

# A ‘mini’ relative clause analysis for reduplicated attributive adjectives\*

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## 1. Introduction

In Gungbe (Kwa), predicative adjectives follow the modified DP (1a). These adjectives show verbal properties: They combine with tense/aspect markers (1b–c) and undergo predicate clefting similarly to lexical verbs (1d–e).

- (1) a. Àvún lɔ́ kló      b. Àvún lɔ́ ná kló      c. Àvún éhè nò kló  
dog DET big      dog DET FUT big      dog this HAB big  
‘The dog is big’      ‘The dog will get big’      ‘Such dog gets big’  
d. Kló àvún lɔ́ kló tàùn      e. Gbó àvún lɔ́ gbó  
big dog DET big very      bark dog DET bark  
‘The dog is very BIG’      ‘The dog BARKED’

This pattern extends to most Gungbe predicative adjectives, except for adjectives denoting color, size, and shape. These take a verb, which combines with tense/aspect markers and undergoes predicate fronting, unlike the adjective (2).

- (2) a. [Àvún lɔ́] \*(dì) yù      b. Àvún lɔ́ ná \*(dì) yù  
dog DET resemble black      dog DET FUT resemble black  
‘The dog is black’      ‘The dog will turn black’  
c. \*Yù àvún lɔ́ dì yù      d. dì àvún lɔ́ \*(dì) yù  
black dog DET resemble black      resemble dog DET resemble black  
‘The dog is BLACK’      ‘The dog is BLACK’

Attributive adjectives occur between the noun and the determiner *lɔ́*, but the adjectives in (1a) must reduplicate (3a), unlike those in (2) which don’t (3b).

- (3) a. Àvún kíkíló lɔ́      b. Àvún yù(\*yù) lɔ́  
dog big.big DET      dog black.black DET  
‘The big dog’      ‘The black dog’

Assuming that combinations with INFL tense/aspect markers and predicate fronting are indications for verbhood, I further conclude that the element described in (1a) is a *verbal* predicate adjective from which the *reduplicated attributive adjective* (RAA) in (3a) derives. This paper focuses on these RAA's and tries to answer the question of their derivation.

With the idea that RAA's have a verbal (or predicative) source in mind, it is reasonable to tie the observed reduplication to other contexts where a verb must reduplicate. In Gungbe, such a context includes verb nominalization as in (4). Similarly, intransitives must reduplicate when put to progressive (5).

- (4) [Àzón wìwà] gbáú nò dó àwùtù mè  
 work do.do too.much HAB plant illness person  
 'Working too much/too much work makes one sick'
- (5) a. Àvún lɛ gbó b. Àvún lɛ tò [gbígbo]  
 dog DET bark dog DET PROG bark.bark.PRTL  
 'The dog barked' 'The dog is barking'

The reduplications in (3), (4), and (5) could be seen as a morphological process that creates an attributive adjective in (3a) and a nominalized verb or gerund in (4) and (5b). Contrary to this view, Aboh (2004a Chapter 6, 2005a) proposes that the bracketed sequences in (4) and (5b) represent a small clause whose subject position has an EPP feature that must be checked before spell out. It is shown there that this constraint triggers a special verbal INFL morphology in the form of verb reduplication, which is therefore conditioned by syntax. Section 2 summarizes this analysis of verbal reduplication as the background for the analysis of Gungbe RAA's in Section 3. Sections 4 and 5 extend the analysis to RAA's in Saramaccan and Mandarin Chinese. Section 6 is the conclusion.

## 2. OV order versus verbal reduplication in Gungbe

Examples (4) and (5) indicate that verbal reduplication is sensitive to aspect licensing and nominalization in Gungbe. This reduplication is in complementary distribution with OV order, again an aspect-sensitive configuration.

### 2.1 Reduplication in OV sequences

In Gungbe, like in most Kwa, a perfective sentence displays SVO order (6).

- (6) Súrù dà núsónú ná mì [Perfective]  
 Suru cook soup for me  
 'Suru cooked a soup for me'

However, examples (7a–c) show that certain aspects (e.g., progressive, purpose, prospective) require the direct object to precede the verb.

- (7) a. Súrù tò núsónú dà ná mǐ [Progressive]  
 Suru PROG soup cook for me.PRTL  
 ‘Suru is cooking a soup for me’  
 b. Súrù yì núsónú dà ná mǐ gbé [Purpose]  
 Suru go soup cook for me PRTL  
 ‘Suru went to cook a soup for me’  
 c. Súrù tò núsónú ná dà ná mǐ [Prospective]  
 Suru PROG soup PROSP cook for me.PRTL  
 ‘Suru is just about to cook a soup for me’

Beside OV order, the sequences in (7) involve a sentence-final particle: a floating low tone in (7a) and the particle *gbé* encoding purpose in (7b). Example (7c) shows that the prospective aspect marker *ná* can intervene between the object and the verb. Accordingly, OV sequences involve an IP-related projection that can host this aspect marker.

Assuming that the Gbe languages are of the type SVO, Aboh (2004a Chapters 2, 5, 6) argues that OV order derives from object fronting to a position higher than that occupied by the verb and the prospective aspect marker. This position must be filled by an overt phrase otherwise verb reduplication is obligatory. The analysis is partly based on these facts: First, the preverbal object position can host caseless elements (e.g., adverbs), (8a. vs. 8b).

- (8) a. Kpón dẽ ỳ̀kpó lé tò zìz̃n  
 look that child NUMB PROG walk.walk.PRTL  
 ‘Look at the way the children are walking!’  
 b. ɛ̀n, Súrù tò ḍéḍɛ (\*zì)z̃n  
 yes Suru PROG slowly walk.PRTL  
 ‘Yes, Suru is walking slowly!’

Second, reduplication is obligatory when: (i) no DP-object fronts to the pre-verb position (e.g., in intransitives cf. 5a–b); (ii) the object is a clitic pronoun (9); (iii) or else, the object is *wh*/focus-extracted (10).

- (9) Súrù tò ḍìḍà ɛ̀ ná mǐ  
 Suru PROG cook.cook 3SG for me.PRTL  
 ‘Suru is cooking it for me’  
 (10) a. Ẽ́ṭé ẉè Súrù tò ḍìḍà — ná mǐ?  
 what FOC Suru PROG cook.cook. for me.PRTL  
 ‘What is Suru cooking for me?’

- b. Núsónú wè Súrù tò ɖìdà — ná mĩ  
 soup FOC Suru PROG cook.cook. for me.PRTL  
 ‘Suru is cooking SOUP for me’

The examples (7) to (10) confirm that the preverbal object position is not related to case: it precedes the prospective marker (7c), it hosts caseless elements (8), and clitic pronouns must follow the reduplicated verb (9). In addition, failure to fill this position (e.g., 5b, 9, 10) forces verb reduplication. Therefore, object fronting precludes verb reduplication in OV order. Another element that has similar blocking effect is the prospective aspect marker *ná*. This is shown by (11), the prospective counterparts of (9) and (10).

- (11) a. Súrù tò ná (\*ɖì)dà è ná mĩ  
 Suru PROG PROSP cook.cook 3SG for me.PRTL  
 ‘Suru is just about to cook it for me’  
 b. Été wè Súrù tò ná (\*ɖì)dà — ná mĩ?  
 what FOC Suru PROG PROSP cook.cook for me.PRTL  
 ‘What is Suru just about to cook for me?’  
 c. Núsónú wè Súrù tò ná (\*ɖì)dà — ná mĩ  
 soup FOC Suru PROG PROSP cook.cook for me.PRTL  
 ‘Suru is just about to cook SOUP for me’

It appears that various syntactic elements (i.e., the fronted DP-object, an adverb, and the prospective marker i.e., a head) block reduplication, as presented in (12).

- (12) a. XP (ná) V;      b. — \*(ná) V;      c. — — \*(V).V

The generalization is therefore that there is a position to the left of the prospective marker *ná* that must be overtly realized by a phrase (12a). If no phrase can occur in this position, then an INFL element (i.e., prospective *ná*) must immediately precede the verb (12b). But, if no INFL element is available, the verb must reduplicate (12c). The interaction between the slot occupied by the fronted (object) phrase, the INFL *ná*, and the reduplicated verb recalls subject-verb relations where an INFL element (e.g., an affix on the verb) guarantees an unpronounced subject (e.g., in pro-drop languages). I assume, on this account, that the position left adjacent to the prospective marker *ná* is a subject position. In this regard, that wh-extraction (cf., 10) triggers reduplication is strong evidence that the extracted constituent does not transit through [spec IP] which, as other EPP-related positions, is a freezing position (Rizzi & Shlonsky 2005).

The argumentation goes as follows: OV sequences involve the structure in (13a) where an aspect verb (e.g., *tò* and *yì* in 7a–c) selects for FP whose head *F°* encodes the sentence-final particle (e.g., the floating tone in (7a), or *gbé* in (7b)). *F°* selects for a small clause IP, where *I°*, sometimes realized by the prospective

marker *ná*, takes a VP as its complement. I further assume that the subject position [spec IP] is subject to the EPP, which must be satisfied before spell out.

- (13) a. ...<sub>[AspP]</sub> *tò/yì* <sub>[FP]</sub> *gbé* <sub>[IP]</sub> <sub>[I]</sub> *ná* <sub>[VP...]]]]]</sub>

(I abstract away from the canonical subject, which moves to [spec TP] for EPP/case reasons). In OV, the object raises to [spec IP], the subject position of IP, to satisfy the EPP. The verb raises to I°, (13b) or else, I° hosts the prospective marker, which blocks V-movement, (13c). Finally, IP raises to [spec FP], as a requirement of the particle *F*, as illustrated in (13b).

- (13) b. ...*tò/yì* <sub>[FP]</sub> <sub>[F]</sub> *gbé* <sub>[IP]</sub> <sub>[I]</sub> *V* <sub>[VP t<sub>V</sub>...t<sub>O</sub>]]]]]</sub>
- c. ...*tò/yì* <sub>[FP]</sub> <sub>[F]</sub> *gbé* <sub>[IP]</sub> <sub>[I]</sub> *ná* <sub>[VP V... t<sub>O</sub>]]]]]</sub>

When the object is missing, extracted, or cliticized, a null expletive (Expl) merges in [spec IP]. I claim that Expl. is licensed under spec-head configuration either by the prospective marker under I°, which qualifies as a proper INFL element, or by the verb that raises to I°. Given that in Gungbe, the verb always occurs in its bare form, and the language does not tolerate subject pro-drop, I propose that in the specific case where the subject is Expl., it must be morphologically licensed by some INFL support. This, I claim, is obtained by verb reduplication. More precisely, I assume that INFL hosts a dummy CV which the verb attaches to and to which the reduplicated part is copied (Aboh 2004a: 213). This amounts to saying that the reduplicated part of the verb represents an INFL morphology. The derivations are represented in (14).

- (14) a. ...*tò/yì* <sub>[FP]</sub> <sub>[F]</sub> *gbé* <sub>[IP]</sub> Expl <sub>[I]</sub> *ná* <sub>[VP V...t<sub>O</sub>]]]]]</sub>
- b. ... *tò/yì* <sub>[FP]</sub> <sub>[F]</sub> *gbé* <sub>[IP]</sub> Expl <sub>[I]</sub> VV <sub>[VP t<sub>V</sub>...t<sub>O</sub>]]]]]</sub>

Under this analysis, object fronting, verb reduplication, and prospective aspect marking serve the same EPP requirement in enabling the licensing of Expl. in [spec IP]. Therefore, verb reduplication is syntactically determined.

## 2.2 Reduplication in OVV sequences

These conclusions extend to OVV sequences (4) and (15). These are comparable to English gerunds and have the same distribution as normal DPs (15a–b).

- (15) a. [Àzón wiwà] *kpé* *mì*      b. *Súrù gbè* [àzón wiwà]  
           work do.do suffice 1sg      Suru refuse work do.do  
           ‘I’m tired of working’      ‘Suru refused (to) work/ing’

OVV sequences can embed the prospective marker, which blocks verb reduplication. Contrast (16) to (15b).

- (16) Súrù gbè [àzón ná (\*wì)wà]  
 Suru refuse work PROSP do.do  
 ‘Suru refused (to) work/ing just now’

OVV sequences appear to be a counter argument to the conclusion that the fronted object blocks reduplication (e.g., in progressive). However, there are good reasons to maintain the proposed analysis. Recall from the examples in (10) that *wh*/focus-extraction of the DP-object to the edge triggers reduplication, which can be blocked by the prospective marker, (11). A similar situation is found with the examples under (15) where the object precedes a reduplicated verb. There too, the verb fails to reduplicate when preceded by the prospective marker (16). Taking these parallels seriously, I propose that, unlike OV order, OVV sequences involve object fronting to [spec FP], rather than [spec IP]. This presumably serves to establish a topic-comment articulation. Accordingly, Expl. merges in [spec IP] and is licensed under spec-head configuration by the reduplicated verb in I°. [spec FP] being filled, no IP pied-piping can happen. OVV therefore lacks the sentence-final particle typical of OV (see Aboh 2004a Chapter 6, 2005a for discussion).

- (17) [<sub>FP</sub> àzón [<sub>F</sub> [<sub>IP</sub> Expl [<sub>I</sub> wìwà [<sub>VP</sub>...t<sub>wà</sub>...t<sub>àzón</sub>]]]]] nò dó àwùtù mè

The discussion shows that verb reduplication provides the language with an otherwise non-existent INFL morphology. The analysis extends to RAA's.

### 3. A syntactic analysis of reduplicated attributive adjectives

The examples in (18) illustrate RAA's and predicative verbal adjectives.

- |         |                         |     |                      |
|---------|-------------------------|-----|----------------------|
| (18) a. | Àzón ló síén            | a'. | Àzón síénsién ló     |
|         | work DET hard           |     | work hard.hard DET   |
|         | ‘The work is difficult’ |     | ‘The difficult work’ |
| b.      | Àgbàn ló kpèn           | b'. | Àgbàn kpìkpèn ló     |
|         | load DET heavy          |     | load heavy.heavy DET |
|         | ‘The load is heavy’     |     | ‘The heavy load’     |

The RAA's in (18a'–b') describe a state and have a meaning similar to simple attributive adjectives in English (e.g., heavy). However, RAA's that imply a process (19a'–b') have a slightly different meaning. These have the flavor of past participles and allow a paraphrase with a relative clause.

- (19) a. Kpòtín l̩ xú                      a'. Kpòtín xúxú l̩  
          wood.stick DET dry                wood.stick dry.dry DET  
          ‘The wood stick is in a dry state’    ‘The dried wood stick’  
       b. Àvò l̩ vún                      b'. Àvò vúnvún l̩  
          cloth DET tear                    cloth tear.tear DET  
          ‘The cloth is in a torn state’        ‘The torn cloth’

Before getting on to the analysis of RAA's proper, it is worth noting that the predicative verbal adjectives (18a–b) and (19a–b) follow a full DP, which is delimited by the determiner *l̩*. Also recall from example (1) that predicative verbal adjectives can combine with the tense and aspect markers. Put together, these facts lead me to conclude that sequences including predicative verbal adjectives should be analyzed as subject-predicate articulations where the subject is a DP with nominative case and the predicate is a tensed (or full) clause.

RAA's are different because they intervene between the modified NP and the determiner *l̩* (20). Therefore, the RAA is embedded within a DP.

- (20) a. Kpòtín xúxú l̩                      b. \*Kpòtín l̩ xúxú  
          wood.stick dry.dry DET                wood.stick DET dry.dry  
          ‘The dried wood stick’

I propose that the RAA is a predicate whose subject is the modified NP to its left. Under this view, RAA's involve the structure (21): the determiner *D*, encoded by *l̩*, selects FP. I further suggest that unlike OV and OVV sequences where *I*° selects a VP, here, *I*° takes as complement a one-place adjectival predicate (i.e., AP) headed by the verbal adjective whose unique argument is a bare NP introduced in [spec AP] by hypothesis.

- (21) [<sub>DP</sub> [<sub>D</sub> *l̩* [<sub>FP</sub> [<sub>IP</sub> [<sub>I</sub> [<sub>AP</sub> NP A ]]]]]]

The derivation goes as follows: NP moves to [spec FP] as is the case in relative clauses. Expl. merges in [spec IP] and is licensed under spec-head configuration with the reduplicated verb under *I*°. Finally, FP raises to [spec DP], accordingly, the determiner *l̩* occurs to the right of the NP. As argued for in Aboh (2004a Chapters 3, 4, 2004b, 2005a), this movement is triggered by the necessity to check the feature [specific], under *D*.

- (22) [<sub>DP</sub> [<sub>D</sub> *l̩* [<sub>FP</sub> kpòtín [<sub>IP</sub> Expl [<sub>I</sub> xú-xú [<sub>AP</sub> t<sub>kpòtín</sub> t<sub>xú</sub> ]]]]]]

On the assumption that FP is comparable to an edge (e.g., CP), NP-movement to [spec FP] is reminiscent to NP-movement to [spec CP] in relative clauses (see Kayne 1994, Aboh 2005b and much related work). With this idea in mind, it is interesting that the Gungbe relative clause (23a), represented in (23b), is structurally

parallel to the described RAA sequences. The only difference between these two structures reduces to a D>CP articulation for relative clauses and a D>FP[small clause] articulation for RAA sequences.

- (23) a. [Kpòtín dɛ́ mí má ná sigán xò] lɔ́  
 wood.stick REL 1PL NEG FUT MOOD buy DET  
 ‘This wood stick that we will not be able to buy’  
 b. [<sub>DP</sub> [<sub>D</sub> lɔ́ [<sub>CP</sub> kpòtín [<sub>C</sub> dɛ́ [<sub>TP</sub> mí má ná sigán [<sub>VP</sub> xò t<sub>kpòtín</sub> ]]]]]]

The D>CP articulation corroborates with the presence of an overt relative complementizer *dɛ́*, and various tense, mood, negation, aspect markers, typical of full tensed clauses, hence TP in (23). On the other hand, the D>FP[small clause] articulation of RAAs lacks all these properties. I take this to be evidence that such clauses do not include a tense phrase. I further propose that examples such as (20), represented in (22), realize a ‘mini’ relative clause: A structure where D selects for a small clause embedded within FP, (see also Kayne 1994 for a relative clause approach to certain attributive adjectives). In terms of this description, the fact that the RAAs in (19) appear to be semantically close to relative clauses can be taken to correlate with their structure: a ‘mini’ relative clause where the modified NP sits in [spec FP]. In addition to accounting for reduplication of attributive adjectives on a par with OV and OVV sequences, this analysis indicates that an auxiliary, an aspect verb under Asp (Section 2), and a D can select FP.

However, the RAA example in (20a) should be distinguished from constructions such as (24a) where the DP is separated from the reduplicated element by a be-located copula. These are analyzed on a par with reduplication of unaccusatives or intransitives (e.g., in progressive, see Section 2), where the internal argument raises to [spec TP] for EPP/case reasons. This movement skips [spec IP], which must host Expl., licensed by the reduplicated verb under I°.

- (24) a. [Àvò lɔ́ tò bíbò] tò àkpòtín lɔ́ mè  
 cloth DET be.LOC fold.fold.PRTL be.LOC trunk DET in  
 ‘The cloth is in a folded state in the trunk’  
 b. [<sub>TP</sub> àvò lɔ́ [<sub>AspP</sub> tò [<sub>FP</sub> [<sub>F</sub> [<sub>IP</sub> Expl [<sub>I</sub> bíbò [<sub>VP</sub> t<sub>b</sub> t<sub>av</sub> t<sub>ɔ́</sub> ]]]]]]]... [<sub>LocP</sub> tò àkpòtín lɔ́ mè]

#### 4. Reduplicated attributive adjectives in Saramaccan

I now turn to RAAs in Saramaccan, where the RAA may front.



#### 4.1 Postnominal reduplicated predicative adjectives

Saramaccan exhibits reduplicated adjectives that can be used predicatively or attributively. Predicative reduplicated adjectives follow the noun and describe a state that sometimes corresponds to progressive in English. Such predicative adjectives require the copula (or linker) *ta* or *de* (Bakker 1987: 25)

- (25) a. Di lio ta biabia      b. De fisi de kuakua  
          DET river PROG turn-turn      DET fish COP fresh-fresh  
          ‘The river is winding its way’      ‘The fish is fresh’

These examples are parallel to the Gungbe one in (24). Note also that *tò* in Gungbe and *ta* in Saramaccan are used in ‘be located’ and progressive constructions. I take this to be evidence that in both cases, these elements select for FP that includes a lexical verb. Reduplication in (25) is therefore parallel to the Gungbe cases in (24b–c), where the DP argument extracts to [spec TP] for EPP/case reasons and Expl. merges in [spec IP] licensed under spec-head configuration by the reduplicated verb in I°, (26) = (25b).

- (26) [<sub>TP</sub> de fisi [<sub>AspP</sub> de [<sub>FP</sub> [<sub>F</sub> [<sub>IP</sub> Expl [<sub>I</sub> kuakua [<sub>VP</sub> t<sub>di fisi</sub> t<sub>kua</sub> ]]]]]]]]

Partial evidence supporting this analysis is that non-reduplicated adjectives do not occur with the copula *de* or aspect verb *ta* in Saramaccan (Bakker 1987: 28).

#### 4.2 Prenominal reduplicated attributive adjectives

Saramaccan reduplicated adjectives can also be used attributively. In such contexts, the reduplicated adjective is embedded in DP and precedes the noun, as indicated under (27) (Bakker 1987: 25).

- (27) a. Di langalanga pau      b. Di lailai      goni      c. Di dɛɛdɛɛ koosu  
          DET long.long stick      DET load-load gun      DET dry.dry cloth  
          ‘The too long stick’      ‘The loaded gun’      ‘The dry/dried cloth’

These Saramaccan examples manifest the mirror image of Gungbe (20a). In both languages, the RAA’s have a participial meaning and can be paraphrased by a relative clause. Following previous discussion, I propose that these sequences, like their Gbe counterparts, realize the underlying structure in (21), where the modified bare NP raises to [spec FP].

But given that the RAA inverts in Saramaccan, I conclude that this language must involve an extra position as a landing site for the inverted RAA. This means that Saramaccan involves inversion of the predicate IP to the left of the modified noun. The translation of (27a) suggests that this inversion is responsible for the

so-called “*intensified meaning*” (Bakker 1987: 25). Starting with structure (28a) for example (27a),

- (28) a.  $[_{DP} [_D \text{ di } [_{FP1} [_{FP2} [_{IP} [_I [_{AP} \text{ pau } [_A \text{ langa } ]]]]]]]]$

The NP moves to [spec FP] of the ‘mini’ relative clause. Expl merges in [spec IP], where it is licensed by the reduplicated adjective in  $I^0$ . This produces the intermediate stage in (28b), where NP precedes the RAA as in Gungbe.

- (28) b.  $[_{DP} [_D \text{ di } [_{FP1} [_{FP2} \text{ pau } [_{F2} [_{IP} \text{ Expl } [_I \text{ langalanga } [_{AP} \text{ t}_{\text{pau}} [_A \text{ t}_{\text{langa}} ]]]]]]]]]]$

Subsequently, the (relative) head  $F_2$  moves to  $F_1$ , forcing its complement IP to move to [spec FP] creating the inversion, as illustrated in (28c).

- (28) c.  $[_{DP} [_D \text{ di } [_{FP} [_{F1} \text{ F}_2 + \text{F}_1 [_{FP2} \text{ pau } [_{F2} [_{IP} \text{ Expl } [_I \text{ langalanga } [_{AP} \text{ t}_{\text{pau}} [_A \text{ t}_{\text{langa}} ]]]]]]]]]]]]$
- 

Under this view, pied-piping of IP to [spec  $FP_1$ ] is an instance of IP-fronting which makes the RAA precede the noun in [spec  $FP_2$ ] of the ‘mini’ relative clause, and therefore allows focus reading. I conclude from this that Saramaccan RAA’s are like their Gungbe equivalents because they involve a ‘mini’ relative clause, where D selects FP. At this stage of the discussion, the question arises whether Saramaccan shows any empirical evidence for movement of  $F_2$  to  $F_1$ . No such evidence is available as of now, but Mandarin Chinese (MC), which I now turn to, might provide us with the missing link.

## 5. Reduplicated attributive adjectives in Mandarin Chinese

In this language, certain non-reduplicated attributive adjectives may occur with or without the linker *de* (Li & Thompson 1981: 118).

- |         |                        |    |                |
|---------|------------------------|----|----------------|
| (29) a. | Hóng <i>de</i> huā     | b. | Hóng huā       |
|         | red <i>de</i> flower   |    | red flower     |
|         | ‘A flower that is red’ |    | ‘A red flower’ |

In the MC literature, (29b) is compared to a compound, while (29a) is seen as a modifying relative clause (e.g., Li & Thompson 1981, Cheng 1986, Simpson 2001). However, RAA’s, which also encode emphasis as in Saramaccan, require the element *de*.

- |      |                              |                           |
|------|------------------------------|---------------------------|
| (30) | Hóng.hong *( <i>de</i> ) huā | Li & Thompson (1981: 121) |
|      | red.red <i>de</i> flower     |                           |
|      | ‘A red flower’               |                           |

MC is similar to Saramaccan except for the linker *de*. This linker relates a predicate to its subject and occurs in various contexts: relative clauses (31a) or locative complex predicates (31b) (den Dikken & Singhapreecha 2004: 34).

- (31) a. Wo mai **de** shu                      b. Zai Beijing **de** ren  
       I    buy *de* book                      in   Beijing *de* people  
       ‘The book that I bought’            ‘People in Beijing’

Under the analysis of RAA’s, MC is like Saramaccan except that *de* spells out the complex  $F_2 + F_1$  in this language. Starting with the structure in (32a), the NP *huā* moves to [spec  $FP_2$ ] of the ‘mini’ relative clause with *de* merged in  $F_2$ . Following the same rationale as previously, Expl. merges in [spec IP] that is licensed by the reduplicated adjective raised to  $I^0$ . This produces *hóng.hong* which follows its subject NP in the intermediate derivation (32b). Subsequently, *de* under  $F_2$  moves to  $F_1$  forcing pied-piping of the whole IP to [spec  $FP_1$ ]. As a consequence, the predicate IP precedes the subject, as in (32c).

- (32) a. [<sub>DP</sub> [<sub>D</sub> [<sub>FP1</sub> [<sub>FP2</sub> [<sub>F2</sub> *de* [<sub>IP</sub> [<sub>I</sub> [<sub>AP</sub> *huā hóng* ]]]]]]]]]]  
       b. [<sub>DP</sub> [<sub>D</sub> [<sub>FP1</sub> [<sub>FP2</sub> *huā* [<sub>F2</sub> *de* [<sub>IP</sub> [<sub>I</sub> *hóng.hong* [<sub>AP</sub> *t<sub>huā</sub> t<sub>hóng</sub>* ]]]]]]]]]]  
       c. [<sub>DP</sub> [<sub>D</sub> [<sub>FP1</sub> [<sub>F1</sub> *de* [<sub>FP2</sub> *huā* [<sub>F2</sub> *t<sub>de</sub>* [<sub>IP</sub> [<sub>I</sub> *hóng.hong* [<sub>AP</sub> *t<sub>huā</sub> t<sub>hóng</sub>* ]]]]]]]]]]]]
- 

This analysis implies that the linker *de* can merge in other functional positions at the edge (see also Cheng (1986) for analyzing some instances of *de* as Comp). Interestingly, the French linker *de* (33) appears an equivalent of MC *de* — a linker that also merges at the edge to encode finiteness (i.e., FinP, Aboh 2006).

- (33) Je veux [<sub>NP</sub> une soupe **de** chaude] / Jean a décidé [<sub>CP</sub> **de** planter un arbre]

This analysis of MC *de* as Comp correlates with its occurrence in relative clauses (31a) and in sentence-final position (34a). This latter property reminds us the Gungbe determiner *lɔ́*, which can also occur clause-finally to mark an event as specific (compare 35b to 19 and 20).

- (34) a. [Wo zuotian lai] **de**                      b. *dé* [àvún lɔ́ bú lɔ́] vé ná mì  
       I    yesterday arrive *de*                      as dog DET lose DET hurt for me  
       ‘I arrived yesterday’                      ‘That the dog got lost hurt me’

Following Aboh (2004a, Chapter 8), these examples are analyzed as FinP-fronting to the specifier of a functional projection within the CP domain as sketched in (35a–b) for Gungbe and MC, respectively (see Simpson 2001 for MC).

- (35) a. [<sub>ForceP</sub> *dé* [<sub>FP</sub> [<sub>FinP</sub> àvún lɔ́ bú] [<sub>F</sub> lɔ́ [<sub>FinP</sub> *t<sub>àvún</sub> t<sub>lɔ́</sub> bú* ]]]]] vé ná mì  
       b. [<sub>ForceP</sub> [<sub>FP</sub> [<sub>FinP</sub> wo zuo tian lai] [<sub>F</sub> **de** [<sub>FinP</sub> *t<sub>wo</sub> t<sub>zuo</sub> t<sub>tian</sub> lai* ]]]]]]

If we grant the proposed analysis for RAA's, the common assumption that reduplication expresses emphasis in Saramaccan and in MC (e.g., Li & Thompson 1981: 121, Bakker 1987: 25) might be misleading. Instead, the conclusion reached here is that emphatic or contrastive reading is an effect of IP-fronting to the edge. Reduplication, however, only serves a syntactic purpose and has no semantic effect. Together with the analysis of *de* as a functional head at the edge, (e.g., 32–33) one could wonder what the properties of the projection  $FP_1$  are that force inversion of the whole IP. Given the emphatic nature of the inverted RAA in Saramaccan and MC, an idea that comes to mind is that  $FP_1$  represents a focus position within the nominal left periphery. Splitting the nominal periphery D as proposed in Aboh (2004b), the MC structure under (32c) can be refined as in (36) where the fronted IP moves to the specifier of a focus projection situated between DP and NumP: the two frontiers of the nominal left periphery. I further claim that movement of F to FOC followed by pied-piping of IP to [spec FocP] meet the need to check the focus feature inside DP. This analysis straightforwardly extends to Saramaccan.

- (36)  $[_{DP} [_{FocP} [_{Foc} \overset{\uparrow}{de} [_{NumP} [_{Num} t_{de} [_{FP} huā [_{F} t_{de} [_{IP} [_{I} hóng.hong [_{AP} t_{huā} t_{hóng}]]]]]]]]]$

While this analysis appears promising, it leaves open a number of issues (both general and language specific) that need further investigated. First, the idea that DP embeds topic and focus projections relates to the more general issue of the status of information structure inside the DP. Second, that the complementizer *de* raises to FOC, via Num, suggests that the latter may occur in various structural positions depending on which copy is spelled out. Various data appear in the literature that may point to this direction (e.g., Sio 2006). Third, the proposed analysis indicates that in Gungbe, Saramaccan, and MC, adjectives are mainly used predicatively. This point is related to the more general issue mentioned at the beginning of this paper that these languages mainly involve adjectival elements that behave similarly to lexical verbs (with the exception of color, size, and shape adjectives).

## 6. Conclusion

This paper argues, on the basis of Gungbe, Saramaccan and Mandarin Chinese that RAA's involve a 'mini' relative clause  $D > FP$ , where FP embeds a small clause whose subject position is subject to the EPP. Under this view, the modified NP, which also functions as the subject of the predicate expressed by the RAA, moves to [spec FP] where it heads the 'mini' relative clause. [spec IP], subject to the EPP, hosts Expl. that is licensed by spec-head agreement. In these morphologically poor languages, this spec-head agreement translates into reduplication. That is to say,

the predicate raises to I° and reduplicates as a 'morphological' support for licensing a null category in [spec IP]. In Saramaccan and MC IP-fronting makes the RAA emphatic.

## Note

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