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1. Introduction

The traditional wisdom among Hausa scholars regarding the base form of the Hausa verb has recently been challenged by Newman [1973]. The purpose of this paper is to argue that in fact the traditional view is by and large the correct one in this case. In general, Hausa verbs which exhibit an alternation between long and short endings depending on whether a direct object noun follows or not have been regarded to have as their base form the form spoken in isolation--i.e. the form ending in a long vowel. The form ending in a short vowel, which a verb takes when a direct object noun follows, has been regarded as a derived form, resulting from a shortening process triggered by the presence of the direct object noun. For example, in the paradigm of the verb *kaamàa* 'catch' in (1), *kaamàa* is taken as the base form, from which *kaamà* is derived.

- (1) *naa kaamàa* *naa kaamàa shi* *naa kaamà Audù*
 'I caught' 'I caught him' 'I caught Audu'

Newman [1973] has adduced an interesting argument against this position. He notes that vowel shortening before the noun object would have to have certain restrictions on it, since certain verb-final long vowels do appear before noun objects, in particular in the following examples:

- (2) a. *yaa ðaukoo kaayaa* 'he lifted the load'
 b. *an bincìkee màganàa* 'one has investigated the matter'
 c. *mù jaa mootàa* 'let's pull the car'
 d. *zaa tà kiraa kawartà* 'she will call her friend'

¹We are grateful to Russell G. Schuh for helping us to clarify our arguments, and to Paul Newman for criticisms that have led us to modify our presentation. Neither of these colleagues necessarily endorses what we propose.

The shortening rule that might be posited for *kaamà* in (1) would incorrectly shorten the verbs *ɗaukoo*, *bincìkee*, *jaa*, and *kiraa* in (2), and so Newman argues that the verbs of (2) have basic long final vowels, while for verbs that fit more neatly into the grade system of Parsons [1960], such as *kaamàa* in (1), a short final vowel is posited: *kaamà*. To produce the long vowel when the verb is not followed by a noun object, Newman posits a set of lengthening rules which require a number of separate morphological statements (cf. Newman [1973:311-316]). Although these rules may strike some as overly cumbersome, we will not take issue here with their length or complexity, for certainly, in light of Newman's discussion, not all of them are totally ad hoc. Rather, we will note a few arguments to support the position that the isolation form is the basic form and, as any counteranalysis now must, we will propose an answer to the argument of Newman summarized above.

2. Arguments for the Use of the Isolation Form as the Base Form

The first argument concerns the appropriate form of the verb to serve as the base for the addition of the nominalizing suffix *-`waa*. (The prefixed low tone of this suffix is a "floating" low tone; the vowel *aa* itself is high-toned in this suffix.) In the following forms, for all of which Newman has proposed a basic short final vowel, the form to which *-`waa* is attached is clearly the form containing the long final vowel.

(3)	ISOLATION FORM		NOMINALIZED FORM		NEWMAN'S BASE FORM
	<i>kaamàa</i>	'catch'	<i>kaamàawaa</i>	'catching'	<i>kaamà</i>
	<i>karàntaa</i>	'read'	<i>karàntáawaa</i>	'reading'	<i>karàntà</i>
	<i>rufèe</i>	'close'	<i>rufèewaa</i>	'closing'	<i>rufè</i>
	<i>saidàa</i>	'sell'	<i>saidàawaa</i>	'selling'	<i>saidà</i>
	(dialectal)				

To our knowledge, Hausa morphology admits only two sorts of relationship between a derived word and the form from which it is derived, at least when we consider derivational processes of affixation and partial reduplication. Either the derived word is formed by adding affixes or partial reduplicates to an existing non-derived base form (e.g. *bà-Kanòo* 'Kano man', from *Kanòo* 'the city Kano'; *kan-kàamaa* '(iteratively)

catch', from *kaamàa* 'catch'), or the derived word is formed by adding affixes or partial reduplicates to a root (e.g. *bà-Kan-èe* 'Kano man'; *faad-àa-daa* 'wide (pl.)', from *faad-ii* 'width'). Other possible means of word formation seem to be unattested. In particular, Hausa does not form new words by adding affixes or reduplicates to derived words. For example, the feminine *mabiy\yaa* 'follower' (= *ma-bi-ii-aa*) is not formed by adding the feminine ending *-aa* to the derived masculine *mab\yii* (= *ma-bi-ii*) but rather by adding the feminine ending to the intermediate form *ma-b\i-ii*; this is what accounts for the tones of the endings (cf. Leben [1971] for discussion).

If we adhere to this restriction, how can the nominalized forms in (3) be derived from Newman's base forms? The restriction prevents us from adding *-`waa* to the isolation form, which is a derived form in Newman's account. Instead, we must add another morphological environment, *-`waa*, to Newman's lengthening rule. However, while this may work for *kaamàawaa* (putatively from *kaamà-`waa*), it will incorrectly lengthen the vowel of the grade 7 ending before *-`waa*: e.g. *gàmuwaa* 'meeting' (= *gàmu-`waa*) would incorrectly be lengthened to **gàmúúwaa*. Although Hausa does have a rule shortening *uu* to *u* before *w*, it would also be necessary here to change the falling tone on *uu* to a high tone on the shortened *u*. Since, as far as we know, the language does not already have a rule to accomplish this, one must be formulated for this case alone. Alternatively, one might simply restrict the putative lengthening rule before *-`waa* from applying to the vowel *u*. In either case, an ad hoc step is taken. For the same reason that Newman sought to avoid ad hoc restrictions on the traditional shortening rule, we reject the possible modifications considered here for saving the lengthening rule, at least as long as we are able to provide an alternative that does not involve ad hoc adjustments.

In the present case, we propose instead that the ending *-u* never lengthens (since in our account there is no relevant lengthening rule for

verbs²), and that the floating low tone of -`waa is consequently unattachable (since Hausa does not permit contour tones to occupy open syllables with short vowels).

For the second argument, let us take note of the fact that Newman's proposed base form is the form a verb takes in a very restricted morphological environment, before a noun direct object; the isolation form is derived from this by a lengthening rule. Some may find no objection to this in principle, while others may view it as quite implausible. But now consider intransitive verbs, which by definition can never appear before a noun object. Within Newman's proposal, it is necessary either to adopt a hypothetical ending for intransitive verbs (i.e. the ending they would take in case they could have appeared before a noun object) or to describe two separate paradigms, wherein intransitive verbs are said to take the isolation form as the base form, while transitive verbs are said to take as the base form, not the isolation form, but the form before a noun object. Newman adopts the first possibility [1973:fn. 18], but we regard both as extremely unlikely.

To visualize the situation better, consider this paradigm:

(4)	ISOLATION	BEFORE PRO. OBJECT	BEFORE NOUN OBJECT	
TRANS.	karàntaa	karàntaa	karàntà	'read'
INTRANS.	daakàtaa	--	--	'wait'

The first alternative says that the base form of the intransitive daakàtaa 'wait' is unattested *daakàtā. The second alternative says that the base form for 'wait' is indeed its isolation form daakàtaa, but that the base form for 'read' is not its isolation form but rather karàntà. The first option is overly hypothetical in that it assigns a transitive ending to intransitive verbs. The second option makes it an accident that transitives and intransitives have the same ending in their isolation forms: e.g. the -aa in karàntaa results from a lengthening

²In our analysis, lengthening operates only before object pronouns: e.g. bìi shi 'follow him!' is lengthened from bi 'follow!'; cf. Newman [1973:311-313] for discussion.

rule while the -aa in daakàtaa is present in the base form. But in maintaining that the isolation forms karàntaa and daakàtaa were only accidentally similar in their endings, we would be rejecting Parsons' grade system, despite considerable evidence that karàntaa and daakàtaa belong to the same class: they nominalize in the same way (karàntáàwaa, daakàtáàwaa), they take the same imperative ending (kàràntaa! dàakàtaa!), and their tonal structure is the same.

By comparison, our analysis does not force a choice between these two undesirable alternatives, since we posit that, with one modification which we present below, the base form of all verbs is the isolation form.

3. Overcoming an Ad Hoc Restriction on the Shortening Rule

The two arguments presented against Newman's proposal constitute evidence in favor of the proposal that the isolation forms of all Hausa verbs are the base forms in the verb paradigm. To maintain this position, however, we must answer the argument that caused Newman to search for an alternative to the traditional position. The argument involves the apparently ad hoc restriction that would have to be put on the shortening rule to prevent shortening from applying to verbs like *ɗaukoo*, *bincìkee*, *jaa*, and *kiraa* in (2). We propose that the actual restriction is quite general: verbs whose base forms end in a high-toned long vowel do not undergo shortening before a noun object. Thus, we propose that the shortening rule applies only to verbs ending in a low-toned vowel.

The obvious potential counterexamples to this claim are polysyllabic verbs of grades 1 and 4, such as *karàntaa* and *karàncee*. These do indeed shorten before a noun object: *karàntà*, *karàncè*; note also that the endings have a low tone, while the isolation form ends in a high tone. It is precisely this class of verbs that were argued in Leben [1971] to have basic forms *karàntàa*, *karàncèe*, etc. The isolation forms were derived from these by means of a general rule of tone raising, whereby any final long vowel is required to have a high tone if the preceding vowel ends on a low tone:

(5) LOW TONE RAISING

L L # → L H #
 [+long] [+long]

This rule, as Newman [1973:fn. 27] notes, functions as a phonotactic rule of Hausa,³ and it plays a role in Newman's analysis as a "process" rule.⁴

One of the most convincing arguments for the operation of this rule in Hausa involves the very class of verbs under discussion here: polysyllabic verbs of grades 1 and 4. These verbs constitute apparent exceptions to the general rule of tone assignment whereby a pronoun object following a finite verb is assigned a tone opposite to the immediately preceding tone, i.e. opposite to the tone of the verb ending. The regular cases are illustrated by the tone of the pronoun *shi* in *naa kaamàa shi* vs. *naa sàyee shì*. Polysyllabic verbs of grades 1 and 4, however, take object pronouns with the same tone as the tone of the verb ending: *naa karàntaa shi*, *naa karàncee shi*. This appearance of exceptionality is resolved by taking the input to the tone assignment rule for object pronouns to be *karàntàa shi*, *karàncèe shi*, etc.

Thus, we propose that this class of apparent counterexamples to our analysis is resolved by distinguishing base forms like *biyaa*, *kiraa*, and *daukoo* from base forms like *karàntàa* and *karàncèe*: our shortening rule correctly applies only to verbs whose base form ends with a low-toned vowel.

Note that by restricting shortening to low-toned vowels, we automatically explain why shortening does not apply to the Grade 6 ending *-oo*, since this vowel is always high-toned. In the traditional account of

³We have found only two exceptions to this rule. The first is the adverb *hàlàa* 'apparently', which Abraham's [1962] dictionary gives as *hàláa* and equates with *hàlaamàa* 'possibly'. The second is the noun *shèelàa* 'announcement', for which Abraham adds the variant *shèelaa*.

⁴Newman concludes from the fact that (5) is a phonotactic rule that forms like *karàntàa* are not possible base forms, since they would violate this phonotactic rule. But Newman offers no argument in support of this position, and below in the text we propose an alternative principle for restricting the notion "possible base form" which brings some advantages without weakening phonological theory.

shortening, -oo appeared to be a puzzling exception to the rule.

In order for our proposal to go through, three amplifications must be added to our account. First of all, it may seem that our account presupposes the possibility of extrinsic rule ordering, since the shortening rule, along with the tone assignment rule for pronouns, must apply before the tone raising rule (5). In fact, in Leben [1971], where the distinction between morphophonemic and phonotactic rules was not observed, it was assumed that extrinsic ordering was responsible here. But if we define phonotactic rules as rules governing the pronunciation of surface forms of words, and if we posit that such rules are blind to any morphological information other than what constitutes a word, it will follow that the rules in question here are self-ordering. The rules sensitive to morphological information--e.g. the shortening rule and the tone assignment rule for object pronouns--will apply to the base form, while the tone raising rule (5) will apply at the surface.

The second potential problem that must be addressed involves making our proposal consistent with the constraints that have been put forth on possible lexical representations. In discussing Newman's proposal, we rejected the possibility of hypothetical base forms for intransitive verbs. The proposal we are defending here may seem to be inconsistent with our practice there, since we are proposing base forms which are hypothetical in a sense, too, i.e. the postulated forms *karàntàa*, *karàncèe*, etc., are never pronounced this way. To resolve this apparent inconsistency, we propose the following principle: base forms may violate only phonotactic rules. By this principle, base forms like *karàntàa* and *karàncèe* are permitted; still, because of the restricted nature of phonotactic rules (they are true at the surface and are insensitive to morphological information), our notion "possible base form" is quite tightly constrained: for example, it rules out the possibility of hypothetical forms like Newman's for intransitives.

As far as we can see, the principle we have put forth does not weaken phonological theory at all. A description of Hausa that restricted possible base forms to occurring surface forms would contain exactly the same rules as our analysis does. What weighs in favor of our analysis is

that we have explained the correlation between the high-toned long vowel of *karàntaa* and the low-toned short vowel of *karàntà*; we have accounted for the apparent exceptionality of tone assignment to pronouns following polysyllabic verbs of grades 1 and 4, and we have explained the restriction on shortening in grade 6 in terms of a more general restriction.

The third and final problem we must address concerns forms like *bincìkee* in (2b). If we posit a basic high-toned ending to account for the fact that this ending is long before the direct object in (2b), we incorrectly predict that a following pronoun would be low-toned; this is false: an *bincìkee ta*, *an *bincìkee tà* 'one has investigated it'. If on the other hand, we posit a basic low-toned ending, we predict that this ending will shorten before a noun object. But although the ending may shorten here (yielding an *bincìkè màganàa*), the unshortened version is also well-formed: an *bincìkee màganàa*; cf. Parsons [1971:53-54]. This option may exist for all grade 4 verbs. In the cases that we have examined, there is a semantic or stylistic difference associated with the choice between the variants *-ee* and *-e* before a noun object. The grade 4 form in general adds a sense of completeness to the root meaning of the verb; the use of the long variant *-ee* before a noun object seems to accentuate the completeness. For example, *yaa buudèe bàakii* 'he opened his mouth' vs. *yaa buudèe baakii* 'he held his mouth wide open'. Similarly, *yaa saakè shaawaràa* 'he changed plans' could be used to describe a slight modification of plans, while *yaa saakèe shaawaràa* could not; rather, this latter expression would denote a more definite or radical departure from the original plans.

In view of this, we must add to our account of the grade 4 ending *-ee* the stipulation that the shortening rule before a direct object may be suspended in the case of *-ee* and that suspension results in an enhancing of the notion of completeness that is part of the semantics of this grade.

This fact, although it complicates our analysis, does not give reason to prefer Newman's analysis over ours. To deal with the *-ee* vs. *-e* contrast in direct object position, Newman must either posit two verbs for each grade 4 verb, e.g. *bincìkee* and *bincìkè*, or he must make his

lengthening rule optionally apply in grade 4 before a direct object just as we have had to posit optional application of our shortening rule in this environment. In fact, we believe that the present case favors our analysis over Newman's. Our account, which takes the base form to have a long vowel, explains why the only environment in which Hausa makes use of the stylistic or semantic difference involving degree of completeness is before the direct object noun, since this is the only environment in which there is a rule to be suspended. From Newman's viewpoint, on the other hand, it seems odd that this contrast should appear only before a direct object: why didn't Hausa instead suspend the application of the lengthening rule applying to Newman's basic short vowels, thus permitting a contrast between *bincìkee* and *bincìkè* in every environment, including the isolation form and the form preceding a pronoun object? The analysis which we have argued for on entirely independent grounds answers this question.

4. Conclusion

In this paper, we have advanced a number of different types of argument to support the view that the base form of the Hausa verb is in general its isolation form, with the exception of polysyllabic verbs of grades 1 and 4, whose base forms we have argued to yield their isolation forms through the operation of a phonotactic rule. These arguments gather their force from evidence internal to Hausa, without hinging on controversial assumptions about rule ordering or about the nature of lexical representations. Our analysis is consistent with the possibility of extrinsic rule ordering without actually requiring it. Our base forms, if incorporated into an SPE-type lexicon, could be viewed as underlying forms from which other verb forms are derived, but they do not have to be viewed in this way. They can just as readily be incorporated into a more concrete lexicon, of the sort proposed by Vennemann [1974] and by Leben and Robinson [forthcoming], which would contain not only the base forms but also the forms which appear before direct objects. In this case, the function of the shortening rule would simply be to relate the base forms to the pre-object forms without strictly deriving one from the other.

We conclude that internal Hausa evidence argues for base forms that mirror the surface isolation form, save for the raising of a class of final low tones by a general phonotactic rule, and we suggest more generally that there is something to be gained and nothing to be lost by permitting base forms to violate phonotactic rules.

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