73

session the programme was given a full status of a Department in the Faculty of Arts and Islamic Studies of the Ahmadu Bello University. Approval was also given in the same academic session by University Senate to teach the subject for a single honours degree. Prior to this, Hausa only used to constitute one of the three subjects required for a combined honours degree.

As time went on, a Post-graduate Programme for the award of M.A. degree in Hausa was introduced, and the first batch of SEVEN graduates was produced in 1981/82 session. In 1982/83, the first Ph.D. degree of B.U.K. was awarded in Hausa. About FIFTY students so far have obtained a Masters degree and TWELVE have earned a Ph.D. Still, Hausa counts as one of the three subjects offered for a two year diploma programme, the other two being Arabic and Islamic Studies.

What I have stated thus far is truly indicative of the increasing popularity of Hausa study in B.U.K. This university is the home of Hausa. The foundation of the study was laid right here, and is still maintaining the lead. Hausa graduates of B.U.K., I would say right away, do not compare at all with their counterparts anywhere. They are by far superior in the real sense of the word. A fact forever remains a fact. We very often hear from our former students that they have been engaged in one form of scholarly discussion or another with their counterparts from other universities and got terribly disappointed. It is gathered that what those former students of ours were taught at lower levels in the university were either taught to their counterparts at higher levels grossly inadequately, or never at all. Certainly this is a great source of pride to B.U.K.

12.0 HAUSA IN THE MODERN WORLD

Current estimation pegs the number of people that can speak Hausa today the world over at about 100,000,000 (Muhammad, D. in Alfiyyar Mu'azu Sani 3 - forthcoming). Most of these people are found in Nigeria and south of Niger Republic - the home region of the Hausas; others are found in large parts of neighbouring countries like Ghana, Cameroon, Chad and Sudan. In addition, there are settlements of these people in other West African countries as well as North and Central sub-regions. Hausa is generally the most prominent language in West Africa, a situation comparable to Arabic and Swahili in North and East Africa respectively.

The popularity of Hausa internationally cannot be overemphasized. It is common knowledge that apart from teaching it at every level of university education, the language is used as a medium of radio-broadcasting. America, the United Kingdom, Germany for instance, are all engaged in both teaching and broadcasting in Hausa.

13.0 A CALL ON FEDERAL GOVERNMENT

Now, since Hausa has attained this enviable level of development nationally and internationally, it goes without saying that it stands an excellent chance to be made a national language for Nigeria. I therefore wish to seize this opportunity to call on Federal Government to, as a matter of urgency, set machinery in motion to do just that. Everybody here is a living witness that a lot of other Nigerians have repeatedly made a similar call before. I believe, if this is done, it will automatically go a long way in enhancing the much needed and talked-about national integration, educational development, economic growth, to mention just a few. It is high time Nigeria, our

beloved nation, attained linguistic independence to complement the existing political sovereignty. China, Japan, America, the United Kingdom, Germany, France and all other developed nations one can think of, have become what they are today by essentially being opportuned to use an indigenous language as a national language. For Nigeria, HAUSA is obviously the best candidate for consideration.

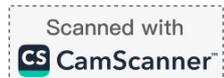
HAUSA IN THE NIGERIAN WORLD

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CONCLUSION

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Printed by Job-co (Pvt) LTD (2014) 000113