Reiteration in Pichi

Forms, functions and areal-typological perspectives*

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Pichi, an Afro-Caribbean English-lexifier Creole spoken on the island of Bioko, Equatorial Guinea, features four types of reiteration. Amongst them, reduplication and repetition can be distinguished on formal and semantic grounds. Reduplication is a derivational operation consisting of self-compounding and tone deletion. It is restricted to dynamic verbs and yields iterative, dispersive and attenuative meanings. Repetition occurs with all major word classes, renders more iconic meanings and is analyzed as semi-morphological in nature. A comparison with verbal reiteration in a cross-section of West African languages and two of its sister languages in the Caribbean allows the conclusion that Pichi reduplication reflects an areal pattern. I conclude further that Pichi reduplication is not exceptionally iconic nor specifically "creole" in nature.

1. Introduction

Pichi is a member of the vast family of Afro-Caribbean English-lexifier Creoles (henceforth AECs) and is spoken on the island of Bioko, Equatorial Guinea by at least 100,000 speakers. The language is an offshoot of Krio and arrived with African settlers from Freetown, Sierra Leone in 1827 (Fyfe 1962:165). Pichi belongs to the African branch of the AECs and shares many characteristics with its sister languages Nigerian, Cameroonian and Ghanaian Pidgin, as well as Aku (Gambia) (cf. Yakpo 2009b for a detailed grammatical description of the language). At the same time, one and a half centuries of extensive language contact with Spanish have given the language a distinct character of its own. Pichi features a mixed prosodic system with the majority of words specified for pitch-accent and a minority for tone. Pichi has a largely isolating morphology with a limited use of inflectional and derivational morphology in

which tonal and non-tonal affixes, as well as suppletive forms are made use of. The language is aspect and mood-prominent and employs particles for the expression of tense, mood and aspect. Pichi exhibits an SV(O) word order and a nominative-accusative alignment. The language also makes use of various types of multiverb constructions.

The objective of this study is to provide a detailed description of reiteration in Pichi, and of reduplication in particular. The latter process stands out as a morphologized operation amongst the other types of reiteration. In doing, so I focus on the understudied prosodic aspects of reiteration. I will show that in Pichi, as in the entire family of AECs, prosody is central to an understanding of the formal and functional properties of reiteration, and by extension, the question of iconicity and the relation between morphology and syntax. I show that in form and function, reduplication in Pichi (and in the other African AECs) shares deep-rooted typological affinities with the languages of the entire linguistic area of "West Africa". These affinities can also be observed, albeit to a lesser degree, in the AECs of the Caribbean branch. An in-depth investigation of the prosodic characteristics of reiteration (and verbal reduplication in particular) in the languages of West Africa can help us advance our understanding of reiteration in the entire family of Afro-Caribbean English-lexifier Creoles. In this way, an approach grounded in areal typology can help provide answers to the issues raised by Aboh et al. in the introduction to this volume.

Section 2 presents an overview of the four types of reiteration in Pichi. Section 3 briefly addresses patterns of lexicalized reiteration. Sections 4 and 5 take a detailed look at morpho-phonological and semantic aspects of reduplication and repetition. The sections focus on verbal reiteration and also provide phonetic evidence for the tonal processes that accompany these two types of reiteration. Section 6 places reduplication within the areal context. Section 7 concludes the chapter. All unreferenced examples stem from field data, i.e. a corpus of approximately 50,000 words gathered on Bioko island between 2003 and 2007.

2.   Overview of reiteration

Pichi features four distinct types of productive processes involving the reiteration of words: (1) reduplication, (2) repetition, (3) the use of cognate objects, and (4) predicate doubling. The four types may be distinguished in terms of the word classes they apply to, the morphosyntactic process involved in their formation, the number of possible iterations, the morphosyntactic domain or structural level at which formation takes place, and the resulting meanings.

   Reduplication involves reiteration and the simultaneous operation of tone deletion, as shown in (1).[1] Reduplication is only productive with dynamic verbs. In contrast, repetition involves duplication without a tonal change, as in (2), and is found with members of all major word classes. The repetition of larger constituents, i.e. phrases and entire clauses is also attested, and I will show in §5 that the distinction between morphological and syntactic repetition is not easily made:

(1) *Wetin yù dè **chènch**-**chench** nɔmba dèn so?*
     what 2SG IPFV RED.CPD-change number PL like.that
     'Why are you constantly changing (telephone) numbers like that?'

(2) *À dè si **big big** faya.*
     1SG.SBJ IPFV see big big fire
     'I was seeing a huge fire.'

Pichi cognate objects are deverbal nouns derived from themselves. Cognate objects occur with a few particular verbs in a non-emphatic, non-specific context and contribute little if nothing at all to the meaning denoted by the verb. For example, one of the few objects with which the intransitive verb *day* 'die' is attested is a cognate object as in the following example:

(3) *Ey, dan kayn spétìkul, à **day day**.*
     INTJ that kind glasses 1SG.SBJ die die
     'Hey, that kind of glasses, (if I had it) I would die.'

Aside from that, the use of cognate objects provides an important means of expressing emphasis. When used in this way, cognate objects are very frequently preceded by the indefinite determiner *wan* 'one, a'. The presence of the indefinite determiner in (4) also provides evidence for analyzing the cognate object as nominal in nature. In this, the Pichi structure patterns with analogous structures in other Creoles discussed in this volume, e.g. Matinikè (cf. Glaude & Zribi-Hertz this volume, Section 3.2, Bernabé 1983):

(4) *Dan tòrí bìn dè **swit** mi **wan swit**.*
     that story PST IPFV be.tasty 1SG.EMP one tastiness
     'I ENJOYED that story.'

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1. Tones in Pichi are graphicized in the following way: monosyllables and penultimate syllables always bear a high tone if they bear no tone accent. Low-toned mono- or penultimate syllables always bear a grave accent, as in /ò/ When a high tone occurs elsewhere in the word it is marked so by an acute accent, hence /ó/. Syllables not covered by these notation rules are always low and remain unmarked. Words of other languages are fully marked for tone. A midtone is indicated by a horizontal line, as in /ō/.

In constructions involving verb doubling, the focused verb appears twice in the sentence: fronted in the initial focus position directly after the focus marker *nà*, and at the same time in its original syntactic position in the out-of-focus part of the sentence. Compare the following example featuring the dynamic verb *go* 'go':

(5) ***Nà go*** *à   dè   **go** ò.*
     FOC go 1SG.SBJ IPFV go EMP
     '(Mind you) I'm GOING.'

The construction in (5) is also known as "predicate clefting" (cf. Koopman 1984; Larson & Lefebvre 1991). But the analysis by Glaude & Zribi-Hertz (this volume) shows that the evidence for seeing this construction as involving fronting of the predicate, rather than the verb(al root) alone is rather tenuous. And in fact, in Pichi structures involving verb doubling, predicate constituents such as TMA particles may not be fronted together with the verb, thence the ungrammaticality of the option in parentheses in (6):

(6) *Nà (*__bìn dè__)   waka wì   **bìn dè**   waka **go** de.*
     FOC   PST IPFV walk 1PL   PST IPFV walk go   there
     'We WALKED there.'

Verb doubling signals presentational or contrastive focus of the predicate and produces intensifying, emphatic meanings. Neither temporal or causal adverbial meanings, nor factive clauses are expressed through predicate doubling, as is the case in Haitian Creole (cf. Glaude & Zribi-Hertz this volume).

The following table summarizes the features of the four types of reiteration in Pichi.

Table 1. Features of reiteration

Feature/Type	Reduplication	Repetition	Cognate objects	Predicate doubling
Word classes	Dynamic verbs	Dynamic verbs, numerals, adverbs, attributive property items, nouns	Verbs	Verbs
Formation	Derivation	Inflection, adjunction	Selection	Fronting
Domains	Word	Word, phrase, clause	Phrase	Clause
Number of iterations	Duplication	Duplication and triplication	Duplication	Duplication
Meanings	Iterative, dispersive, attenuative	Iterative (verbs), distributive (numerals), augmentative (property items, nouns)	Augmentative (emphasis)	Augmentative (emphasis)

In view of the large range of forms and functions of reiteration in Pichi, I will limit the following discussion to the two first types of reiteration in the table above – reduplication and repetition. As we will see, these two processes can be interpreted as not exclusively syntactic, albeit in varying degrees. Secondly, they do not chiefly serve the pragmatic, discourse-related functions of emphasis and intensification, as is the case with the use of cognate objects and predicate doubling. In addition, we will have a closer look at verbs, the word class that can undergo both types of reiteration. In the further course of this paper, the crucial issue of iconicity will also be discussed – and in particular, whether the two productive types of reiteration in Pichi can be ranked with respect to their degree of inherent iconicity.

3.   Lexicalized reiteration

In the following sections, I only discuss productive reiteration in Pichi in more detail. Yet, a brief overview of non-productive, lexicalized reiteration is in order to clearly demarcate it from productive types of reiteration. The language features a modest number of words consisting of at least two identical components that cannot be separated and used on their own. I suggest that lexicalized iterations are for their largest part carry-overs from African substrate and adstrate languages. The prosodic pattern of one portion of such lexicalized iterations is suggestive of reduplication, the other features a pattern that points towards repetition.

All words involving lexicalized repetition in the corpus are ideophones. Hence, the following ideophonic adverb *gbogbògbo* in (7), which expresses haste has no attested simplex form **gbò*. The ideophone only occurs as a duplicated or triplicated reiteration, as in this example:

(7)   *Tokòbé dɔn wɛr klos   gbogbògbo.*
      NAME   PRF wear clothing IDEO
      'Tokòbé had put on (her) clothes in haste.'

The same holds for the ideophone *kamúkàmú*, which depicts the countermovement of the individual halves of a pair of buttocks as their owner strides along:

(8)   *Yù si lɛ̀k haw ìn   bàta dɛ̀n dè sek   kamúkàmú?*
      2SG see like how 3SG.POSS buttock PL IPFV shake IDEO
      'Do you see her buttocks moving to-and-fro (as she walks along)?'

When we turn to lexicalized reduplication, it is noteworthy that the corpus only contains two instances of this type of reiteration involving a dynamic verb – hence the only category that can normally be subjected to productive reduplication. The reduplication *hàyd.háyd*, which could be analyzed as [RED.CPD-hide] if it were a

derived reduplication, is an adverb meaning 'secretly', while *chùk.chúk* [RED.CPD-pierce] means 'thorn':

(9)   *Chico, yù   dɔn   chɔp=àn   hàydháyd.*
      boy   2SG   PRF   eat=3SG.OBJ   secretly
      'Man, you've eaten it secretly.'

All other lexicalized reduplications belong to other syntactic (sub-)categories. For example, we find nouns like *pɔtɔpɔtɔ́* in (10) and the (attributively used) property item *katakatá*, a fossilized reduplication of *kata* 'scatter' in (11):

(10)   *Dan   say   gɛt   bɔ̀kú   pɔtɔpɔtɔ́.*
       that   side   get   much   mud
       'That place is very muddy.'

(11)   *Nà   wan   kàta-kata   man.*
       FOC   one   RED.CPD-scatter   man
   'He's a hectic man.'

The existence of lexicalized reduplications of categories other than dynamic verbs may be indicative of the existence of a less constrained productivity of reduplication in earlier stages of the language. This may be seen as supportive evidence for viewing reduplication as an expansive morphosyntactic strategy in emerging creole languages; one that makes up for the "lack" of (other types of) bound morphology. However, certain phonological cues (e.g. the presence of the labiovelar consonants /gb/ and /kp/, unattested in other word classes, as well as syllable structure) suggest that the vast majority of Pichi ideophones are not the fossilized outcomes of productive reiteration. Rather they are more or less established loans from African substrate and adstrate languages. Hence *pɔtɔpɔtɔ́* 'mud(dy) substance' has cognates in Akan *pɔtɔ* 'to mash', *mpɔtɔmpɔtɔ* 'a type of meal consisting of a mashed substance' (Ofori 2006: 50, no tonal notation provided) and in Niger-Congo languages further afield, e.g. Lingala *pɔtɔ* 'squash', *pɔtɔpɔtɔ́* 'mud', Van Everbroeck 1985: 167–68). I therefore assume that lexicalized reduplications consisting of English cognates like *hayd* (< 'hide') are "one-shots", i.e. creative neologisms based on substrate patterns (cf. e.g. Ibibio *dípé* 'hide', *Ǹdípé-Ǹdípé* 'secretly'; Kaufman 1968: 141). It should also be pointed out that lexicalized reiterations are common in languages not generally considered to be creoles, amongst others Pichi's lexifier language English (cf. Aboh et al. this volume, Section 1).

4.   Reduplication

Reduplication in Pichi involves a complex morphological operation consisting of the two distinct and simultaneous processes of self-compounding and tone deletion. In the process, the verb is reduplicated and the high tone over the first,

reduplicated component is deleted and replaced by a default low tone. The tonal process inherent to reduplication is formally no different from compounding, except that the first component is a copy of the root. Words that have been subjected to reduplication can therefore be analyzed as special types of compounds. The application of the morphological process of tone deletion to the first component of the reduplicated verb suggests that Pichi reduplication is right-headed and involves preposing of the reduplicant to the base. As a productive derivational process, reduplication is only predicative in nature and solely attested with dynamic verbs. In the following, I first present the morpho-phonological characteristics of reduplication and the distribution of reduplicated forms. I then look at semantic aspects of reduplication.

Reduplicated verbs have virtually the same tonal configuration as compound nouns. Figure 1 presents the pitch trace of the compound noun *wàch-man* 'watchman', consisting of two monosyllabic components, namely the verb *wach* 'watch' and the noun *man* 'man'. As in all compounds, the lexical H-tone over the initial component (*wach*) has been deleted and replaced by a default L-tone (henceforth indicated by an X in the gloss). In contrast, the H-tone over the final component (*man*) remains unchanged. The resulting compound noun therefore features an X.H pitch configuration, which is pronounced as L.H. Note that the compound in Figure 1 is in sentence-medial position. Hence, *man* 'man' does not exhibit a fall, as it would if it were in sentence-final position:
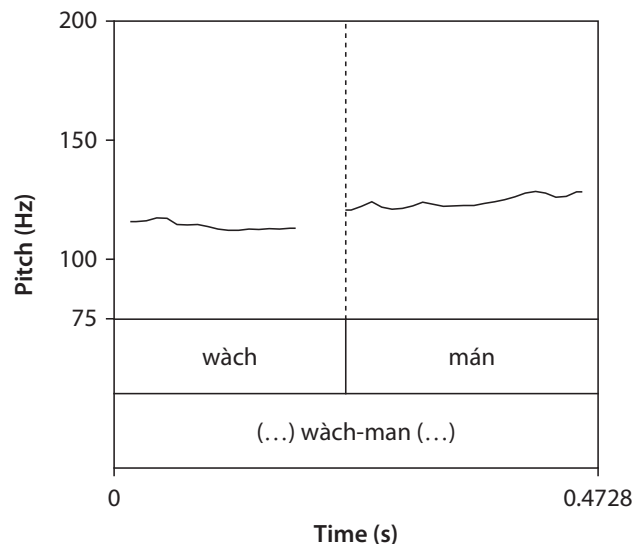
Wàch-man
L-H
watch.CPD-man
'Guard'

**Figure 1.** Monosyllabic components
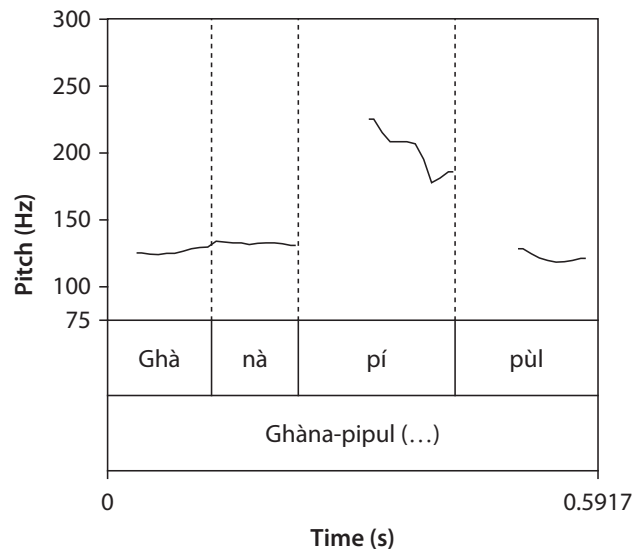
Ghàna-pipul
L.L-H.L
PLACE.CPD-people
'Ghanaians'

Figure 2. Bisyllabic components

Figure 2 above exemplifies the formation of a compound with two bisyllabic components, namely the place noun *Ghana* 'Ghana' and the common noun *pipul* 'people'. *Ghana* is a pitch-accented word with an H.X pitch configuration. Hence it bears a lexical H-tone over the first syllable. The second syllable of *Ghana* is toneless, hence bears a phonetic L-tone. Once more, the process of compounding involves the deletion of the H-tone over *Ghana*, the initial component of the compound. Conversely, the noun *pipul* retains its original H.X pitch configuration. The pitch contour graphically shows the rise over the first syllable of *pipul* by more than a 100 Hz above the level of the L-toned syllables of the compound. As expected, the second syllable of *pipul* retains its default low tone as well. It remains at roughly the same pitch level as the two L-toned syllables of *Ghana*.

Reduplicated verbs exhibit virtually the same pitch configuration as the two compound nouns in Figure 1 and Figure 2. The pitch trace of the reduplicated (and sentence-medial) monosyllabic *rɔn* 'run' in Figure 3 shows the X.H pitch configuration over the two identical components (even if the contour is relatively flat). This parallels the pitch trace over the compound *wàch-man* 'watchman' above. We must therefore assume that reduplication involves the same process as compounding: the lexical H-tone over the first component is deleted and replaced by an X, a default low tone:
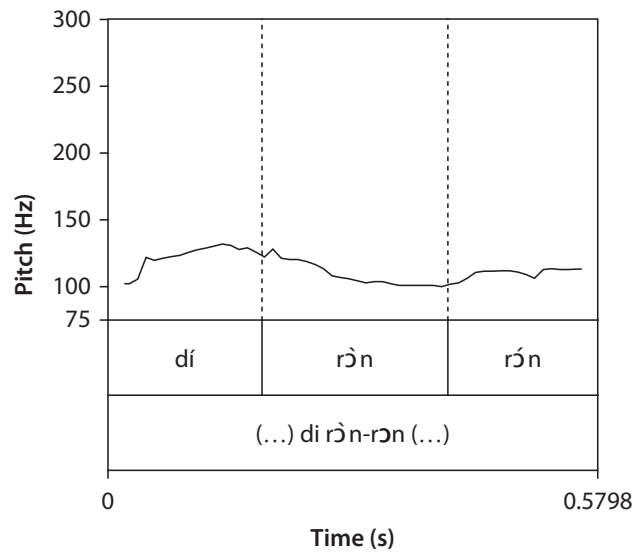
Dí   rɔ̀n-rɔn (…)
H   L-H
this   RED.CPD-run
'This running around (…)'

Figure 3. Monosyllabic reduplicated verb
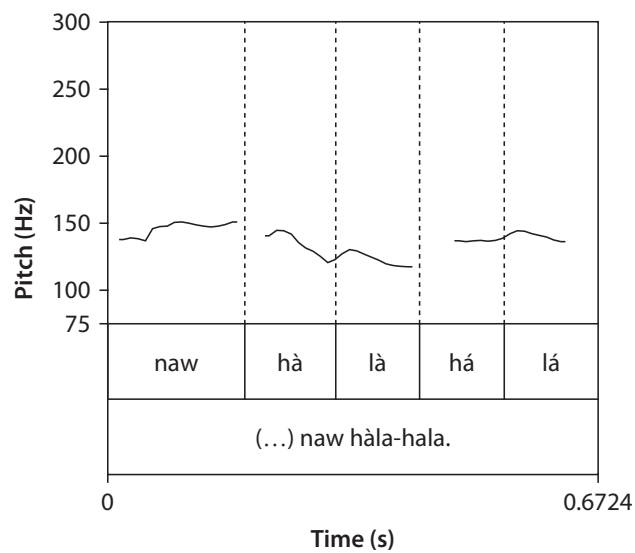
Naw   hàla-hala.
H   L.L-H.H
now   RED.CPD-shout
'Now (it was) constant shouting.'

Figure 4. Bisyllabic reduplicated verb

Likewise, the pitch contour over the bisyllabic reduplicated verb *hala* 'shout' in Figure 4 parallels that of the compound noun *Ghàna-pipul* 'Ghanaians' in Figure 2, even if the differences between the H and L tones are less pronounced in Figure 4. Here too, the H-tone over the first component of the reduplicative compound is erased and replaced by a default L-tone (hence an (X). At the same time, the pitch contour over the second component of the reduplicative compound in Figure 4 differs slightly from the pitch contour over the second component of the compound in Figure 2. Although the base is in sentence-final position in Figure 4, the toneless (hence L-toned) second syllable of the base does not exhibit the characteristic utterance-final fall. Instead, the sentence-final syllable stands at approximately the same pitch level as the preceding H-toned syllable of *hala*. As a result, we have a sequence of two phonetic L-tones over the reduplicant followed by a sequence of two phonetic H-tones over the base. Such a configuration over bisyllabic reduplicated verbs with an H.X configuration is the more common alternative. The less common alternative is for the second syllable of the bisyllabic base to feature a phonetic L-tone (realized as a falling tone) like the second syllable of *pipul* 'people' in Figure 2 above. This fact speaks to the conventionalized operation of H-tone spreading during reduplication; the H-tone of the first syllable of the base spreads to the second syllable due to emphatic stress. The succession of two identical tones over each component creates a segmentally and supra-segmentally symmetrical structure, which is in prosodic terms, no different from simplex XH words or XH compounds consisting of two monosyllables.

Reduplication is applied to the verb root. The reduplicated verb may appear in any syntactic position that a simplex form may be found in. This includes uses in which the verb does not function as the predicative nucleus of a clause. Sentence (12) features a reduplicated *rɔn* 'run' in a noun slot preceded by the demonstrative *di* 'this'. In (13), a reduplicated *waka* 'walk' appears as the second predicate of a serial verb construction:

(12) *Pero di **rɔ̀n-rɔn**   no dè gi no natin de.*
      but this RED.CPD-run NEG IPFV give NEG nothing there
      'But this running about aimlessly does not lead anywhere there.'

(13) *Yɛ́stàdé wì kan go **wàka-waka** mɔ.*
      yesterday 1PL PFV go RED.CPD-walk more
      'Yesterday we went strolling about again.'

The meanings engendered by reduplication are iterative-dispersive and may therefore be seen to express either temporal and/or spatial disaggregation (cf. Huber 2003:146 on the preference of "dispersive" over "distributive" as a function label for this kind of verbal reiteration). Pichi reduplication is "event-internal" (Cusic 1981:238); it denotes the reiteration of a single event on a single occasion,

consisting of repeated internal phases. Therefore reduplication does not express habitual aspect and is only found with dynamic verbs. I argue that reduplication is a derivational process, but one that may be functionally akin to inflection when used with a purely iterative sense. The following sentence exemplifies such a primarily temporal interpretation of reduplication. Compare the meaning of the reduplicated verb *chench* 'change' in (14).

(14) *Wetin yù dè **chènch-chench** nɔmba dèn so?*
      what 2SG IPFV RED.CPD-change number PL like.that
      'Why are you constantly changing (telephone) numbers like that?'

The iterative notion expressed by reduplication harmonizes with the meanings expressed by imperfective aspect. In fact, the data reveals a much stronger tendency for reduplicated predicates to co-occur with the imperfective aspect marker *dè* 'IPFV' than with any other TMA marker. Compare the reduplicated verb *rɔb* 'rub' in (13) which expresses iterative aspect in combination with the imperfective marker *dè* 'IPFV':

(15) *Nà us=kayn tin mek yù dè **rɔ̀b-rɔb** yù sɛf*
      FOC Q=kind thing make 2SG IPFV RED.CPD-rub 2SG self

      nia mi bìfó mì fambul?
      next.to 1SG.EMP before 1SG.POSS family

      'Why are you rubbing yourself up to me [getting all cozy with me] in front of my family?'

Nevertheless, reduplicated verbs may co-occur with any TMA marker that simplex forms may appear with. In (16), the reduplicated verb *tayt* 'be tight, tighten' appears with the potential mood marker *gò* 'POT':

(16) *À no want no natin we gò **tàyt-tayt***
      1SG.SBJ NEG want NEG nothing SUB POT RED.CPD-tighten

      mì skin.
      1SG.POSS body

      'I don't want [to wear] anything that would pinch me (in various places).'

The example above also shows that the temporal-iterative sense of reduplication may subsume a spatial-dispersive sense. Beyond that, reduplication may acquire the attenuative nuances of low intensity and casualty of the action denoted by the verb. The data suggests that an attenuative sense is likely to arise when the reduplicated verb is intransitive or a transitive verb is employed in an intransitive clause. In each case it is the cumulative meaning of the various elements of the clause that tilts the balance towards a particular reading of the reduplicated verb. Hence in (17), the intransitive use of the reduplicated verb *tɔn* 'turn', in concert with the

singular subject *è* '3SG.SBJ' (rather than a plural subject) favours a reading of low intensity. Further examples that involve attenuative nuances of low intensity or casualty are (12), (13), (15) and (16) above, as well as (20) below:

(17) *È   se   è   want kan   tɔ̀n-tɔn   fɔ   Guinea.*
      3SG.SBJ QUOT 3SG.SBJ want come RED.CPD-turn PREP PLACE
      'He said he wanted to come travel around (a bit) in Equatorial Guinea.'

The distribution of verbal reduplication in my corpus also suggests that it principally occurs in contexts of low transitivity, even if reduplication does not categorically function as a detransitivizing device. Preceding examples featuring reduplication for one part involve low transitivity locomotion verbs (i.e. *rɔn* 'run' in (12) and *waka* 'walk' in (13)) and other verbs denoting body movement (i.e. *rɔb* 'rub (oneself) (15), *tɔn* 'turn' in (17) and *jump* 'jump' in (28) below). Further, where reduplicated verbs (irrespective of their semantic class) do appear in transitive clauses, these clauses involve less prototypical transitivity. Hence they may feature reflexive and reciprocal constructions (i.e. (16) above and (19) below), more or less lexicalized verb-noun collocations (i.e. *chench nɔmba* 'change one's telephone number' (14) above) or verbs followed by quantifier phrases like *ɔl say* 'all place' = 'everywhere'. The latter type of phrase functions as an adverbial indefinite pronoun and is therefore not a prototypical undergoer object either:

(18) *Dèn dè   lɔ̀k-lɔk   ɔl   say.*
      3PL   IPFV RED.CPD-lock   all side
      'They're constantly closing every place.'

(19) *Dèn kìn dè   chàp-chap   dèn sɛf kɔtlas ò.*
      3PL HAB IPFV RED.CPD-chop 3PL self cutlass SP
      '(Mind you) they have the habit of chopping each other up with cutlasses [referring to political violence in northern Nigeria].'

Where reduplicated verbs with a higher degree of prototypical transitivity do occur, they are found in intransitive clauses, i.e. they are not followed by an object. In the following sentence, the reduplicated Spanish-origin verb *pica* 'snip, cut up' appears without a patient object:

(20) *À   bìgín dè   pìca-pica,   wì fray patata, wì*
      1SG.SBJ begin IPFV RED.CPD-cut.up 1PL fry potato 1PL

      fray plàntí.
      fry   plantain
      'I began to (casually) snip (the trimmings), we fried potatoes, we fried plantain.'

A question to be addressed is whether Pichi reduplication should be seen as derivational or inflectional. Traditionally, a morphological process is classified as derivational if it either has a category-changing effect, i.e. creates a new lexeme, or in the absence of a category change, induces a substantial meaning change in the lexeme (cf. Bauer 1988:77ff). An inflectional process, on the other hand, should be characterized by lexical generality, i.e. produce a new form of the same lexeme and involve a minimal semantic modification (cf. e.g. Bybee 1985:83ff). The iterative sense produced by reduplication in examples like (14) and (15) above renders an iconic "more of the same" meaning (Lakoff & Johnson 1980:128; Kouwenberg & LaCharité 2003). Hence in such instances reduplication could be argued to possess sufficient lexical generality to warrant being seen as inflectional. However, we have also seen that such iterative uses also acquire non-predictable, non-iconic attenuative meanings. These are thus diametrically opposed to "more of the same", iterative meanings.

An argument in favour of derivation in addition to lack of generality and predictability in meaning is the distribution of reduplication. The process appears to be limited in productivity to dynamic verbs in Pichi. It is therefore not attested with stative and inchoative (resultative) verbs. A final feature that speaks for derivation is the lack of obligatoriness of reduplication for the expression of iterative aspect. The iterative sense can be expressed by the TMA marker *kìn* alone. The focal function of *kìn* is the expression of habitual aspect, but in a small number of cases in my data, this marker also expresses iterative aspect by itself without additional reduplication. The speaker in the two consecutive sentences in (21), explains how she repeatedly feels the temperature of her sick grandchild:

(21) *We à   kìn mek so,   à   no dè   fil hɔt,*
      SUB 1SG.SBJ HAB make like.that 1SG.SBJ NEG IPFV feel heat

      pero we à   kìn tɔch ìn   fut, ìn   han de,
      but SUB 1SG.SBJ HAB touch 3SG.POSS foot 3SG.POSS hand there

      nà so   dèn [ko:::l].
      FOC like.that 3PL be.cold.EMP

      'When I would do like this, I wouldn't feel heat, but when I would touch his leg, his hand there, that's how terribly cold they were.'

At this point, it is important to underline the fundamental differences between Pichi verbal reduplication and the type of verbal reiteration described in the non-AEC creoles in this volume. For one part, Schang (this volume) convincingly shows that São Tomense verbal reiteration can be analyzed in terms of syntactic concatenation alone, hence without recourse to a morphological process. We will see in the following section that Pichi also has a largely syntactic type of verbal reiteration whose functional properties are distinct from reduplication. Hence, the

various functions of verbal iteration are only realized by a single non-derivational process in São Tomense while Pichi features a neat formal-functional differentiation of verbal reiteration.

Secondly, Pichi reduplication also differs from verbal reiteration in the French-lexifier creole Morisyen. Henri (this volume) demonstrates for Morisyen that the central meaning engendered by verbal reiteration is an attenuative one while the presence of secondary senses such as iterative and cumulative is conditioned by the lexical aspect of the verb. In Pichi, the reverse holds: Reduplication has been shown to typically produce an iterative sense, a meaning that has been interpreted as iconic by Kouwenberg & LaCharité (2003), Aboh et al. (this volume) and Aboh & Smith (this volume). An attenuative sense arises in contexts of syntactic intransitivity in Pichi and this reading may therefore be seen as a by-product of a lack of clausal telicity. The Pichi and Morisyen data therefore show an interesting parallel. Where Morisyen interpretations of reduplication hinge on lexical aspect, Pichi appears to show similar effects as a result of clausal aspect. An important difference between Morisyen and Pichi reduplication is, however, that the latter is more restricted in its distribution. It is only attested with dynamic verbs, even if this lexical aspect class encompasses the vast majority of Pichi verbs (including the large class of labile verbs that alternate between dynamic and resultative readings). In contrast, Morisyen verbal reiteration may also be applied to stative verbs (e.g. *krwar* 'believe') as long as they may be interpreted as gradable.

The differences between Pichi, São Tomense and Morisyen suggest that the individual contact trajectory of the creole and the family it belongs to is largely responsible for the emergence of the various types of reiteration and their characteristics in these languages. I will show further below that Pichi verbal reduplication patterns with that found in its West African sister languages and related Caribbean AECs. I argue in Section 6 that these family-wide similarities can be accounted for by substrate and adstrate influence rather than by a phylogenetic peculiarity common to creole languages.

5.   Repetition

Repetition in Pichi is a semi-morphological operation during which an item is duplicated or triplicated (more repetitions are not attested in the data). Although a pause or boundary tone is not normally inserted between the repeated elements, repetition does not involve the tonal process that characterizes compounding and reduplication. Hence every repeated constituent retains its lexically determined tone pattern. I argue further below that the process may be called inflectional, but do so with reluctance: there appears to be a fuzzy boundary between repetition as

a morphological, word-level process and the pragmatically determined reiteration of phrases, even whole clauses by asyndetic adjunction.

The pitch trace in Figure 5 exemplifies repetition. It contains the triplicated manner adverbial *sen* '(in the) same (way) (pronounced [sjén]). As can be seen, the first and second occurrences of *sen* do not bear a lower pitch than each following one. In fact, the opposite is the case: each reiteration is slightly higher in pitch than the following one, and lower than the preceding one. The tonal declination in repetitions is caused by downstep, a phenomenon that we encounter in all successions of adjacent H tones in Pichi (cf. Yakpo 2009b: 92–93). This shows that repetition does not involve any special tonal process at the word or phrase-level, but rather a regular clause-level tonal process encountered with other, non-reiterated constituents as well:
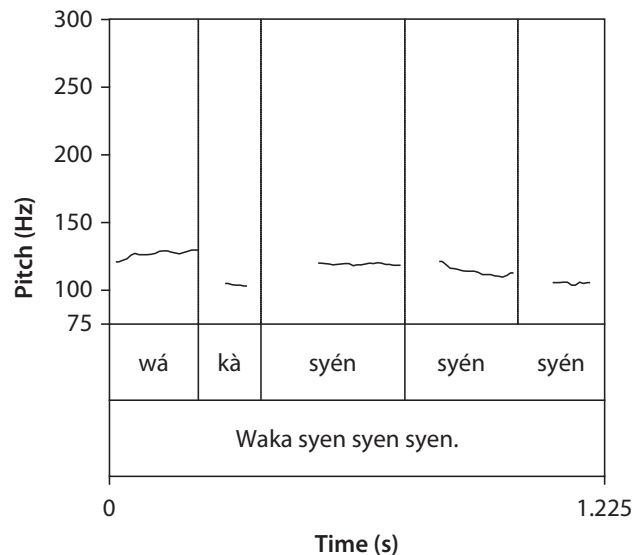
Waka sen   sen   sen.
H.X   H   H   H
walk   same   same same
'Walk exactly in one line.'

Figure 5. Repetition

I suggest that the core meaning of repetition is augmentative, hence an iconic "more of the same". Repetition therefore produces a range of mostly emphatic, intensifying nuances, whose exact meanings vary with the word class of the item repeated. The expression of plural number does not lie within the functional range of repetition. Repetition is much wider in its application than reduplication. My data features the repetition of nouns, verbs, property items functioning as pre-nominal modifiers, adverbs and ideophones. Very often, the word in question is

triplicated rather than duplicated for increased emphasis or dramatic effect. The following three sentences exemplify the use of intensifying repetition for emphasis with the temporal adverb *naw* 'now' (22), the locative adverbial *dɔn* 'down' (23), the common noun *fambul* 'family' and the attributively used property item *bɔ́kú* '(be) much' (24). Note the triplication of *dɔn* 'down' in (23) and *fambul* 'family' in (24):

(22) *À   dè   kɔ̀mɔ́t   nà   tɔn   **naw naw**.*
      1SG.SBJ IPFV come.out LOC town now now
      'I coming from town right now.'

(23) *Bɔ̀t in   sìdɔ́n **dɔn   dɔn   dɔn**   yàndá.*
      but   3SG.EMP stay   down down down yonder
      'But he lives far down over there.'

(24) *Fɔ̀   mì   **fambul fambul fambul** à   no   sàbí*
      PREP 1SG.POSS family family family 1SG.SBJ NEG know

      ***bɔ̀kú   bɔ̀kú**   pɔsin   dɛ̀n.*
      much   much   person PL
      'Within my immediate family I don't know really know a lot of people.'

Another type of repetition that may be seen as iconic involves numerals and renders a distributive sense. In (25), the repeated numeral *tu* 'two' functions as a depictive modifier to the clause and is oriented towards the plural object pronoun *dɛn* '3PL.EMP'. In Pichi, numbers higher than five are normally expressed through the corresponding Spanish numeral. Sentence (26) features the triplicated Spanish numeral *quinientos* 'five hundred':

(25) *Yù   fit   kyɛr   dɛn   **tu   tu**.*
      2SG can carry 3PL.EMP two two
      'You can carry them in pairs.'

(26) *À   bay=àn   **quinientos   quinientos   quinientos**.*
      1SG.SBJ buy=3SG.OBJ five.hundred five.hundred five.hundred
      'I bought them for five hundred (Francs) each.'

Examples (22)–(26) show the large variety of syntactic categories that may be subjected to repetition. Nevertheless, nouns as in (24) above are very rarely found to be repeated while repeated property items functioning as prenominal attributive modifiers like *bɔ̀kú* in (24) above, numerals like *tu* 'two' in (25) and time expressions like *naw* 'now' in (22) are found more frequently in the corpus. This distribution points towards the fact that repetition is strongly associated with gradable, hence quantity and quality denoting lexical items. In this context, the distributive sense yielded by the repetition of numerals is interesting since an augmentative sense could conceivably produce intensive-augmentative meanings like 'just two'

and 'exactly five hundred' in the two examples above. Nevertheless, a distributive sense appears to be equally natural to the construction in as far as the quantification expressed by the numeral is scattered over each referent. This view is supported by the meaning of a reduplicated non-numeral quantifier like *smɔl* 'a bit, few' in the following example. Here both partitive, hence quantity-gradable, as well as distributive interpretations are possible with duplications and more repetitions. In that, Pichi differs from São Tomense. In the latter language, a contrastive (hence intensive-augmentative) reading of a quantifier like *mina* 'little' is only possible in the event of duplication, while triplication only renders a distributive sense (cf. Schang this volume, Section 2.5)

(27) *Yù fit kyɛr dɛn **smɔl smɔl (smɔl)**.*
      2SG can carry 3PL.EMP few few few
      'You can carry them little by little/one after the other.'

A further distributional characteristic of repetition is of interest. There is not a single instance in my corpus of a repeated property item that functions as a predicate, e.g. ?*è big big* 'it is very big'. Instead predicatively used property items are emphasized through various other means at the disposal of the language. One common way of emphasizing quantity and quality denoting predicates is by the use of suprasegmental modification, as with the property item *kol* 'be cold' in (21) above: the vowel is lengthened and receives an extra-high pitch, which indicates a larger amount of intensity or dimension of the property specified for the referent. This distribution of repetition is peculiar, since we should assume that dimension and other quantity-denoting predicates should be susceptible to augmentative reduplication. Yet this apparent contradiction may be explained. Just like reduplication, the corpus only contains instances of repetition applied to dynamic verbs, to the exclusion of non-dynamic property concepts. Dynamic verbs denote situations that lack relatively time-stable qualities, so "more of the same" implies that repetition produces non-time stable quantity-related meanings. Like reduplication, verbal repetition is therefore only iterative, not augmentative. With prototypically dynamic verbs, repetition therefore produces a focus on inherent temporal boundaries. There is thus no restriction on the concurrence of reduplication and verbal repetition. In (28), reduplication and the simultaneous repetition of the reduplicated sequence collude to give an emphatic iterative and dispersive sense to the clause:

(28) *Sɔntɛ́n è bìn dè **jùmp-jump** **jùmp-jump**,*
      perhaps 3SG.SBJ PST IPFV RED.CPD-jump RED.CPD-jump

      pero è stret naw.
      but 3SG.SBJ be.straight now
      'Let's assume she was constantly jumping around but she's upright now.'

Finally, it should be noted that there is a fuzzy boundary between what we have so far interpreted as the morphological repetition of single words and the syntactic repetition of phrases and even entire clauses by simple adjunction for purely pragmatic ends. One way of differentiating the former from the latter type of repetition is the presence of an intonation break – either a pause or a declarative boundary tone (an utterance-final L-tone) between the repeated elements, as in (29):

(29)   *Nɔ,   ìn   estómago,   ìn   estómago,   ìn   estómago.*
NEG   3SG.POSS stomach   3SG.POSS stomach   3SG.POSS stomach
'[She would repeatedly say] no, (it's) her stomach, her stomach, her stomach.'

The borderline between the asyndetic concatenation of phrases and inflectional repetition is far more brittle once there is no prosodic boundary-marking. The three-fold repetition of a verb phrase consisting of the dynamic verb *kɔt* and its clitic object pronoun =*àn* in (30), yields an iterative sense that is virtually indistinguishable from the one engendered by reduplication in examples like (14) and (18) above. Yet, each reiteration could theoretically be separated from the following one by a pause or boundary tone if the speaker chose to do so.

(30)   *Dì   de   yù   bwɛl   jakato,   yù   kɔt=àn   kɔt=àn*
DEF   day   2SG   boil   bitter.tomato   2SG   cut=3SG.OBJ   cut=3SG.OBJ

kɔt=àn   yù   bay   wan   sardina.
cut=3SG.OBJ   2SG   buy   one   sardine.
'The day you boil bitter tomato, you cut it up into small bits (and) you buy a sardine.'

Ultimately, repetition should be seen as a continuum ranging from relatively morphologized to largely syntactic processes. The latter would encompass the pragmatically-oriented kind of phrasal reiteration contained in (29) above. The former would include, in particular, the repetition of numerals and property items. For example, the highly conventionalized repetition of the dimension-denoting property items *big* '(be) big' and *smɔl* '(be) small' renders the regular meanings of 'huge' and 'tiny', as in the two following examples:

(31)   *À   dè   si   big big   faya.*
1SG.SBJ   IPFV   see   big big   fire
'I was seeing a huge fire.'

(32)   *È   dè   sɛl   è   dè   put   smɔl   smɔl   wan   fɔ   kɔna.*
3SG.SBJ   IPFV   sell   3SG.SBJ   IPFV   put   small   small   one   PREP   corner
'She's selling (and) she's saving tiny amounts (of money)'

Rather than being particularly common to "creoles" as a presumed typological class of languages (e.g. Bakker 2003b, 2011), repetition with an iconic, augmentative sense of the kind described in this section appears be cross-linguistically common. It is, for example, also encountered in extensively documented languages like English and French, even if somewhat understudied (cf. Aboh et al. this volume, example 10(a)–(d), Ghomeshi et al. 2004; Cadiot & Nemo 1997). Nevertheless, even in such show-case examples of iconicity as in the sentences above, there appears to be enough leeway for the emergence of language-specific meanings of iconic reiteration. For example, the reiteration of the noun *fambul* 'family' in (24) renders more of the proto-typically same thing, rather than a plural sense, hence 'my real family' instead of 'my family members' (*fambul* can also mean 'family member' in Pichi) (cf. Cohen this volume, and Horn 1993 for a similar effect in Hebrew, as well as Ghomeshi et al. 2004 on "contrastive reduplication" in English). There is therefore a need for more studies of iconic reiteration in individual languages.

An open question is how much the form and functions of Pichi repetition reflect ad- and substratal patterns. The iconic nature of Pichi repetition, i.e. the full copying of the base without an additional morphological operation and the emphatic and iterative meanings that it produces make this a difficult question. The widespread existence of this kind of reiteration in other linguistic areas of the globe would require a careful assessment beyond the scope of this paper in order to distinguish between adstratal, areal and universal, iconicity-induced patterns.

6. An areal view on Pichi reduplication

This section places Pichi reduplication within an areal and genetic context. I show that the reduplication of verbs in Pichi follows a morphophonemic template that is widespread in the linguistic area that the language belongs to and that Pichi reduplication also fits into an areal tendency with respect to its functions. I base this section on the hypothesis that Pichi reduplication with its tonal morphology is too distinct an operation to have arisen through internal development alone. I conclude that the form and functions of Pichi reduplication have been influenced to no small degree by adstrate (and substrate) patterns that can be found in a linguistic area that I define as "West Africa". I also suggest that adstratal pressure from English and the lack of a continuing African adstratal input has given Caribbean verbal reiteration a character distinct from that of Pichi.

I do not wish to exclude *a priori* the possibility of lexifier influences on the forms and functions of reiteration in Pichi. Thanks to comprehensive studies like

Ghomeshi et al. (2004) our understanding has broadened of seemingly "exotic" reduplication patterns in informal English (and in the non-normalized varieties of other European languages like French, cf. Aboh et al. this volume). There is no reason to assume that such patterns were not already in use when English was taking part in the creation of Pichi's ancestor. Yet the evidence is greatly in favour of a substrate and adstrate input into the present form and functions of reduplication in Pichi, rather than a lexifier input. One piece of evidence is formal: Verbal reduplication in English shows a stress pattern that is diametrically opposed to the prominence pattern found in Pichi reduplication (cf. Horn 1993:48). Additional evidence is functional: The meanings rendered by verbal reduplication in Pichi manifest a high degree of grammaticalization. English verbal reduplication is entirely syntactic in form and pragmatic in function.

I limit the analysis in this section to reduplication. We should expect this type of reiteration with its less iconic meanings to be expressed through processes that are correspondingly more grammaticalized and formally more complex than mere reiteration by itself. In the absence of a broader typological survey of the morphophonemics of reiteration in the linguistic area, the conclusions drawn from the data presented below can only be tentative and intuitive, and too weak to count as conclusive evidence. Aside from that, the comparison presented here must be seen as exploratory due to methodological shortcomings: Only a small number of languages, and only those that feature the relevant phenomena are included. Nevertheless, I consider it to be non-trivial that these phenomena are found in a cross-section, however small, of genealogically unrelated and distant languages of "West Africa". I therefore suggest that the forms and functions of Pichi reduplication probably fit into a wider areal pattern and that the question deserves a more detailed investigation.

The linguistic area which I henceforth refer to as "West Africa" is partially coterminous with the corresponding politico-geographical entity. The area is meant to encompass Africa south of the Sahara and north of the Bight of Biafra, and the region eastwards from Senegal as far as north-western Cameroon. The area includes the following major families of the Niger-Congo phylum (roughly from west to east): Mande, Kru, Gur, Kwa, Dogon, West and East Benue-Congo (excluding Narrow Bantu) and Adamawa. Likewise, the area includes languages of the Nilo-Saharan and Afro-Asiatic phyla, from which examples will also be drawn in the following. Not only did a large proportion of the population that created the Afro-Caribbean English-lexifier Creoles originate in this region (cf. e.g. Curtin 1969; Rodney 1975:79ff). This is also the region where the African AECs are presently spoken and which therefore constitutes the contact zone of the African AECs and languages from the families cited above. Beyond that, the areal-typological unity of a linguistic area corresponding in varying degrees to "West Africa" has

long been proposed in the literature (cf. Güldemann 2008 for a recent discussion, also Westermann 1911; Wolff & Gerhard 1977; Jungraithmayer 1980).

Pichi reduplication fits into an areal pattern in two ways. First, in the following sample of (tonal) languages of "West Africa", a suprasegmental process of tone deletion and replacement similar to the one found in Pichi accompanies the formation of compounds. The tonal processes underlying compound formation are often highly complex and varied in individual languages. Yet a recurring pattern is for the first component of a compound to surface with a tone that is lower (irrespective of its lexically assigned tone) than that of the second component. In prosodic terms, this renders a nonprominence-prominence pattern over the resulting compound. This pattern can also be found in all related African AECs and has been described for Krio (Fyle & Jones 1980: xxxiv; Jones 1990: 119) Ghanaian Pidgin English (Huber 1999: 242–43, 2003: 148), and Nigerian Pidgin (Faraclas 1996: 251–52). I therefore suggest that Pichi reduplication is a feature inherited from Krio.

The examples in (33) illustrate the phonetic outcome of nominal compounding that we have already seen in Pichi: the lexical tone(s) of (the) first component(s) of the compound are lowered, while (a segment within) the second component bears a higher relative pitch. We find this pattern in Akan (Kwa; Marfo 2005: 73) and Bobo (Mande; Morse 1976: 151). In Jamsay (Dogon; Heath 2008: 187, 15) an analogous pattern includes compounds and larger constituents, such as common NPs. The pattern is also found in Gwari (West Benue-Congo; Hyman & Magaji 1970: 29) and Kanuri (Saharan; Hutchison 1981: 68). Still, this pattern is far from uniform and we find diverging patterns of compound formation in many major languages of the region (a notable exception being Yoruba, cf. Awoyale 1974: 356ff). But the examples in (33) indicate a pattern in which the second component features one or more syllables with a higher pitch than any found on the first component and thereby bears the prosodic peak of the construction.

(33)

Language	Components			Compound	
Akan	àbɔ́foɔ́, ɛ̀dáí	'messengers, house'		àbɔ̀fò-dáí	'guest house'
	sìká, kɔ̀kɔ́ɔ́	'money, red'		sìkà-kɔ̀kɔ́ɔ́	'gold'
Bobo	vàgàká, lāgā	'corn, fields'		vàgàkā-lágà	'corn fields'
	pī, zɔ̀gɔ̀	'to cover, cover'		pī-zɔ́gɔ̀	'blanket'
Jamsay	tɔ́rɔ́, ñɛ̌, -m	'mountain, woman, -PL		tɔ̀rɔ̀-ñɛ̌-m	'mountain women'
	úró, dáɣá, pírú	'house, small, white'		ùrò dàɣà pírú	'small white house'
Gwari	knú, ōnyá	'sell, thing'		nyà-knú	'selling'
	gyè, ōnyá	'sharpen, thing'		nyà-gyé	'sharpening'
Kanuri	cî, kùndúlì	'mouth, hair'		cì-kùndùlí	'moustache'
	dágɔ̀l, bùlóngú	'dog, type of tree'		dàgɔ̀l-bùlóngú	'baboon'

Pichi appears to conform to an areal pattern with respect to a second characteristic as well. In all the languages listed above verbal reduplication involves the same suprasegmental process as compounding, as shown in (34) below. Additional languages have a Pichi-type reduplication without featuring the corresponding process in compounding. Hence a prominent pattern of verbal reduplication in Kroumen Tépo (Kru; Thalmann 1987: 25–26) involves polar tone sequences in which the high-toned second component retains its lexical tone, while the partial reduplicant acquires a tone one notch lower. The same holds for Akan (Kwa): in a subtype of reduplication, low-toned verbs acquire high tones while the preceding partial reduplicant bears a low tone (Christaller 1964 [1875]: 65ff). Reduplication accompanied by tone lowering over the first component appears to be particularly common in Kwa and is the regular pattern in Ewe (field notes) and Ga (Kropp Dakubu 1999: 33, 55). In Bobo (Morse 1976: 146), a lexical high tone over the first component of a verbal reduplication surfaces with a mid tone, while the second component retains its high tones. In Jamsay (Heath 2008: 356), the dominant pattern of verbal reduplication involves the prefixation of a low-toned reduplicant, as with the perfective reduplications below. A similar pattern can be observed in Kanuri (Hutchison 1981: 74) where a high-toned suffix attaches to the second component, as well as in Ngie (East Benue-Congo; Umenjoh 1997: 74) verbal reduplication, where the second component in a reduplication bears high tones over all syllables.

Yoruba (West Benue-Congo; Awoyale 1974: 356ff) is once more an exception to this pattern, and so is Gwari (Hyman & Magaji 1970: 31). Nevertheless, verbal reduplication in both languages conforms to the other languages cited with respect to its semantics. In virtually all of the genealogically disparate languages listed in (34), reduplication yields deverbal nouns, as can be seen by the translations provided:

(34)

Language	Simple		Reiterated	
Kroumen Tépo	lá	'kill'	lī-lá	'act of killing'
	hrɛ́	'exit'	hī-hrɛ́	'act of exiting'
Akan	pàm	'sew'	pè-pám	'sew (many things) repeatedly'
	sɔ̀rè	'pray'	sò-sɔ́ré	'pray repeatedly'
Ewe	kpɔ́	'see'	kpɔ̀-kpɔ́	'act of seeing, sight'
	dzó	'leave'	dzò-dzó	'departure'
Ga	bálà	'wrap'	bàlà-bàláí	'wrap up repeatedly'
	fútù	'mix'	fùtù-fútú	'act of mixing, mixture'
Bobo	sɔ̀	'cut'	sɔ̀-sɔ̄	'chop up'
	tìgè	'jump'	tìgè-tīgē	'jump around'
Jamsay	cé:né	'be good'	cì-cé:nè	'(it) has been good'
	píné	'be shut'	pì-pínè	'(it is) kept shut'

Kanuri	kòm	'count'	kòm-kòmí	'calculations'
	sáp	'collect'	sàb-sàwí	'collection'
Ngie	sà	'(be) tall'	sài-sáy	'(be) very tall'
	dɔ̀tɔ̀	'(be) dirty'	dɔ̀tɔ̀i-dɔ́tɔ́	'(be) very dirty'
Yoruba	ṣè	'cook'	ṣí-ṣè	'act of cooking'
	lọ̀	'go'	lí-lọ̀	'act of going'
Gwari	knú	'sell'	knú-knŭ	'act of selling'
	gyè	'sharpen'	gyè-gyè	'act of sharpening'

In a good number of genetically diverse West African languages, deverbal nouns, whether derived through reduplication or through other means, also appear in progressive/imperfective constructions that represent the end-point of a location-to-aspect grammaticalization channel (cf. Anderson 1971:15ff; Heine et al. 1991: 36–37). The formation of deverbal nouns through reduplication is productive in the entire Gbe group of the Kwa family of languages. The process is found in Gungbe (cf. Aboh & Smith this volume, Section 1) and in Ewe, for example. In the latter language we not only find the typical nominalizing function of verbal reduplication involving the characteristic tone replacement in the reduplicant (cf. (34) above). The Ewe progressive construction also illustrates the use of the reduplicated deverbal noun in a grammaticalized progressive construction, as in the following example:

(35) *Kòfí   lè   sì-sí-ḿ.*
      NAME be.at[PRS] RED-run-PROG
      'Kofi is running (away).'   (Ameka 1991:42; gloss adapted)

In (35) above, a verbal noun *sì-sí*, derived from the verb *sí* 'run (away)' co-occurs with the locative copula *lè* and the bound progressive morpheme *ḿ* in an aspectual auxiliary construction expressing progressive aspect. The morpheme *ḿ* is diachronically related to the Ewe postposition *mé* 'inside, inner part'. Hence a diachronically informed literal translation of the construction would give 'Kofi is located in running (away)'. During the derivational process, the verb is duplicated and the tone over the first component deleted and replaced by a low tone. The reduplicative pattern in Ewe parallels that found in Pichi structures like (18) above. There is some morphophonemic variation in the formation of deverbal nouns in Gbe, since Gungbe apparently does not feature a tone replacement over the first component (cf. the tonal notation of *kúkú* in Aboh & Smith this volume, Section 1). However, the LH pattern seems to be a majority pattern and is also found in Gengbe (cf. Aboh & Smith this volume, Footnote 12).

A question that comes to mind in this context is whether Pichi verbal reduplication also produces a kind of verbal noun, or at least features some nominal

characteristics that set it apart from the non-reduplicated, simplex form. This question is not easily answered because Pichi makes use of conversion in order to derive deverbal nouns. A simplex verb can therefore appear in the syntactic position of a noun without undergoing an overtly expressed derivation (Yakpo 2009b: 128–29). However, one distributional characteristic nevertheless points to the possibility of a decreased verbiness of the form. My data reveals a stronger tendency for reduplicated verbs to appear in nominal slots than corresponding simplex forms. Thus verbs in argument positions are more likely to involve a reduplicated verb than not. In fact, my data does not contain a single instance of an underived simplex verb functioning as an action noun in an object position as does *jwèn-jwen* in (36) below. Hence the reduced clausal transitivity that seems to correlate with the use of reduplicated forms may also be taken to indicate reduced prototypical "verbiness" of the reduplicated verb:

(36) *Mi   wèt Rubi wì **mek jwèn-jwɛn,**   wì   bay pia,*
      1SG.EMP with NAME 1PL make RED.CPD-join 1PL buy avocado

      wì   bay sàdín, wì   bay tomates, wì   desayuna.
      1PL buy sardine 1PL buy tomatoes 1PL breakfast

      'Me and Rubi, we joined up, we bought avocados, we bought sardines, we bought tomatoes, we had breakfast.'

A second distributional aspect may also be adduced to argue for a decreased verbiness of the reduplicated form. In the vast majority of recorded instances, reduplicated forms with a predicative function co-occur with the imperfective aspect marker *dè* 'IPFV'. This means that a clause like (16) above is rare, in which a predicatively used reduplicated verb is specified for potential mood alone, without the additional appearance of the imperfective marker (verbs may be marked simultaneously for both categories). Obviously, the mutual attraction between imperfective marking and reduplication is intimately tied to the iterative meanings expressed by reduplication itself. But beyond that, we might speculate that the co-occurrence of reduplication and imperfective marking is also due to the possibility of a diachronic development of imperfective marking in Pichi via the same locative schema as in Ewe. Such a scenario has implicitly been proposed for Nigerian Pidgin by Faraclas (1996), in providing the literal translation of the following example involving imperfective aspect:

(37) *Fɔr vilɛj naw, à   **dè** fam, à   **dè** fish.*
      PREP village TOP 1SG.SBJ IPFV farm 1SG.SBJ IPFV fish
      Lit: 'while I am in my village, I am located (or existing) in the state of farming and in the state of fishing.'

                              (Nigerian Pidgin; Faraclas 1996: 49; glosses adapted)

Such a trajectory is in fact plausible, for the low-toned imperfective marker *dè* 'ɪᴘғᴠ' is segmentally identical to the high-toned AEC locative copula *de* 'ʙᴇ. ᴀᴛ'. The tonal difference between the two forms may have developed via the grammaticalization of the copula into an aspect marker in very much the same way as that of the high-toned lexical verb *go* 'go' into the low-toned mood/tense marker *gò* 'ᴘᴏᴛ'. In one possible scenario, the proto-language of Pichi and its sister languages could have had a progressive construction in which the use of a locative copula and a nominal reduplicated form was conventionalized, as in Gbe. With the increased grammaticalization of the construction, the simplex form might have come to replace the reduplicated form, with the latter retaining its semantically more specialized functions (cf. Migge 2003 for a similar proposal with respect to Eastern Maroon Creole, Surinam). One indication for the plausibility of such a scenario is the restriction of reduplication in Pichi to dynamic verbs.

The overall impression from the data presented above is that a nonprominence-prominence pattern in reduplicated verbs stands out as the only common cross-cutting feature in the areal diversity of (supra-)segmental processes associated with verbal reduplication. It therefore appears that Pichi and its African sister languages have retained and reinforced or acquired this type of reduplicative strategy through their continuing ad- and substratal contact with the languages of the region.

We would therefore assume *a priori* that the languages of the Caribbean branch of the AECs would only feature Pichi-style reduplication if it had been transferred from the substrates and maintained under superstrate pressure. In Jamaican Creole, the largest AEC of the insular Caribbean. Kouwenberg et al. (2003) and Gooden (2003b) suggest the existence of "inflectional" and "derivational" reiteration as the two formally and functionally distinct types of reiteration in Jamaican, as shown in (38) below.

(38)	Type	Simple		Reiterated	
	Inflectional	kata	'scatter'	kátá-kata	'scatter a lot'
		jala	'yellow'	jálá-jala	'very yellow'
		faya	'fire'	fáyá-faya	'scattered fires'
	Derivational	kata	'scatter'	kata-kata	'scattered'
		jala	'yellow'	jala-jala	'yellowish'
		faya	'fire'	faya-faya	'quick-tempered'

Both types of reiteration can be applied to verbs, adjectives and nouns alike. Inflectional reiteration produces "more of the same", hence augmentative meanings, while derivational reiteration renders diminutive-distributive meanings. We will not dwell further on the observation that the functions of both types of Jamaican

reiteration cut across the two Pichi reiteration types of repetition and reduplication and also include additional ones not available to Pichi (e.g. the adjectivizing function of derivational reiteration). Relevant from the formal perspective is that the two Jamaican types can also be distinguished in prosodic terms. In inflectional iterations involving a monomorphemic base, the entire first component bears stress. The reiteration thus has a high-low pitch pattern. In contrast, the first component in derivational iterations lacks stress and the entire reduplication carries a level pitch on both components (Gooden 2003b: 94–95). This means that Jamaican Creole has no prosodic pattern that corresponds to the Pichi low-high configuration encountered in reduplication.

The loss of lexical and grammatical tone and the development of strict stress-accent (i.e. cumulative syllable weight plus high pitch) in Jamaican (cf. Devonish 1989) may have been responsible for the disappearance of the nonprominence-prominence pattern found in Pichi, the African AECs in general, and the adstrate/substrate languages. In Jamaican, light word-final syllables may not bear primary stress (Gooden 2007: 70). I assume that this is why verbal iterations like the ones presented above may not bear stress on the second component if the first component carries no stress at all.

Support for the proposal that the absence of a nonprominence-prominence pattern in Jamaican iterations is indeed contact-induced comes from the English-lexifier creole Sranan, spoken in Surinam. This language has also lost lexical and grammatical tone – disregarding a residual tonal phenomenon (cf. Adamson & Smith 1994: 221). However, and presumably so due to the lack of contact with its lexifier English, Sranan has not fully discarded the African-style nonprominence-prominence pattern described above. Sranan has retained an intermediate system in which the tonal pattern found in African AEC verbal reduplications has been translated into a stress-based one. In terms of distribution, the Sranan types of reiteration seem to match those found in Pichi more closely than the Jamaican ones. All three productive Sranan types listed here are applied to predicates and thus parallel the restriction of reduplication to verbs in Pichi. I retain the function labels used by the authors:

(39) | Function | Simple | | Reiterated | |
|---|---|---|---|---|
| Diminutive/ | férfi | 'paint' | férfi-férfi | 'paint (a bit)' |
| imperfective | sríbi | 'sleep' | sríbi-sríbi | 'doze; sleep' |
| Augmentative | férfi | 'paint' | ferfi-férfi | 'paint a lot/too much' |
| Iterative | férfi | 'paint' | férfi-ferfi | 'paint several times' |

When turning to form, we see that the language employs three prominence patterns: even stress on both components (diminutive/imperfective), stress on the second component (augmentative) and stress on the first component (iterative).

At the same time, there is no complete form-function overlap with Pichi reiteration. For example, the Pichi high-low pattern renders iterative-dispersive-attenuative meanings while the Sranan unstressed-stressed pattern yields the opposite, namely augmentative meanings. Nonetheless Sranan features a formal exponent of the nonprominence-prominence pattern. Further, Sranan is the only language of the three creoles treated that features a maximal system with all three possible prominence permutations.

I suggest that this peculiarity of Sranan is linked to its contact history. Pichi and the African AECs have maintained a typologically West African type of reduplication through adstrate reinforcement. In turn, Sranan appears to have expanded its formal repertoire in iterations. It has done so by, on the one hand, retaining an originally tonal low-high contour from the substrate and transforming into a stress-based one. The retention of this prosodically "un-English" pattern must have been facilitated through the lack of adstatal contact with English since the formative period of Sranan. On the other hand, Sranan used the leeway offered by the departure from a tone system (presumably also caused by contact with the stress-accent language Dutch) in order to make use of additional prominence patterns. Yet lest we forget, the lack of overlap in form and function between Jamaican Creole, Sranan and Pichi reiteration also indicates a healthy degree of separate development in these three languages since the split from their common ancestor. How the separate trajectories of reiteration in these languages have been determined beyond common genealogical inheritance by differing degrees of substrate retention, adstratal contact with African and European languages and internal development respectively can only be determined by further research. These differences also suggest that there may be more to the morphosyntax of reiteration than meets the eye. Detailed studies of the underlying structure of constructions involving verbal reduplication in creole and non-creole languages such as Aboh & Smith (this volume) are therefore still needed (cf. also Aboh 2005a).

We have seen that there is a substantial form-function overlap between the languages of "West Africa" and Pichi with respect to the suprasegmental characteristics of verbal reduplication. The picture is however different if the segmental level is included in the analysis. Reduplication patterns in about half the languages listed in (34) involve partial reiteration – via segment alternation (e.g. Yoruba), segment alternation plus truncation (e.g. Akan and Jamsay) as well as (additional) affixation (e.g. Ngie). Reduplication in Pichi and its AEC sister languages could therefore be seen as formally less marked, hence requiring less rule processing, and therefore formally more iconic (cf. Kouwenberg 2004) than the reduplication patterns found in a good number of the languages of the linguistic area. Full reduplication is, however still widespread in "West Africa". The evidence is therefore

inconclusive as to whether "creolization" or substrate transfer is responsible for the existence of full rather than partial reduplication in Pichi.

7.   Conclusion

Pichi has been shown to possess four distinct types of reiteration. The formation of these types involves processes at different structural levels. Two processes were singled out for a more detailed analysis. Reduplication was analyzed as a complex morphological operation restricted to dynamic verbs involving reiteration and a simultaneous tone change. Repetition was analyzed as a semi-morphological operation that straddles the boundary between morphology and syntax. In view of its narrower distribution, higher morphological complexity, and potential to express non-iconic attenuative meanings, reduplication should be seen as typologically more marked than repetition (cf. also Kouwenberg & LaCharité 2003: 10ff).

The following figure represents the functions of reduplication and word-level repetition in Pichi. It shows that there is a functional overlap between the two types of reiteration with respect to dynamic verbs:
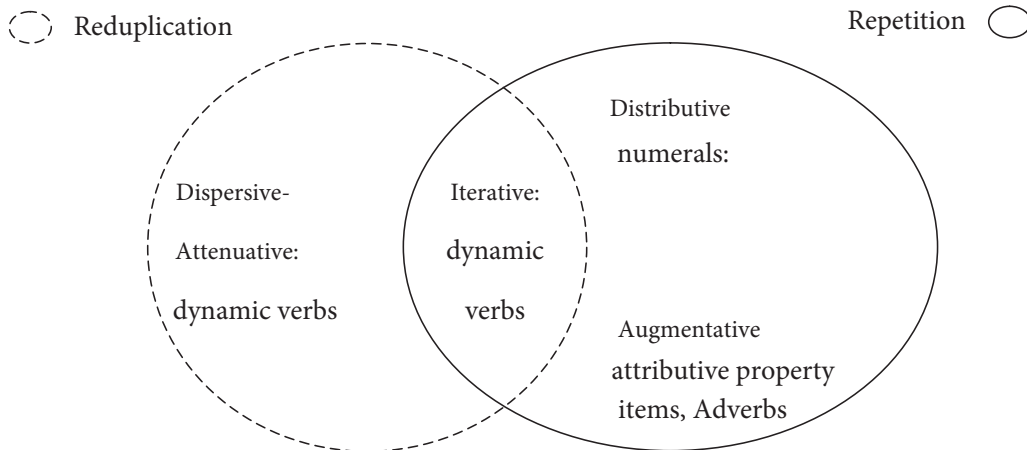

Figure 6. Functions of reduplication and repetition in Pichi

A cursory glance at verbal reiteration in a cross-section of African languages of diverse genealogical affiliations, including potential substrate languages shows that in formal terms, Pichi reduplication falls squarely within a pattern that appears to be areal in nature. Further evidence for an areally induced patterning of Pichi reduplication through substrate and adstrate influence is provided by the comparison with two of its sister languages in the Caribbean. We can therefore

conclude with some confidence, that Pichi reduplication, and by extension that of its African sister languages, appears to reflect a common, underlying areal current, both in terms of form and functions. It should be of interest to investigate how this pattern ties in with the distribution of headedness and the typology of word and constituent order across "West Africa". But an adequate treatment of this question would go well beyond the scope of this paper.

One question that still begs an answer is whether the pitch pattern found in the African AECs, the restriction to dynamic verbs, and its specific functions developed exclusively in contact with African adstrate languages in West Africa. Alternatively, these could be seen as substrate retentions from the formative period of the AEC proto-language. The West African type of reduplication would then have been reinforced and expanded in the African AECs through adstratal contact. The Caribbean AECs would have taken the opposite direction. The substrate features would have been progressively weakened through the isolation from West African languages, through contact with English and other non-African adstrates, and through independent development.

The close similarities between Pichi patterns of reduplication and the patterns found in the substrates and adstrates allow the conclusion that the emergence of this particular part of the grammar of the AECs was substrate-driven. Continuous contact with adstrate languages in the linguistic area of "West Africa" must have reinforced substrate patterns in the West African creoles. In the Caribbean creoles, the lack of adstrate contact and continuous contact with European superstrate languages has weakened the link with the linguistic area of "West Africa" and led to a partially idiosyncratic development of reduplication. I conclude that Pichi reduplication shows no signs of an exceptional iconicity, and that it is unsuitable for studying pristine features of the human language capacity. It appears then that reduplication and probably the entire functional domain of reiteration in the AECs reflects the contact trajectories of the individual languages. Due to various linguistic and non-linguistic factors, substrate features may dominate in one scenario as I have intended to show for Pichi reduplication. Sometimes the balance is more evenly distributed between substrates and a lexifier, as has been shown by Aboh & Smith (this volume) for reduplication in Saramaccan.

On a final note, I hope to have shown that the presence of genealogically related Afro-Caribbean English-lexifier Creoles on both sides of the Atlantic provides an ideal backdrop for studying individual features in very different contact settings. An approach informed by areal typology and language contact may allow us to disentangle genealogical inheritance, substrate retention, adstrate transfer and independent development in the AECs. Above all, it shows how regular language contact, more than anything else continues to shape the profiles of creole languages like Pichi, Jamaican Creole and Sranan.

Abbreviations

–	morpheme boundary	OBJ	object case
=	clitic morpheme boundary	PFV	perfective aspect marker
BE.AT/BE	existential-locative/identity copula	PL	plural
COP	copula	PLACE	place name
CPD	default low tone suprafix in compounds	POSS	possessive case
DEF	definite article	POT	potential mood marker
EMP	emphasis marker	PREP	associative preposition
FOC	focus marker	PRF	perfect marker
H	high tone	PROG	progressive aspect marker
HAB	habitual aspect marker	PST	past tense marker
INTJ	interjection	QUOT	quotative marker
IPFV	imperfective aspect marker	RED	reduplicant
L	low tone	SBJV	subjunctive marker
LOC	locative preposition	SG	singular
NAME	personal name	SP	sentence particle
NEG	negative particle	SUB	subordinator
NP	noun phrase	TMA	tense-mood-aspect
O	object	TOP	topic marker
ó	high tone	VP	verb phrase
ò	low tone	X	toneless syllable

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