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Reduplication and Tone in Hausa Ideophones

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0. A number of interesting new studies have led to a reawakening of interest in reduplication. These studies have generally not, however, dealt with the question of tone. Hausa lends itself to such an analysis since it is a tonal language that is particularly rich in reduplicative morphology. This is especially true in the area of ideophones, where reduplication and tone interact in a close manner.

Before proceeding to the substance of the paper, we need to define the essential terms and symbols that will be used throughout. The term "base" refers to the morphological base on which reduplication takes place. This may be identical to the lexical stem but it need not be. In some cases the stem may be pruned before reduplication, for example by modifying vowel length or removing a frozen gender suffix, or it may be expanded in preparation for the reduplication by adding a morphological or phonological element. The "reduplicator" specifies what or how much is reduplicated, e.g. the numeral 2 by itself indicates complete reduplication, while 1σ and 2σ indicate reduplication of one syllable and two syllables respectively. The operation of reduplication is indicated by "x". (The symbol "+" is used for affixation.) The direction of reduplication is indicated by the position of the operator in relation to the base and the reduplicator; thus, Base x 2σ , for example, indicates reduplication of two syllables to the right, while 1σ x Base indicates single syllable reduplication to the left. The notation)^T associated with a suffix or a reduplicator, indicates a tone that applies to the resulting derived word, overriding in the process any lexical tone that falls within its domain.

1. In Hausa reduplication, tone is treated in two ways. In some cases, the reduplicator operates on the base *including* its tone. That is, the tone of the reduplicated product is simply a function of the tone of the non-reduplicated base, e.g.

- (1) wátàa-wátàa 'monthly' < wátàa 'month'; bìyáǎ-bìyáǎ 'five each' < bìyáǎ 'five'; lóokàcìl-lóokàcìl 'from time to time' < lóokàcìl 'time'; hòotâl-hòotâl 'hotels' < hòotâl 'hotel'; sálóo-sálóo 'different styles' < sálóo 'style'

This pattern of getting tone simply by a rule of Base x 2 also applies to modified bases, such as in the following examples where the stem

undergoes vowel shortening in preparation for the reduplication:

- (2) *rúwá-rúwá* 'watery' < *rúwáa* 'water'; *tòóká-tòóká* 'ashen, gray' < *tòókáa* 'ashes'; *kóórè-kóórè* 'greenish' < *kóórèe* 'green'

The other way in which tone is handled is by having the reduplicator completely specify the tone of the reduplicated product without necessarily any regard for the underlying tone of the base. This is the usual pattern with ideophones. It is clearly illustrated here by lexically reduplicated nouns formed by means of Base x 2)LLHL.

- (3) *bàabàbáabà* 'type of wild indigo' (cf. *báabáa* 'indigo'); *gòoràgòorà* 'type of grass' (cf. *góoràa* 'bamboo'); *ḡaatàḡaatà* 'a bitter grass' (cf. *ḡáacíí* 'bitterness', where /c/ = /t/ before a front vowel); *hàntàhàntà* 'talking through one's nose' (cf. *hàncíí* 'nose')

2. Hausa has a wealth of ideophones with varying phonological and syntactic characteristics. Many of these manifest reduplication of one type or another. Three main patterns are discussed here: partial reduplication, full reduplication, and "pseudo-reduplication".

3. Partial reduplication pattern: Base x 1σ)T

Partially reduplicated ideophones are formed by reduplicating the final syllable of the (usually disyllabic) base. The copied syllable may be light (CV) or heavy (CVV or CVC). Generally speaking all of the syllables in a word have the same weight and contain identical vowels, this being a fixed template. The reduplicator—in this case the reduplicated syllable—comes specified with a single tone, indicated)T, which spreads from right to left over the entire word. The result is that these forms are all monotonal as well as monovocalic. Since the tone of the pattern overrides whatever intrinsic tone the base might have had, it is usually impossible to tell what that underlying tone would have been or even whether the base was lexically specified for tone. Three partially reduplicated patterns are illustrated.

3.1. [x 1σ)L with long vowels]: These ideophones are characterized by identical long vowels and low tone, e.g.

- (4) *dòosdòosdò* 'ugly looking'; *bòosdòosdò* 'sitting indecently' (= *bàḡóo*); *gàajàajàa* 'filthy'; *càaḡàaḡàa* 'in profusion' (more often *cáḡáḡá*); *shèekèekèe* 'looking contemptuously'; *bùzùzùzù* 'very hairy' (= *búzúu-bùzúu*)

3.2. [x 1σ]^H with short vowels]: These ideophones are characterized by identical short vowels and high tone, e.g.

- (5) *dánáná* 'very oily'; *málálá* 'covered with water' (cf. the verb *málàaláa* 'flow over'); *sáǎǎǎ* 'stealthily' (cf. the verb *sáǎǎǎa* 'sneak'); *fúúrú* 'white with dust' (= *fúúu-fúúu*) ; *túúúú* 'lots, esp. ants or people'

3.3. [x 1σ]^L with closed syllables]: Most of the words of this shape are "augmentative" ideophones, which correspond to augmentative/ ideophonic adjectives. They typically have three closed syllables with identical vowels and an all low tone pattern, e.g.

- (6) *bàṅwàḷḷwàḷ* 'huge (e.g. head)'; *bùṇdùṇdùṇ* 'obese'; *fàṅgḡwàḷḷgḡwàḷ* 'large & round (e.g. kola-nuts)'; *fàṅkàṅkàṅ* 'broad, expansive (esp. water)'; *gùṇdùṇdùṇ* 'long and thick'; *ṣàṃḡḡḡḡḡḡ* 'heavy in body'; *shàṃḡḡḡḡḡḡ* 'bosomy'; *sùṇdùṇdùṇ* 'big and swollen'; *wàṅgàṅgàṅ* 'wide open'

4. Full reduplication pattern: Base x 2)^TT

Fully reduplicated ideophones reduplicate the entire base, which may or may not have undergone modification *before* the doubling (cf. (2) above). There is no requirement that the vowels or the syllable weight within a word be identical, although there are recurring rhythmic patterns. The reduplicator comes specified with a pair of single tones, noted)T-T. Each of the tones applies uniquely to one half of the reduplicated word, the hyphen between the parts being scrupulously respected. For example, *tsamoo* x 2)^{H-L} → *tsamoo*)^H-*tsamoo*)^L = /*tsámóo-tsámòò*/ 'dripping wet', and not **tsamootsamoo*)^{HL}, which, according to the normal rules of tone spreading in Hausa, would give */*tsámóotsámòò*/. One can contrast the behavior of tone in this fully reduplicated ideophone with the behavior of tone in a partially reduplicated noun plural formed with the high-low suffix -*unaa*)^{HL}, e.g. *maagun**unaa*)^{HL} = /*máagúṅgúnàà*/. Four patterns, reflecting the four possible tone combinations, can be illustrated.

4.1. [x 2)^{L-H}]: These ideophones, which primarily describe distinctive kinds of actions, have an overall low-high tone pattern and a light-heavy rhythmic pattern in each part. Many of these words have semantically equivalent derived nouns formed with a suffix -*niyaa*.

(7) bàgàa-bágéa = bàdàm-bádám 'floundering' (cf. the verb *bádándàmaa* 'flounder'); cākàa-cákáa 'chattering noisily' (= cākàaníyáa) ; dìřlì-dířlì 'dilly-dallying' ; mùtsùu-mùtsúu 'fidgeting' (= mùtsùumíyáa) ; màkòo-mákóo 'being stingy' (= màkòoníyáa) ; wàtsàl-wàtsál 'squirming' (= wàtsàlníyáa) ; kùmbiyàa-kùmbíyáa 'being evasive'

4.2.1. [x 2)^{H-L}]: Hausa has a large number of high-low ideophones with a light-heavy rhythmic pattern. These are primarily adjectival qualifiers, often with an implied plural meaning.

(8) kírìi-kìrìl 'brazenly, in broad daylight' ; tsámóo-tsàmò 'dripping wet' ; gázàř-gàzàř 'very bushy' ; cākwal-càkwàl 'slushy' (cf. cākwalìl 'slush') ; gájàa-gàjàa 'filthy' (= gàajàajàa) ; bùzùu-bùzùu 'very hairy' (= bùzùuzùu) ; řàfée-řàfée 'pendulous (breasts)' (cf. řàfèemíyáa 'dangling') ; jínàa-jìnàa 'bloody' (cf. jínìl 'blood')

4.2.2. [x 2)^{H-L}]: Augmentative adjectives in Hausa, which are best translated in English by an adjective modified by an expressive adverb such as 'stupendously large' or 'smashingly beautiful', are derived by suffixation or pseudo-reduplication (see §5 below). The corresponding plurals are formed by full reduplication of the base—rather than of the singular forms themselves—with an associated high-low tone pattern. The plural augmentatives occur in two types, one formed by reduplicating the bare consonant-final base, the other by reduplicating a pre-prepared base containing final -aa. (See (6) for the glosses for the following examples.)

(9) bānkwal-bānkwal = bānkwalāa-bānkwalāa ; būndún-būndún (where final /n/ < /m/) = būndumāa-būndumāa ; bāngwal-bāngwal = bāngwalāa-bāngwalāa ; fānkān-fānkān = fānkāmāa-fānkāmāa ; gūndún-gūndún = gūndumāa-gūndumāa ; řāmbās-řāmbās = řāmbāsāa-řāmbāsāa ; šāmbař-šāmbař = šāmbařāa-šāmbařāa ; sūndún-sūndún = sūndumāa-sūndumāa ; wāngān-wāngān = wāngāmāa-wāngāmāa

4.3. [x 2)^{H-H}]: These adverbial ideophones have a light-light rhythmic pattern and high-high tone.

(10) bájá-bájá 'disorganized' ; dúkú-dúkú 'at earliest dawn' ; dúshí-dúshí 'nearly blind' (cf. dúshèe 'become dim') ; fátá-fátá 'helter-skelter' ; kácá-kácá 'in shambles' ; láfó-láfó 'tied insecurely'

4.4. [x 2)^{L-L}]: These adverbial ideophones, which seem to be more onomatopoeitic than most in Hausa, have a light-heavy rhythmic pattern and low-low tone.

- (11) *bùyàa-bùyàa* 'movement with a big gown' ; *hàyyàa-hàyyàa* 'bustling about' (= *hàyyàaníyàa*) ; *kàyyàa-kàyyàa* 'noise of two objects rubbing together' ; *bàzàǎ-bàzàǎ* 'dressed in rags' (cf. *bàzáa* 'fringes') ; *fàcàl-fàcàl* 'playing in water' (= *fàcàlníyàa*) ; *gàtsàl-gàtsàl* 'eating in unmannerly way' ; *wàshàǎ-wàshàǎ* 'crumbling' ; *bùgùzùm-bùgùzùm* 'walking in ungainly manner'

With the H-H and L-L forms in 4.3 and 4.4, one could of course simply specify a single tone, i.e. $\times 2)^H$ and $\times 2)^L$. This, however, would miss the parallelism between these forms and the H-L and L-H ones and would require that one violate the integrity of the hyphen in Hausa as a barrier to tone spreading.

In all of the fully reduplicated words described above, there is only one tone specified for each half of the word. It should be pointed out that there are actually a few ideophones in which each half is not monotonal, e.g.

- (12) *tìnkís-tìnkís* 'hurrying along straight' ; *bùkúu-bùkúu* 'walking in a hunchbacked manner' (cf. *bùkúu* 'convexity') ; *dìdíím-dìdíím* 'sound of beating on calabashes' ; *dágwàm-dágwàm* 'incessantly' ; *fáfàs-fáfàs* 'immediately' ; *fátsàǎ-fátsàǎ* 'intense heat of sun'

The most likely explanation here is that these words are reduplicated along with their tone, like the examples in (1) and (2), rather than receiving their tone from a tone pattern belonging to the reduplicator. That is, an example such as *tìnkís-tìnkís* is assumed to be derived from *tìnkís* $\times 2$ rather than from *tìnkís* $\times 2)^{LH-LH}$.

5. Pseudo-reduplication pattern: Base + -vCv)T*

Derived words in Hausa formed by what I am calling "pseudo-reduplication" are those that on the surface manifest a copy of the stem-final consonant along with particular vowels that are fully specified. I call them "pseudo-reduplications" because the process involved is really suffixation even though the output looks like partial reduplication. The derivational ending comes with a set tone pattern, here indicated by $)T^*$, which consists of one or more tones. This can be contrasted with the partially reduplicated words discussed in §3 where the tone attached to the reduplicator is limited to a single tone. Pseudo-reduplication in Hausa ideophones is not common, it being limited to highly expressive, phonaesthetic adjectival forms that bridge the gap between ordinary common adjectives and full-fledged ideophones.

5.1. [+ -eeCee)^{HL}]: Singular augmentative adjectives are formed in two ways, apparently identical in meaning. One formation involves simple suffixation of -ii)^H to the lexical base, e.g. *súndúmí* 'big and swollen'. The other, the pseudo-reduplicative construction with which we are concerned, involves the suffixation of /ee/ plus a copy of the stem-final consonant plus /ee/, the entire output falling under the domain of the associated HL tone pattern, e.g. *súndúmeemèe*. This form can be further inflected for gender by adding the feminine suffix -ìyáa, e.g. *súndúmeemìyáa*. (In Hausa the replacement of the stem-final vowel by the initial vowel of a suffix is regular.) These ideophonic augmentative adjectives correspond to the ideophones in (6), where the glosses can be found.

- (13) *bánkwaléelèe* ; *búndúmeemèe* ; *ḡángwáléelèe* / *ḡángwáléelìyáa* (f.);
fánkáméemèe / *fánkáméemìyáa* (f.); *gúndúmeemèe* ; *ṙámḡáshéeshèe* ;
shámḡáṙéerìyáa (f.) ; *súndúmeemèe* ; *wángáméemèe*

Pseudo-reduplication in Hausa of the type illustrated above has always been described in terms of partial reduplication. I would contend, however, that the *process* involved is really suffixation, where the suffixal consonant just happens to be incompletely specified. The operation employed is thus "+", not "x", which characterizes true reduplication, whether full or partial. Note, for example, that the multi-tonal tone pattern found with the -eeCee)^{HL} ending is typical of what one finds with fully specified Hausa suffixes, but unlike what one normally finds in reduplicative constructions.

There are some clear advantages in Hausa in viewing what I have called pseudo-reduplication as straightforward suffixation. In the first place, it allows one to group together classes of morphological formations that otherwise would be described as manifesting different processes. For example, among the many ways of forming noun plurals in Hausa, there are three very common types that manifest the same high-low-high tone pattern. These are—and I am here using the traditional descriptive labels—partial reduplication, addition of the suffix -aayee, and infixation of -aa-. These plurals, however, are really phonologically conditioned allomorphs of a single morpheme which makes use of exactly the same suffix, namely -aaCee)^{HLH}, where C is either C (a copy of the last consonant of the base), /y/, or C₃ (the third consonant of the root itself), e.g.

- (14) [a] *dámóo* / *dámàamee* 'monitor / pl.'; *wúrí* / *wúràaree* 'place / pl.';
 (tonally irregular singular) *tàfáa* / *táfàafée* 'armlet / pl.'

[b] kíífí / kíífaáyée 'fish / pl.'; zóómóo / zóomaáyée 'hare / pl.';
 (tonally irregular singular) gwání / gwanáyée 'expert / pl.'
 [c] gúlíbí / gúlàabée 'stream / pl.'; káskóo / kásaakée 'wooden
 bowl / pl.'; bírní / bíràanée 'city / pl.'

Secondly, eliminating pseudo-reduplication from the inventory of reduplicative constructions allows one to draw a generalization about Hausa that otherwise could not be seen. This is the following: Hausa reduplication—and we are limiting ourselves to reduplication to the right—operates only on full bases or on full syllables, either one or two syllables, while Hausa suffixes are most commonly vowel initial, either -V (where the V is fully specified) or -VCV.

6. That ideophonic words should be formed by reduplication is so commonplace that it would hardly seem worth discussing. A careful look at Hausa ideophones shows, however, that the constructions generally lumped under the rubric "reduplication" actually represent a number of different processes that are not derivable from one another and that particularly need to be treated separately in terms of their tonal behavior. There are ideophones formed by partial, single syllable, reduplication, which are typically characterized by a single tone whose domain is the entire reduplicated product. There are ideophones formed by full reduplication, in which case tone is assigned on a different principle, namely the specification of a *pair* of single tones, the domain of each being one half of the reduplicated product. There are in addition a few fully reduplicated ideophones where the tone is not a property of the ideophonic reduplication as such, but rather comes from full reduplication of stems *including* their lexical tone. Finally, there are ideophonic words formed by pseudo-reduplication, which, it turns out, is not reduplication at all, but rather a subtype of simple suffixation.

Most studies of reduplication, especially recent attempts to find formal mechanisms for describing such constructions, assume that reduplication, wherever it occurs and in whatever form, is essentially a single phenomenon. This paper suggests that the phenomenon is far from unitary even in a single language, and thus it is even less likely to be so in the languages of the world.

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