

# Introduction to the acquisition of finiteness in Capeverdean<sup>1</sup>

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## 1. Introduction

Capeverdean, a Portuguese-based creole, is the native language of all the 400,000 inhabitants of the Republic of Cape Verde, an archipelago off West African coast and a former Portuguese colony, independent since 1975. An estimated one million Cape Verdeans in the diaspora also speak the language and most often have it as their mother tongue. Capeverdean is not, however, an official language in its native country. This role is still limited to Portuguese.

The goal of this paper is twofold: (i) to investigate the development of aspect/tense morphology in Capeverdean (more specifically, is the acquisition aspectually conditioned, i.e. are there “aspect first” effects?); (ii) to determine if Capeverdean-speaking children show a Root Infinitive stage (and, if so, to determine the temporal/aspectual characteristics of Capeverdean “RIs”).

### 1.1 Relevant properties of Capeverdean

Capeverdean shows the following grammatical properties (Baptista 2002, Pratas 2004, 2007):

SVO word order:

- (1) *Djon kome bolu.*  
“John ate (the) cake.”

Null referential subjects are prohibited in matrix clauses:

- (2) a. *\*Sta duenti*  
be sick  
b. *\*Ta bai mar*  
TAM go sea (beach)<sup>2</sup>

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<sup>2</sup> In the glosses, we use the following abbreviations: TAM (tense, Aspect, Mood); COP (copula); 1SG (first person singular, and so on).

No verbal agreement morphology for person or number:

- (3) *N badja / Bu badja / E badja*, etc.  
I/you/he danced

No infinitival morpheme:

- (4) *N kre papia ku bo*.  
1SG want speak with 2SG  
“I want to speak with you.”

It has the following Tense/Aspect/Mood (TAM) morphemes (eventive verbs)

Imperfective/progressive: *sata*

- (5) *Djon sata kanta*.  
“Djon is singing (now).”

Perfective/completed: *dja* (achievements) / *dja ká* (activities, accomplishments)

- (6) *Djon dja kai*. / *Djon dja ká bebe (kópu d’’) águ*.  
“Djon just fell.” / “Djon just finished drinking (a glass of) water.”

Bare verb (zero morpheme): simple past

- (7) *Djon kanta*.  
“Djon sang.”

## 1.2 Acquisition questions and hypotheses

These grammatical properties raise the following experimental questions:

- (i) At what point do Capeverdean children use/understand the progressive and perfective morphemes? (ii) What interpretation do they give to eventive bare verbs?

As for the interpretation of bare verbs, we have two hypotheses:

A: Bare eventive verbs are finite for children (have a zero past tense morpheme, like the example in (7) from the target language), and hence have a past reading.

B: Bare eventive verbs are non-finite (i.e. are RI-analogues), and hence they show the temporal/aspectual properties of root non-finite forms.

If hypothesis B holds, we test the aspectual anchoring hypothesis (AAH - Hyams 2007, 2009), as in (8):

- (8) In the absence of tense, the temporal meaning of a sentence is given by its aspectual properties. The specific predictions are as follows:

- (i) atelic verbs (activities): event is directly anchored to utterance time (UT), hence ongoing.

UT .....e.....

\_\_\_\_\_

- (ii) telic verbs (achievements/accomplishments): 2 event variables, telic event variable (e2) linked to UT, hence the process event (e1) is past. (See Hyams 2007, 2009 for discussion of these predictions.)

UT [.....e1.....] e2  
 |  
 \_\_\_\_\_

English bare verbs bear out the predictions of the AAH, as shown in (9) (Deen 1997; Torrence & Hyams 2004).

- (9) a. He lose it. (past) (Sarah, file 40)  
 b. He fall down. (past) (Sarah, file 40)  
 c. Play ball with him. (present) (Nina, file 39)

The predictions for the temporal interpretation of Capeverdean sentences and its relation with the aspectual properties of verbs are given in Table 1.

Table 1: Predictions for Capeverdean

Verb type	If finite	If non-finite
Activity	past/completed	present/ongoing
Accomplishment	past/completed	past/completed
Achievement	past/completed	past/completed

### 1.3 Other hypotheses

Hidden finite form hypothesis: various proposals argue that RIs, bare verbs and other apparently non-finite forms involve phonological tense/auxiliary omissions from underlyingly finite forms (Gerken 1991; Boser et al. 1992; Ferdinand 1996) or processing difficulties with morphological composition (Phillips 1995), among others. If this was the case in Capeverdean, all child bare forms of eventive verbs should pattern just like finite bare forms in adult language, i.e. past.

Heterogeneous set hypothesis: Children’s bare verbs form a “heterogeneous set” (Blom 2003), viz. some bare verbs are finite, others non-finite. This means that there is no necessary relation between aspectual type and temporal meaning: finite bare verbs should be past and the prediction for non-finite bare verbs is unclear. However, the important point here is: whatever the interpretation of the non-finite bare verbs, it should be evenly distributed across the three event types.

#### 1.4 Null Subjects in Capeverdean

There are several reasons that lead us to expect an RI-stage in Capeverdean: (i) it is a non *pro*-drop language; (ii) it has no agreement morphology. According to various analyses, one or the other or both of these properties are predictive of an RI stage (Sano and Hyams 1994; Wexler 1994; Rizzi 1993/4).

Moreover, RIs and root Null Subjects (NSs) are linked in early production (Hamann & Plunkett 1998; Rizzi 2000): production of both phenomena declines at roughly the same time (or NSs may persist for a brief period after the RI stage has ceased – never the opposite). An elicited production task with 13 Cape Verdean children on Santiago Island (Pratas 2008) showed that they produce null subjects in root sentences at proportions roughly equivalent to children acquiring other non-*pro*-drop languages:

- Group 1 (age 2;4-2;11) 37,14 %
- Group 2 (age 3;0-3;6) 16,66%

In this experiment, the children did not produce bare verbs. This could be due to the nature of the elicitation task, which consisted of showing a picture to the child and asking (for instance):

- (10) *Kusé ki gatu sata fazi katxor?*  
“What is the cat doing to the dog?”

The fact that the progressive form was used in the question may be the reason why all the answers showed *sata* or some phonologically reduced form of it.

## 2. Finiteness experiment

The experiment in the current study was a comprehension task, forced choice picture selection (2 pictures). It involved two factors: (i) lexical aspect (activities; achievements; accomplishments); (ii) morphology: a) ongoing (*sata*); b) perfective (*dja* for achievements; *dja ká* for activities and accomplishments); c) bare (target); in adult language,  $\emptyset$  (zero morpheme), has a simple past reading for eventive verbs.

Given the difficulty in illustrating the different tenses for stative verbs (e.g. *sabe* “know”, *sta duenti* “be sick”), no stative verbs were tested.

### 2.1 Design factors

#### A. Design

A total of 12 conditions were tested, as follows:

Table 2: Test conditions

	<i>sata</i> (ongoing)	<i>dja / dja ká</i> (perfective)	bare form (target)
6 activities	6	6	6
3 achievements	3	3	3
3 accomplishments	3	3	3

### B. Items

We tested 36 items, in two different random orders; 4 fillers were also included, asking for a picture matching that didn't test temporal interpretation (an example is provided below)). Hence, each child received a total of 40 items.

### C. Subjects

A total of 36 children, in three daycare centers in Cova da Moura (in Lisbon metropolitan area) participated in the experiment.

Group 1: 18 children (2;6 – 2;11) – 9 did order A. and 9 did order B.

Group 2: 18 children (3;0 – 3;6) – 9 did order A. and 9 did order B.

We also tested a control group of 8 Capeverdean speaking adults.

### 2.2 Task

The task was explained to the child, in both Portuguese (by the child care provider) and Capeverdean (by the experimenter). This explanation went as follows: the experimenter does not understand Capeverdean very well and needs help. In order to help the experimenter, the child is invited to show the matching picture for each sentence. And then the invitation is repeated whenever necessary during the task, to remind the child what she should do: *Bu ta bai mostra-m ki figura ki sta dretu, sin?* (You're going to show me which picture is right, ok?). *Kel patinhu nada.* (That/the little duck swim "The little duck swam."). When the child didn't answer right away, the experimenter rephrased the test sentence into a question: *Ki patinhu ki nada?* (Which little duck that swim? "Which little duck is it that swam?"). Example test sentences are provided below:

#### (11) Activities

##### a. *Salta korda* "jump rope"

*Kel minina sata salta korda.*

"That/The girl is jumping rope."

*Kel minina dja ká salta korda.*

"That/The girl just finished jumping rope."

*Kel minina ø salta korda.*

"That/The girl jumped rope." (adult)

**b. nada “swim”**

*Kel patinhu sata nada.*

“That/The little duck is swimming.”

*Kel patinhu dja ká nada.*

“That/The little duck just finished swimming.”

*Kel patinhu ø nada.*

“That/The little duck swam.” (adult)

(12) Accomplishments

**a. bebe un kopu d”agu “drink one glass of water”**

*Kel mudjer sata bebe un kopu ...* “That/The woman is drinking one glass....”

*Kel mudjer dja ká bebe un kopu ...* “That/The woman just finished drinking one...”

*Kel mudjer ø bebe un kopu ...* “That/The woman drank one glass...” (adult)

**b. disenha un flor “draw one flower”**

*Kel mininu sata disenha un flor.* “That/The boy is drawing one flower.”

*Kel mininu dja ká disenha un flor.* “That/The boy just finished drawing 1 flower.”

*Kel mininu ø disenha un flor* “That/The boy draw one flower.” (adult)

(13) Achievements

**a. txiga praia “arrive at the beach”**

*Kel minina sata txiga praia.* “That/The girl is arriving at the beach.”

*Kel minina dja txiga praia.* “That/The girl just arrived at the beach.”

*Kel minina ø txiga praia.* “That/The girl arrived at the beach.” (adult)

**b. kai di arvi “fall from the tree”**

*Kel gatu sata kai di arvi.* “That/The cat is falling from the tree.”

*Kel gatu dja kai di arvi.* “That/The cat just fell from the tree.”

*Kel gatu ø kai di arvi.* “That/The cat fell from the tree.” (adult)

Examples of the pictures are also provided:

Fig. 1: Activity



Fig. 2: Accomplishment



Fig. 3: Achievement

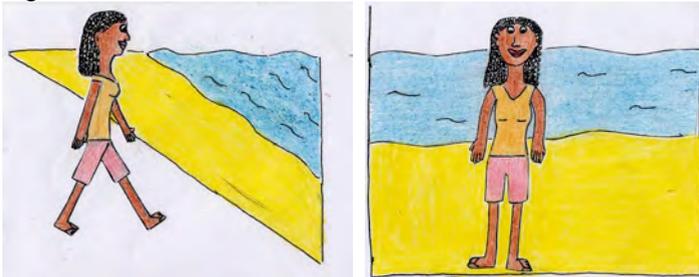
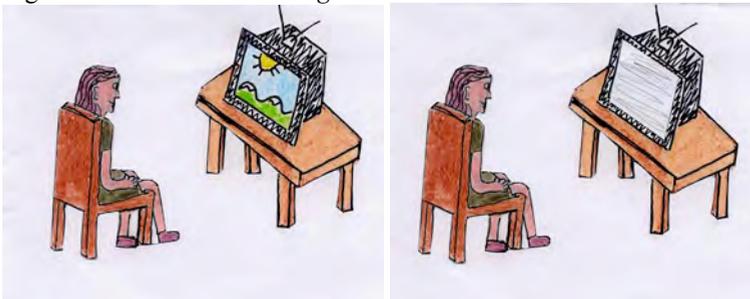


Fig. 4: Filler – *Tilibizon sta ligadu*. “The television is on.”



### 3. Results for each morpheme type.

Table 3: Percentage choice of ongoing vs. past picture for *sata*

<i>Sata</i>	activities		accomplishments		achievements	
	past	ongoing	past	ongoing	past	ongoing
Group 1	9%	91%	6%	94%	7%	93%
Group 2	0	100%	6%	94%	0	100%
Adult	0	100%	0	100%	0	100%

The results for *sata* show that: (i) adults choose the ongoing picture 100% of the time; (ii) children in both age groups perform nearly perfectly (3-year olds are virtually adultlike); (iii) there is no “aspectual alignment”, i.e. children accept *sata* with telic verbs as well as with activities.<sup>3</sup>

Table 4: Percentage choice of ongoing vs. past picture for *dja/dja ka*.

<i>Dja ka</i> <i>/dja</i>	activities		accomplishments		achievements	
	past	ongoing	past	ongoing	past	ongoing
Group 1	64%	36%	69%	31%	46%	54%
Group 2	70%	30%	76%	24%	31%	69%
Adult	100%	0	100%	0	100%	0

The results for *dja/dja ka* show that: (i) adults choose the past picture 100% of the time; (ii) children are less consistent with *dja/dja ka* than with *sata*; (iii) with activities and accomplishments they most often choose the past picture (roughly 65%); they more often choose the ongoing picture with achievements (especially Group 2); (iv) the lack of aspectual alignment is confirmed (children choose the past picture to the same degree with both activities (atelic) and accomplishments (telic); and achievements go completely against aspectual alignment).

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<sup>3</sup> We believe the term ‘aspectual alignment’ is more descriptive because the lining up of telicity with grammatical aspect or tense morphology does not entail that children use the morphology to mark lexical aspect.

Table 5: Percentage choice of ongoing vs. past picture for bare verbs

Bare verb	activities		accomplishments		achievements	
	past	ongoing	past	ongoing	past	ongoing
Group 1	25%	75%	46%	54%	52%	48%
Group 2	19%	81%	43%	57%	54%	46%
Adult	100%	0	100%	0	100%	0

The results for bare verbs show that: (i) adults choose the past picture 100% of the time; (ii) with activities children choose the ongoing picture 75% of the time or more; (iii) with telic verbs children perform roughly at chance, choosing the incorrect ongoing picture at about the same rate as the correct past picture.

#### 4. Discussion

Our experiment allows us to conclude that Capeverdean children behave very differently from adults. In the next subsections, we present several observations that support this conclusion and propose some tentative explanations for these results.

##### 4.1 Bare atelic predicates

Regarding activity predicates, there are two main observations: (i) children's bare activity verbs are not uniformly interpreted as finite (contra hypothesis A and the hidden finite forms hypothesis); in this respect, their performance is predicted by the AAH: the event variable in the open predicate links to Utterance Time, hence ongoing; (ii) children show an "RI" stage: the 75% of activity verbs that match the "ongoing" picture are non-finite and anchored through lexical aspect; the remaining 25% are finite and match the past picture, in accordance with the adult grammar.

##### 4.2 Bare telic predicates

As for accomplishments and achievements, whether finite (adultlike) or non-finite (AAH), these (telic) predicates should match past picture. But roughly 50% do not. Why?

Telic predicates (unlike activities) have a complex event structure: (i) accomplishments (e.g. NP draw a flower) consist of a process and culminating point + resulting state (Moens 1987). So, in principle both pictures match the

predicate, depending on what slice of the event the child is focused on (process or resulting state); (ii) achievements (e.g. NP arrive at) have a culmination point and resulting state, no process (Moens 1987). The predicate is true at the moment of arriving (culmination point – e.g. the moment of touching the beach) and also at the resulting state (e.g. the girl on the beach), again consistent with both pictures.

Our proposal is that children allow telic verbs to refer to both pictures because they match the picture to different slices of a complex event

#### 4.3 Adults vs. children

The latter hypothesis raises a question about the adult performance which is, why don't our adult controls ever choose the ongoing picture for the bare telic predicates? One possible answer is that adults make a pragmatic inference along the following lines: if the speaker meant to describe a process/ongoing event she would have used *sata*. By not using *sata* she means to describe a past and/or culminated event. We hypothesize that children are missing this inferential step, and hence allow both pictures (depending on the lens they use). This inference is difficult for children because it involves a comparison across different derivations. (viz. they can only know that the ongoing picture is excluded by determining if *sata* would be appropriate) (along the lines suggested by Grodzinsky & Reinhart 1993).

#### 4.4 Children's bare verbs

Because children treat activity predicates differently from the accomplishment predicates, we know that: (i) in terms of their semantics, they are not simply resorting to some default "present time" strategy; and (ii) rather, the inherent aspect of the predicate plays a role in the temporal interpretation.

In terms of the morphology, we see that the bare verb is not an elsewhere form or placeholder for unacquired morphemes (Blom 2004). Performance with *sata* and *dja/ dja ká*, particularly with activity predicates, shows that children know the Capeverdean temporal morphology.

Another possibility would be to consider that telic bare verbs form a "heterogeneous set" (HSH - Blom 2004): those matching the past picture are finite; those matching the ongoing picture are non-finite. But, all else being equal, the HSH leads us to expect no differences between telic and atelic bare verbs in the percentages of finite and non-finite forms, contrary to fact.

#### 5. Conclusions

From the results of this experiment, we present the following set of conclusions: (i) Capeverdean children perform nearly perfectly with imperfective morphology; (ii) they are less consistent with perfective morphology, but are far better than

chance, especially group 2; (iii) there is no evidence of “aspectual alignment” (aspect first effects); (iv) they treat bare verbs differently from adults: bare activity verbs match an ongoing event, as predicted by AAH; (v) their chancelike performance with telic bare verbs is also consistent with AAH if we assume the pictures allow them to focus on different slices of a complex event structure; (vi) the aspectual conditioning of bare verbs supports the hypothesis of an RI stage in Capeverdean.

Our results do not support a null tense/aux hypothesis for apparently non-finite forms. Children also differ from adults in lacking the pragmatic ability to make an inference about the speaker’s intention.

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