

WORDHOOD AND STRESS IN GARÍFUNA

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MANUSCRIPT *as of* DECEMBER 2021

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Phonological words in Garífuna are characterized by obligatory and culminative stress. This paper is organized as follows. [Section 1](#) discusses the basic distribution of stress in morphologically simplex forms. [Section 2](#) identifies stress as a diagnostic of phonological wordhood in morphologically complex forms. [Section 3](#) describes and analyzes the word-internal process of vowel hiatus resolution.

All the data were collected in an Advanced Field Methods (Linguistics 240A) course offered by the Linguistics Department at the University of California, Berkeley in Fall 2021. The language consultant was Francis (Frank) Palacio. Most of the data were collected by the author. The data have been deposited in the California Language Archive as Palacio et al. (n.d.) and are cited here with item-level identifiers.

1 STRESS

Phonetically, Garífuna stress correlates most robustly with greater duration, a greater F0 excursion, and a different vowel quality: Stressed vowels tend to be realized as tense; unstressed vowels tend to be realized as lax (1).

- | | | | | |
|-----|----|--|----|---|
| (1) | a. | / <i>n-ídibu</i> /
[<i>nídibu</i>]
A.1SG-plant
“my plant” | b. | / <i>n-igíbu</i> /
[<i>nígíbu</i>]
A.1SG-face
“my face”
(cab_fpp_20211116_mmd_1_elicit) |
|-----|----|--|----|---|

- (11) *ni-wárigabàga*
 A.1SG-butterfly
 “my butterfly” (cab_fpp_20211116_mmd_1_elicit)

2 WORDHOOD

This section describes and analyzes prosodic constituency and stress assignment in morphologically complex forms with prefixes (§2.1) and TAM (tense, aspect, mood) verbal morphemes (§2.2).

2.1 Prefixes

Garífuna words may host at most one prefix. The prefix may be a set-A agreement marker (12a), the potential $g(a)$ -POT (12b), or the negative $m(a)$ -NEG (12c).

- (12) a. *ni-sáudieru* b. *g-óubra* c. *ma-búcha*
 A.1SG-pot POT-hug NEG-tired
 “my pot” “can hug” “not tired”
 (cab_fpp_20211116_mmd_1_elicit)

Set-A prefixes express possessors and subjects in some grammatical constructions (13). Prefix vowels are parenthesized because they do not always surface. The vowel of the singular set-A prefixes varies with the grammatical construction (hence V). The vowels of the plural set-A prefixes (a , u) depend on the person feature. The vowel of the potential $g(a)$ -POT as well as the negative $m(a)$ -NEG, if present on the surface, is always a .

- (13) SET-A PREFIXES
- | | | | |
|----------|---------|----------|---------------------------------|
| $n(V)$ - | A.1SG | $w(a)$ - | A.1PL |
| $b(V)$ - | A.2SG | $h(u)$ - | A.2PL |
| $l(V)$ - | A.3SG.M | $h(a)$ - | A.3PL |
| $t(V)$ - | A.3SG.F | | (cab_fpp_20210923_mmd_1_elicit) |

In the possessive construction, when a set-A prefix attaches to a consonant-initial stem, the parenthesized vowel always surfaces (14). (In this construction, the vowel of the singular set-A prefixes is i , thus: *ni*- A.1SG, *bi*- A.2SG, *li*- A.3SG.M, *ti*- A.3SG.F.) When a singular set-A prefix attaches to a vowel-initial

BD = set-BD agreement, BT = set-BT agreement, F = feminine, FUT = future, IPFV = imperfective, M = masculine, NEG = negative, NFUT = nonfuture, PASS = passive, PL = plural, POT = potential, POT2 = potential 2, PST = past, SG = singular.

stem, the parenthesized vowel never surfaces (15). When a plural set-A prefix attaches to vowel-initial stem, whether the parenthesized vowel surfaces (16a-b) or not (16c-d) is governed by the vowel hiatus resolution process, described in Section 3.

- (14) a. *ni-sáudieru* b. *wa-sáudieru* c. *ni-gárada* d. *wa-gárada*
 A.1SG-pot A.1PL-pot A.1SG-book A.1PL-book
 “my pot” “our pot” “my book” “our book”
 (cab_fpp_20211116_mmd_1_elicit)
- (15) a. *n-igíbu* b. *b-igíbu* c. *l-águ* d. *t-águ*
 A.1SG-face A.2SG-face A.3SG.M-eye A.3SG.F-eye
 “my face” “your face” “his eyes” “her eyes”
 (cab_fpp_20211116_mmd_1_elicit)
- e. *n-ugúdi* f. *b-ugúdi* g. *l-ugúdi*
 A.1SG-feet A.2SG-feet A.3SG.M-feet
 “my feet” “your feet” “his feet”
 (cab_fpp_20211130_mmd_1_elicit)
- (16) a. *wa-~~u~~bára* b. *ha-~~e~~éru* c. *wa-éde* d. *hu-eréru*
 A.1PL-place A.3PL-language A.1PL-buttocks A.2PL-language
 “our place” “their language” “our buttocks” “y’all’s language”
 (cab_fpp_20211116_mmd_1_elicit)

Set-A prefixes form one phonological word with their base. They may affect the position of primary stress, depending on their form and the stem they attach to.

Given the disyllabic window stress restriction (10), we may divide stems in two categories: initially-stressed and peninitially-stressed. When a prefix attaches to a vowel-initial stem, the syllable count of the word does not increase. In this situation, the prefix does not affect stress, regardless of whether the base has initial (17) or peninitial (18) stress.

- (17) a. / *n-águ* / b. / *wa-éde* / c. / *wa-úwi* / d. / *ha-ídübüri* /
 [*nágu*] [*wéde*] [*wáwi*] [*hádübüri*]
 A.1SG-eye A.1PL-buttocks A.1PL-meat A.3PL-hair
 “my eyes” “our buttocks” “our meat” “their hair”
- (18) a. / *n-igíbu* / b. / *b-eréru* / c. / *wa-ubára* / d. / *hu-isáni* /
 [*nigíbu*] [*beréru*] [*wabára*] [*hisáni*]
 A.1SG-face A.2SG-language A.1PL-place A.2PL-child
 “my face” “your language” “our place” “y’all’s child”
 (cab_fpp_20211116_mmd_1_elicit)

When a prefix attaches to a consonant-initial stem, it increases the syllable count by one. If the input stem has initial stress, it is preserved. This results in peninitial stress in the output (19).

- (19) a. / *ni-gárada* / b. / *li-dábula* / c. / *wa-dúbü* / d. / *ha-mésu* /
 [*nigárada*] [*lidábula*] [*wadúbü*] [*hamésu*]
 A.1SG-book A.3SG.M-table A.1PL-rock A.3PL-cat
 “my book” “his table” “our rock” “their cat”
 (cab_fpp_20211116_mmd_1_elicit)

If the input stem is consonant-initial and has peninitial stress, the stress shifts to the left by one. As a result, the output word also has peninitial stress. This holds of forms with set-A prefixes (20) as well forms with the the potential *g(a)*- POT or negative *m(a)*- NEG prefixes (21). This stress shift happens so that primary stress may fall within the disyllabic stress window.

- (20) a. / *wa-fulásu* / b. / *ha-mudú* / c. / *ti-gusíyü* / d. / *ni-fulásu* /
 [*wafúlasu*] [*hamúdū*] [*tigúsiyü*] [*nifúlasu*]
 A.1PL-property A.3PL-sheep A.3SG.F-knife A.1SG-property
 “our property” “their sheep” “her knife” “my property”
 (cab_fpp_20211019_mmd_1_elicit; cab_fpp_20211019_mmd_1_elicit)
- (21) a. / *ga-buchá-ti* / b. / *ma-durú-ti* / c. / *ma-buchá-ti* /
 [*gabúchati*] [*madúruti*] [*mabúchati*]
 POT-tired-BT.3SG.M NEG-thick-BT.3SG.M NEG-tired-BT.3SG.M
 “can be tired” “is not thick” “is not tired”
 (cab_fpp_20211116_mmd_1_elicit)

The above shows that the disyllabic stress window is not only a generalization about the Garífuna lexicon, but an active restriction which holds of morphologically complex forms as well.

2.2 TAM morphemes

Primary stress can be lexically specified. Secondary stress is assigned predictably, three syllables counting from the primary stress. Thus, the distribution of primary and secondary stresses can serve as a diagnostic of phonological wordhood.

The functional morphemes *-yēi/-yā* IPFV (22) and *-di* POT2 (23) form one phonological word with the verbal root, as evidenced by the fact that the position of secondary stress changes depending on primary stress.

- (22) a. *n-áfara-ỹèi-dibu*
A.1SG-hit-IPFV-BD.2SG
“I am hitting you”
b. *n-aríhi-ỹei-dibu*
A.1SG-see-IPFV-BD.2SG
“I am seeing you”
(cab_fpp_20211102_mmd_1_elicit)
- (23) a. *g-áfara-di-tina*
POT-hit-POT2-BT.1SG
“I am able to hit”
b. *g-aríha-di-tina*
POT-see-POT2-BT.1SG
“I am able to see”
(cab_fpp_20211102_mmd_1_elicit)

Each independent phonological word has one primary stress which has greater phonetic prominence than secondary stress and whose position is independent of the stress of other words in the sentence (24).

- (24) a. *n-ábougu-ỹa bugá hüdúütü wínoga.*
A.1SG-cook-IPFV PST hudut yesterday
“I was cooking hudut yesterday.”
(cab_fpp_20211026_zcw_1_elicit)
- b. *sū líỹa bugá n-ábougu hüdúütü*
just PST A.1SG-cook hudut
“I just cooked hudut.” (cab_fpp_20211019_zcw_1_elicit)

For example, the past marker *bugá* PST has peninitial stress regardless of whether the preceding word’s primary stress is five (24a) or three (24b) syllables away. The noun *hüdúütü* ‘hudut’ has peninitial stress regardless of whether the preceding word’s primary stress is two (24a) or four (24b) syllables away. The verb *ábougu* ‘cook’ has initial stress regardless of whether it is the first word in the sentence (24a) or immediately preceded by a stressed syllable (24b).

By this criterion, the nonfuture auxiliary *mu* NFUT (25) and the perfective/imperative auxiliary (*m)a* AUX (26-27) are independent phonological words; they carry primary stress which has greater phonetic prominence than secondary stress. The position of the primary stress is independent of the stress of the preceding verb.

- (25) a. *áfara nu-mú-tibu*
hit A.1SG-NFUT-BT.2SG
“I hit you”
b. *aríha nu-mú-tibu*
see A.1SG-NFUT-BT.2SG
“I saw you”
(cab_fpp_20211102_mmd_1_elicit)

- (26) a. *áfara wa-má-dibu* b. *aríha wa-má-dibu*
 hit A.1PL-AUX-BD.2SG see A.1PL-AUX-BD.2SG
 “we have already hit you” “we have already seen you”
 (cab_fpp_20211104_mmd_1_elicit)
- (27) a. *áfara hu-má-wa* b. *aríha hu-má-wa*
 hit A.2PL-AUX-BØ.1SG see A.2PL-AUX-BØ.1SG
 “(y’all) hit us” “(y’all) see us”
 (cab_fpp_20211102_mmd_1_elicit)

When the future marker *-ba* FUT is not prefixed with a set-A marker, the position of secondary stress depends on the position of primary stress on the verb (28). Thus, I conclude that when not prefixed with a set-A marker, the future *-ba* FUT is a suffix.

- (28) a. *n-áfara-bà-dibu* b. *n-aríhi-ba-dibu*
 A.1SG-hit-FUT-B.2SG A.1SG-see-FUT-B.2SG
 “I will hit you” “I will see you”
 (cab_fpp_20211102_mmd_1_elicit)

When the future marker *ba* FUT is prefixed with a set-A marker, it carries primary stress. The position of this primary stress does not depend on the position of the verb’s primary stress (29). Thus, I conclude that when prefixed with a set-A marker, the future *ba* FUT is an auxiliary (a phonologically independent word).

- (29) a. *m-áfara nu-bá-dibu* b. *m-aríhi nu-bá-dibu*
 NEG-hit A.1SG-FUT-B.2SG NEG-SEE A.1SG-FUT-B.2SG
 “I will not hit you” “I will not see you”
 (cab_fpp_20211102_mmd_1_elicit)

Since Garífuna words may have at most one prefix, the following generalization emerges (30).

- (30) PREFIXING × WORDHOOD GENERALIZATION
Every prefix is aligned with the left edge of a phonological word.

Finally, stress may be overridden by a functional morpheme. One such morpheme is the stressed passive suffix *-(ú)wa* PASS. In forms with the passive *-(ú)wa* PASS, stress falls on the syllable which contains the first vowel of the suffix (31). Forms with *-(ú)wa* PASS are not subject to the disyllabic stress window (10).

- (31) a. / *aréinga-úwa-ti* / b. / *áfara-úwa-ti* / c. / *agámba-úwa-ti* /
 [*areingáúwati*] [*afaráúwati*] [*agambáúwati*]
 say-PASS-BT.3SG.M hit-PASS-BT.3SG.M hear-PASS-BT.3SG.M
 “it was said” “it was hit” “it was heard”
 (cab_fpp_20211130_mmd_1_elicit)
- d. / *íwouha-úwa-ti* / e. / *adúga-úwa-ti* / f. / *óunaha-úwa-ti* /
 [*iwouháúwati*] [*adügúwati*] [*ounaháúwati*]
 steal-PASS-BT.3SG.M make-PASS-BT.3SG.M send-PASS-BT.3SG.M
 “it was stolen” “it was made” “it was sent”
 (cab_fpp_20211130_mmd_1_elicit)

3 VOWEL HIATUS RESOLUTION

When a plural set-A prefix attaches to vowel-initial stem, there are two consecutive vowels in the underlying form. In the output, this vowel hiatus is resolved by deleting one of the vowels. The vowel which is retained is the stronger one, where strength depends on height and stress. Below, various roots with plural set-A prefixes are given. The roots which start with stressed non-high vowels are given in (33), stressless non-high vowels—in (34), stressed high vowels—in (35), stressless high vowels—in (36). The locus of vowel hiatus resolution is underlined>.

Roots may start with vowel of either height (high or non-high) and either stress value (stressed or stressless). Plural set-A prefixes have one of two vowels: the non-high *a* (*wa-* A.1PL, *ha-* A.3PL) or the high *u* (*hu-* A.2PL). Prefix vowels are always stressless.

The resolution of hiatus between the prefix and root-initial vowels reveals the following strength hierarchy: Stressed non-high vowels (– \acute{H}) win over all other vowels. Unstressed non-high vowels (–H) win over high vowels. Stressed high vowels (+ \acute{H}) win over unstressed high vowels. Unstressed high vowels (+H) lose to all other vowels. This hierarchy is stated in (32).

- (32) STRENGTH HIERARCHY IN VOWEL HIATUS RESOLUTION²
 – \acute{H} » –H » + \acute{H} » +H

This hierarchy does not specify relative strengths of stressless non-high vowels (*a* and *e*) or stressless high vowels (*i* and *u*). When *a* and *e* compete, either surfaces in free variation (34c.i.iii). When *i* and *u* compete, *i* wins in most lexical items (36a-c.ii); there is one known exception (36d.ii).

² The hierarchy in vowel hiatus resolution can be decomposed into two hierarchies: a sonority hierarchy and a stress-based hierarchy.

(33)	-H-	BASE		i. <i>wá</i> - A.1PL	ii. <i>hu</i> - A.2PL	iii. <i>ha</i> - A.3PL		(cab_fpp_20211109_mmd_1_elicit)
	a. <i>á</i> -	<i>águ</i>	eye	<u>wágu</u>	<u>hágu</u>	<u>hágu</u>		(cab_fpp_20211109_mmd_1_elicit)
	b. <i>é</i> -	<i>éde</i>	buttocks	<u>wéde</u>	<u>héde</u>	<u>héde</u>		(cab_fpp_20211109_mmd_1_elicit)
(34)	-H-	BASE		i. <i>wá</i> - A.1PL	ii. <i>hu</i> - A.2PL	iii. <i>ha</i> - A.3PL		(cab_fpp_20211104_mmd_1_elicit)
	a. <i>a</i> -	<i>arúna</i>	arm	<u>warúna</u>	<u>harúna</u>	<u>harúna</u>		(cab_fpp_20211109_mmd_1_elicit)
	b. <i>a</i> -	<i>anígi</i>	heart	<u>wanígi</u>	<u>hanígi</u>	<u>hanígi</u>		(cab_fpp_20211109_mmd_1_elicit)
	c. <i>e</i> -	<i>eréru</i>	language	<u>wa/eréru</u>	<u>heréru</u>	<u>ha/eréru</u>		(cab_fpp_20211109_mmd_1_elicit)
(35)	+H-	BASE		i. <i>wá</i> - A.1PL	ii. <i>hu</i> - A.2PL	iii. <i>ha</i> - A.3PL		(cab_fpp_20211116_mmd_1_elicit)
	a. <i>í</i> -	<i>ígiri</i>	nose	<u>wáigiri</u>	<u>hígiri</u>	<u>hígiri</u>		(cab_fpp_20211104_mmd_1_elicit)
	b. <i>í</i> -	<i>ídibu</i>	plant	<u>wáídibu</u>	<u>hídibu</u>	<u>hádibu</u>		(cab_fpp_20211104_mmd_1_elicit)
	c. <i>í</i> -	<i>ídiúbúri</i>	hair	<u>wádiúbúri</u>	<u>hádiúbúri</u>	<u>hádiúbúri</u>		(cab_fpp_20211104_mmd_1_elicit)
	d. <i>ú</i> -	<i>úbara</i>	finger nail	<u>wáúbara</u>	<u>húbara</u>	<u>hábara</u>		(cab_fpp_20211116_mmd_1_elicit)
	e. <i>ú</i> -	<i>úwi</i>	meat	<u>wáúwi</u>	<u>húwi</u>	<u>háwi</u>		(cab_fpp_20211109_mmd_1_elicit)
	f. <i>ú</i> -	<i>úhobu</i>	hand	<u>wáúhobu</u>	<u>húhobu</u>	<u>háhobu</u>		(cab_fpp_20211130_mmd_1_elicit)
	g. <i>ú</i> -	<i>úguchu</i>	mother	<u>wáúguchu</u>	<u>húguchu</u>	<u>háguchu</u>		(cab_fpp_20211130_mmd_1_elicit)
(36)	+H-	BASE		i. <i>wá</i> - A.1PL	ii. <i>hu</i> - A.2PL	iii. <i>ha</i> - A.3PL		(cab_fpp_20211104_mmd_1_elicit)
	a. <i>í</i> -	<i>ígíbu</i>	face	<u>wagíbu</u>	<u>higíbu</u>	<u>hagíbu</u>		(cab_fpp_20211104_mmd_1_elicit)
	b. <i>í</i> -	<i>ísáni</i>	child	<u>wasáni</u>	<u>hisáni</u>	<u>hasáni</u>		(cab_fpp_20211104_mmd_1_elicit)
	c. <i>í</i> -	<i>ígína</i>	neck	<u>wagína</u>	<u>higína</u>	<u>hagína</u>		(cab_fpp_20211109_mmd_1_elicit)
	d. <i>í</i> -	<i>ísíyedu</i>	plate	<u>wasíyedu</u>	<u>husíyedu</u>	<u>hasíyedu</u>		(cab_fpp_20211104_mmd_1_elicit)
	e. <i>u</i> -	<i>ubára</i>	place	<u>wabára</u>	<u>hubára</u>	<u>habára</u>		(cab_fpp_20211104_mmd_1_elicit)

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