### The semantics of Jamaican Creole verbal reduplication

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#### Overview

- Goal: examine Jamaican Creole [JC] reduplication in verbs, with comparison to similar Standard English [StEng] formations, and provide a formal analysis
- JC verbal replication is of 2 types (see Gooden 2003b, Gooden et al. 2003)
  - verb only "intensive", e.g. nyam-nyamaaf "eat completely"
  - verb+particle "iterative", e.g. buodop-buodop "seal with boards repeatedly"
- Propose a formalism capturing both types of verbal reduplication
  - adopt Ramchand's (2008) articulated verb structure
  - treat JC reduplication as underlying a morpheme
  - this morpheme may attach to different levels of verb structure, with different resulting morphological & semantic results

### Jamaican Creole Reduplication

### Intensive reduplication

- Simple stems [Gooden et al. 2003: 106]
  - bluo "to blow" > bluo-bluo "to blow a lot"
  - laaf "to laugh" > laaf-laaf "to laugh a lot"
  - luk "to look" > luk-luk "to keep looking" (also "look repeatedly" with iterative interpretation)
- Complex (+particle) stems [Gooden 2003b: 96]
  - buodop "to seal with boards" > buod-buodop "to seal with boards (intensive)"
  - nyamaaf "to eat completely" > nyam-nyamaaf "to eat completely (intensive)"
  - naasiop "to make filthy" > naasi-naasiop "to make filthy (intensive)"

### Jamaican Creole Reduplication

### Iterative reduplication

- Simple stems [Gooden 2003a: 227; cp. Gooden 2003b: 99n8]
  - tiif "to steal" > tiif-tiif "to steal repeatedly"
  - *rob* "to rub" > *rob-rob* "to rub repeatedly"
  - juk "to pierce (not necessarily making a hole)" > juk-juk "to pierce repeatedly (not necessarily making holes)"
- Complex (+particle) stems [Ibid.]
  - buodop "to seal up with boards" > buodop-buodop "to seal up with boards repeatedly"
  - nyamout "to eat some of" > nyamout-nyamout "to eat some of repeatedly"
  - *jukop* "to make (visible) holes" > *jukop-jukop* "to make (visible) holes repeatedly" (Gooden 2003b: 99n8)

### Jamaican Creole Reduplication

### Morphonological restrictions (Gooden 2003b,a)

- reduplicant must be no more than 2 syllables and non-iambic
- thus \*arienj-arienjop [iambic] (< arienjop "to arrange things")
- thus \*batabruz-batabruzop [not a binary foot] (< batabruzop "to bruise extensively")
- thus \*chambaop-chambaop [not a binary foot] (< chambaop "to cut/chop coarsely")

## Standard English Iteratives/Intensives

#### Iteratives/Intensives

- similar to JC verbal reduplicants both structurally (iconic doubling) and semantically, 2 types (V and V; V again and again)
- intensive/continuous/durative: ran and ran, looked and looked
- iterative/noncontinuous: ran again and again, looked again and again

## Standard English focus reduplication

#### Contrastive focus reduplication Intensive

[Ghomeshi et al. (2004)]

- it's tuna salad, not sálad-salad
- here are the glóve-gloves
- used to contrast "true", "real" (prototypical) instances (contextually-determined)
- potentially similar to some JC reduplications, e.g. laas-laas "truly last" (Kouwenberg & LaCharité 2003)

### **Verbal Pluralities**

- Both types of JC verbal reduplication involve some type of verbal plurality (pluractionality)
- plurality can exist at varying levels, including event internal plurality and event external plurality (for more, see Cusic 1981)
- a verbal structure may involve external plurality (1), internal plurality ("phase"-level) (2) or both types of plurality (3) [cp. Cusic 1981: 65]
  - (1) The mouse bit the cheese again.
  - (2) The mouse nibbled the cheese.
  - (3) The mouse nibbled the cheese again.
- (nibble ≈ multiple bitings, with -le representing Proto-Germanic \*-ilôjan, used sometimes with a frequentative sense, cf. crackle, crumple, dazzle, paddle, sparkle, topple, wriggle)

# JC Reduplication approach i

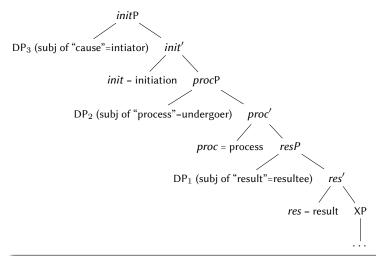
- Goal: explain why particles (e.g. op, aaf &c.) are included in the reduplicant only for iteratives and not for intensive (and why the pattern is not reversed)
- hypothesis: the same "reduplication" morpheme [REDUP] occurs in both intensive and iterative reduplicating structure (and something similar in StEng)
- REDUP may attach/apply at different levels of verbal structure
- depending on which level of verbal structure associates with REDUP determines whether the verbal particle is included as part of the reduplication and what meaning obtains

# JC Reduplication approach ii

- adopt the articulate "first phase" analysis of Ramchand (2008), positing 3 (possible) levels of inner verbal structure (a given verb may not have all 3 levels):
  - initiation (causation/external causer)
  - process (the event itself)
  - result (result state effected by event)
- where REDUP modifies the proc head, the result is "intensive" ("phase"-level/event-internal plurality) [and no reduplication of verbal particles]
- where REDUP modifies the entire VP, the result is "iterative" (event-external plurality) [reduplication includes particles]

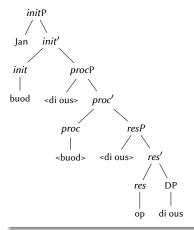
### **Articulated Verb Structure**

### Ramchand's (2008) "first phase" verbal syntactic structure



### 1st phase structure example

Jan buodop di ous "John boarded up the house"



## Semantics formalisation of res,proc,init

#### Working definition of res (Ramchand 2008: 206)

 $[res] = \lambda P \lambda x \lambda e[P(e) \& res'(e) \& State(e) \& Subject(x,e)]$ 

(Given some predicate P, some individual x, some event e: e is a result event described by predicate P, e is a state, and x is the subject of e.)

#### Working definition of proc (Ibid.)

 $[\![proc]\!]$  =  $\lambda$ P $\lambda$ x $\lambda$ e $\exists$ e<sub>1</sub>,e<sub>2</sub>[P(e<sub>2</sub>) & proc'(e<sub>1</sub>) & Process(e<sub>1</sub>) & e = (e<sub>1</sub>  $\rightarrow$  e<sub>2</sub>) & Subject(x,e<sub>1</sub>)] (Given some predicate P, some individual x, some event e: there are two events, e<sub>1</sub>, e<sub>2</sub>: e<sub>2</sub> is an event described by predicate P, and e<sub>1</sub> is a process, and e is a consisting of 2 subevents e<sub>1</sub>,e<sub>2</sub>, such that e<sub>1</sub> causally implicates e<sub>2</sub>, and x is the subject of e<sub>1</sub>.)

#### Working definition of *init* (*Ibid.*)

 $[\![init]\!]$  =  $\lambda P \lambda x \lambda e \exists e_1, e_2[P(e_2) \& init'(e_1) \& State(e_1) \& e = (e_1 \rightarrow e_2) \& Subject(x,e_1)]$  (Given some predicate P, some individual x, some event e: there are two events,  $e_1, e_2$ :  $e_2$  is an event described by predicate P, and  $e_1$  is a state, and e is a consisting of 2 subevents  $e_1, e_2$ , such that  $e_1$  causally implicates  $e_2$ , and x is the subject of  $e_1$ .)

### Semantics formalisation

### Reduplicative morpheme [definition]

[REDUP] =  $\lambda \mathcal{R} \lambda x \lambda e[\mathcal{R}(x)(e) \& \exists v_1, v_2...v_n \in e]$ (for some pragmatically/contextually determined value for n)

Given some verbal element  $\mathcal{R}$  (e.g. proc, VP), the reduplication morpheme adds a requirement that the event associated with that verbal element  $\mathcal{R}$  is made up of at least n number of subcomponents, each of which is itself an event of the sort described by the verbal element  $\mathcal{R}$ .

# Examples of REDUP attaching at different levels

### Examples 1: "the ball rolled and rolled"

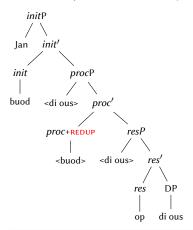
adding the reduplication morpheme to procP head roll (which itself requires that there be a rolling event e) adds a requirement that the rolling event e is itself made up of at least n "subevents of rolling"

### Example 2: "the ball rolled again and again"

adding the reduplication morpheme to VP *the ball roll* adds a requirement that the occasion is actually composed of at least *n* events of the ball rolling.

## JC Reduplication in 1st phase structure: intensive

Jan buod-buodop di ous "John boarded up the house (intensive)"



## JC intensive reduplication semantic derivation i

#### Denotation of res

(4)  $[res] = \lambda e[op(e) \& res'(e) \& State(e) \& Subject(h,e)]$ 

### Denotation of proc+buod

(5)  $[proc] = \lambda x \lambda e \exists e_1, e_2[board-up(e_2) \& res'(e_2) \& State(e_2) \& Subject(h,e_2) \& proc'(e_1) \& Process(e_1) \& e = (e_1 \rightarrow e_2) \& Subject(x,e_1)]$ 

### JC intensive reduplication semantic derivation ii

### Derivation of reduplication morpheme applied to *proc+buod*

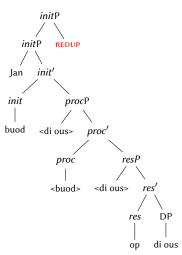
(6)  $[proc] = \lambda x \lambda e \exists e_1, e_2[board-up(e_2) \& res'(e_2) \& State(e_2) \& Subject(h,e_2) \& proc'(e_1) \& Process(e_1) \& e = (e_1 \rightarrow e_2) \& Subject(x,e_1) \& \exists v_1, v_2...v_n \in e]$ 

### Informal paraphrase of (6)

There is a causal connection between two subevents  $e_1$  and  $e_2$ , such that  $e_1$  is a process and  $e_2$  is a result state — and these two subevents together constitute event e — such that the house undergoes boarding up ( $=e_1$ ) and ends up in a state of being boarded up ( $=e_2$ ), and this larger event e is made up of an unusually large number of subevents (leading to various possible conversational implicatures, including that the boarding up was particularly "intense").

## JC Reduplication in 1st phase structure: iterative

Jan buodop-buodop di ous "John boarded up the house (iterative)"



## JC iterative reduplication semantic derivation i

#### Denotation of initP

(7)  $[\![initP]\!] = \lambda e \exists e_1, e_2, e_3, e_4 [board-up(e_2) \& res'(e_2) \& State(e_2) \& Subject(h, e_2) \& proc'(e_1) \& Process(e_1) \& e_4 = (e_1 \rightarrow e_2) \& Subject(h, e_1) \& init'(e_3) \& State(e_3) \& e = (e_3 \rightarrow e_4) \& Subject(j, e_3)]$ 

### Informal paraphrase of (7)

John initiates a process of boarding-up, the house undergoes a process of boarding-up, and the house ends up in a result state of being boarded up.

## JC iterative reduplication semantic derivation ii

#### Denotation of *init*P+REDUP

(8)  $[[REDUP (initP)]] = \lambda e \exists e_1, e_2, e_3, e_4 [board-up(e_2) \& res'(e_2) \& State(e_2) \& Subject(h,e_2) \& proc'(e_1) \& Process(e_1) \& e_4 = (e_1 \rightarrow e_2) \& Subject(h,e_1) \& init'(e_3) \& State(e_3) \& e = (e_3 \rightarrow e_4) \& Subject(j,e_3) \& \exists v_1, v_2...v_n \in e]$ 

#### Informal paraphrase of (8)

There is a event such that John initiates a process of boarding-up, the house undergoes a process of boarding-up, and the house ends up in a result state of being boarded up; and this event happens multiple times.

## **Extension to Standard English**

- this same basic analysis should extend to StEng, which shows a similar pattern:
  - the "V and V" construction (e.g. "John ran and ran") involves something like reduplication of an "inner" element, and the semantic contribution is "intensive"
  - the "V again and again" (e.g. "John ran again and again") involves something like reduplication of an "outer" element (the repetitive "again"), and the semantic contribution is "iterative"

### Extension to Standard English?

- important differences exist, however:
  - the JC iterative involves no explicit repetitive element, unlike StEng (which uses *again*)
  - unlike JC, StEng verb+particle constructions only work with the "iterative" and not with the "intensive":
    - (9) a. John boarded up the house again and again.
      - b. \*John boarded and boarded up the house.
    - (10) a. John dashed down pizza again and again.
      - b. \*John dashed and dashed down pizza.
- so that even if "duplication" with varyingly "intensive" and "iterative" senses
  works in a similar fashion in JC & StEng, both employing a similar abstract
  morpheme, there appear to be significant structural differences in the
  specifics

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## Appendix 1: JC intensive reduplication semantic derivation iii

#### Denotation of init

(11)  $\lambda x \lambda e \exists e_1, e_2, e_3, e_4 \ [board-up(e_2) \& res'(e_2) \& State(e_2) \& Subject(h, e_2) \& proc'(e_1) \& Process(e_1) \& e_4 = (e_1 \rightarrow e_2) \& Subject(h, e_1) \& \exists v_1, v_2...v_n \in e_4 \& init'(e_3) \& State(e_3) \& e = (e_3 \rightarrow e_4) \& Subject(x, e_3)]$ 

### Paraphrase of (11)

Given some individual x and some event e: there exist fours events  $e_1$ ,  $e_2$ ,  $e_3$ ,  $e_4$  such that  $e_2$  is an event of boarding and  $e_1$  is a process such that  $e_4$  is composed of a causal relationship between  $e_1$  and  $e_2$ , and x is the subject of  $e_1$ , and e consists of at least n-many subevents, and  $e_3$  is an initiation state and event e itself consists of a causal relationship such that  $e_3$  leads to  $e_4$  and x is the subject of  $e_3$ .