E-methodologies

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Features and Domains

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Workshop: Notions of 'feature' in linguistic theory: cross-theoretical and cross-linguistic perspectives.

Objective and Aim

The objective of our study is to model the Krio TMA system using a Krio text corpus. We have studied the system in terms of its morpho-syntactic features; first in isolation and then in the narrative domain which has its own set of constraints.

Our theoretical aim is to present a layered *analysis* of the Krio TMA system representing text as well as sentence level constraints.

Our practical aim is to achieve a more realistic description of the Krio TMA system in terms of its features and the distribution of their exponents.

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Objective and Aim

Krio narration

TMA systems are a key research area in creole studies (Holm (2000), Huber (1999), Velupillai (2003), Finney (2008)). The aim of our corpus study is to come closer to a coherent and comprehensive description of the Krio TMA feature – exponent assignments

Krio narration

TMA systems and *performance* has been addressed as part of Krio folktales and literature studies (Dixon-Fyle & Cole 2006). Here we consider the narrative as a *domain* and identify within this domain events and their anchoring in time.

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Outline

1. Corpus data and Features

2. Domain 1:

    a. Corpus data and the feature set
    b. The Krio verb cluster
    c. Verb cluster template
    d. Annotation profiles

3. Differences to earlier descriptions of Krio

4. Domain 2:

    a. Narration
    b. Features, Links and Anchors
    c. Temporal anchoring
    d. Narrative and event tense

5. Conclusion

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Corpus data and Features

We have explored Krio ['kri] Tense, Modality and Aspect features building on a corpus of 33 short stories and transcribed narrations consisting of 937 phrases (8299 words). The original resource has been created by Beatrice Owusua Nyampong, a native speaker of Krio. Preserving the resource, we added new layers of annotation reflecting the Krio TMA system in the light of the analysis presented here. Both resources are public.

Krio TMA - Features and Values			
FEATURES	Tense	Modality	Aspect
V A L U E S	past	dynamic	continuous
	future	epistemic	completive
	perfect	deontic	inceptive
	past perfect	conditional	habitual

Information about our methodology, the reliability of the data, and the structure of our database can be found online at TypeCraft.org.

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DOMAIN 1 – Krio verb clusters

Tense	Realisation	Aspect	Realisation
past	bin + [V |COP] Bɔt i **bin gɛt** krɔkrɔ ɔl oba in bɔdi. *'but he had rashes all over his body.'*	continuous	de + V I de kom *'he is coming '*
perfect	dɔn + [V|COP] If yu si di kɔtlas we i dɔn pul am...' *'If you see the cutlass that he had pulled out...'*	**completive**	V + dɔn We i tinap de wet fɔ lɛ di fɔs vilej kuk dɔn... *'When he stood waiting for the first village to finish cooking.'*
past perfect	bin dɔn + [V|COP] Na de i sɛn in nɛf tret pan di taya we jɛs bɔs paw bikɔs i bin dɔn gɛt bɔled. '*Then he put his knife straight into the tire which just burst because it had been exposed.'*	habitual	kin + V Di ples kin ɔt bad bad wan, nɔn lɛk Mach mɔnt. '*The place usually becomes very hot, especially in the month of March.'*
future	go +[V|COP] Bifo jako kɔt yai a go dɔn rich ya. *'before Bifo can blink I will be there'*	inceptive	bigin + V So as dɛn bigin go so, nain di fɔl ala, 'kokoriokoo, yu wɛf de go'. '*As they were leaving the cock crowed 'kokorioko, your wife is leaving'.'*

DOMAIN 1 – Krio verb cluster

Modality	Realisation
deontic (obligation, mild advice)	fɔ + V gɛt + [fɔ + V] dɛn bin fɔ dɔn de rɔn bifo dɛn trowe di stɔn dɛm. *'They should have been running before they threw the stones.'*
epistemic (possibility)	**kin + V** fɔ + V Di af af tik dɛm fɔ bɔn wan ol de. *'The pieces of wood should burn for a whole day.'*
conditional (contingent possibility)	**if ...** [fɔ + V] **| [kin + V]** if nɔto fɔ in mama i nɔ bin fɔ de waka. *'if not for his mother he would not have been walking.'*
dynamic (ability)	**kin + V** I kin bit tɛn man togɛda. *'He can beat ten men at the same time.'*

Verb cluster template and its realisation

TNS:past $_{[0...1]}$ ↪ MODAL $_{[0...1]}$ ↪ TNS:perf $_{[0...1]}$ ↪ ASP $_{[0...2]}$ **unm.verb*** ↪ ASP:compl $_{[0...1]}$

dɛn bin fɔ dɔn de rɔn bifo dɛn trowe di ston dɛm.
"They should have been running before they threw the stones."

Word:	dɛn	bin	fɔ	dɔn	de	rɔn	bifo	dɛn	trowe	di	ston	dɛm	.
Morph:	dɛn	bin	fɔ	dɔn	de	rɔn	bifo	dɛn	trowe	di	ston	dɛm	
Citation Form:	dɛn	bin	fɔ	dɔn	de	rɔn	bifo	dɛn	trowe	di	ston	dɛm	.
Meaning:					be	run	before		throw_away		stone		
Gloss tags:	3PL	PAST		PRF	CONT			3PL		DEF		PL	
POS:	PN	Vpre	Vmod	Vpre	Vpre	V	CONJS	PN	V	DET	N	PRT	PUN

Instantiation of the morphological template

TNS:*bin* MODAL:*fɔ* TNS:*dɔn* ASP:*de* **RUN**

* unmarked verb

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Annotation profiles

Our corpus allows annotation mining. Extracting the 7 verbal categories, from all Krio part of speech categories, we found the distribution shown in Figure 1. An aggregation of Tense-Aspect features reveals the relative frequency of the Krio TA-features, as shown in Figure 2
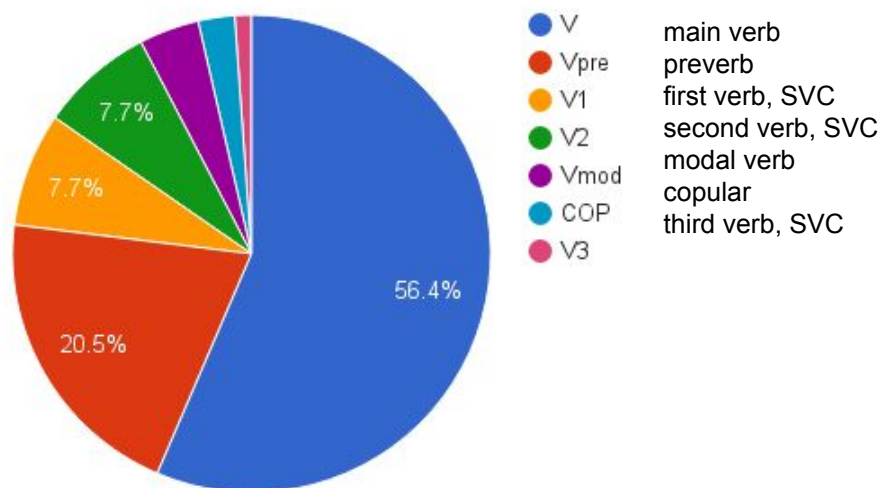
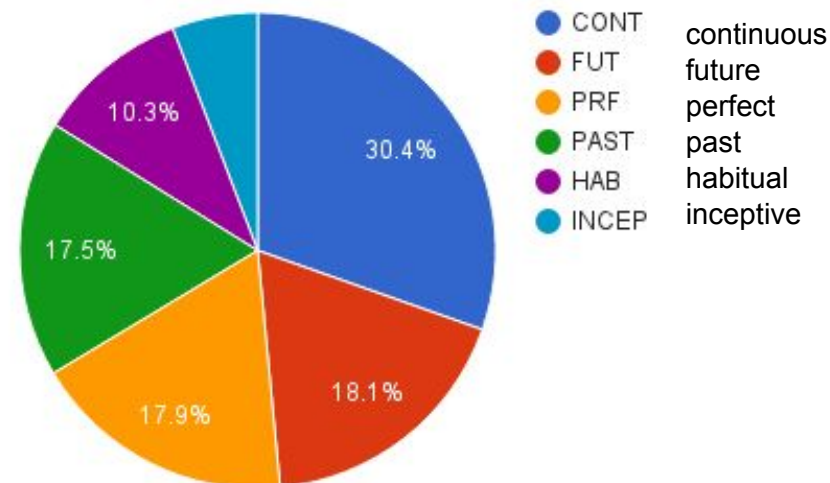| Legend		Description
●	V	main verb
●	Vpre	preverb
●	V1	first verb, SVC
●	V2	second verb, SVC
●	Vmod	modal verb
●	COP	copular
●	V3	third verb, SVC

Figure 1 Part of Speech

Legend		Description
●	CONT	continuous
●	FUT	future
●	PRF	perfect
●	PAST	past
●	HAB	habitual
●	INCEP	inceptive

Figure 2 Tense-Aspect Features

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Differences to earlier descriptions of Krio

The perfect tense

The Krio **perfect** is formed using dɔn which is derived from the Krio verb dɔn 'finish'.
As a tense marker the verb occurs in a preverbal or pre-copular position.

Bifo a sɛt mi yai ɛn opin am a go dɔn dɔn.
''Before I close my eyes and open them I will have finished.''

Word:	bifo	a	sɛt	mi	yai	ɛn	opin	am	a	go	dɔn	dɔn
Meaning:	before	I	set/close	my	eye	and	open	it	I	will	have	finish
Gloss tags:		1SG		1SG				3SG	1SG	FUT	PRF	
POS:	ADV	PN	V	PNposs	N	CONJC	V	PN	PN	Vpre	Vpre	V

Finney 2008 classifies «dɔn» as a perfective aspect marker.
Wikipedia classifies «dɔn» as a present perfect.

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Differences to earlier descriptions of Krio

The future tense

The **Krio future** marker is the preverb gò which is derived from the Krio verb *go.*
The Krio future refers to a time after the time in focus. The short conversation in (6)
serves as an example.

(6) Short Krio conversation (Peace Corps Krio Manual)

Krio	English
We a rich di jɔnkshɔ n, usay a fɔ go ?	When I reach the junction, where should I go?
Yu **go si** di sayn na yu rayt.	You'll see the sign on your right.
ɔrayt, wi **go si** ya.	Okay, we'll see you.

6)

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Differences to earlier descriptions of Krio

The completive aspect

The **completive aspect** is marked by *dɔn* in a **post verbal** position

We dɛn dɔn bɔn dɔn, pul di dɔti ɛn di lif we nɔ bɔn.
''After burning, remove the dirt and leaves which did not burn.''

Word:	we	dɛn	dɔn	bɔn	dɔn	,	pul	di	dɔti	ɛn	di	lif
Meaning:	When	they	be	burn			remove	the	dirty	and	the	leaf
Gloss tags:		3PL	CONT		CMPL			DEF			DEF	
POS:	CONJS	PN	Vpre	V	Vlght	PUN	V	DET	N	CONJC	DET	N

Finney 2008 classifies «dɔn» as a perfective aspect marker.
However, the perfective marker *dɔn* needs to occur post verbally.
As a preverb, *dɔn* is a perfect marker

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Differences to earlier descriptions of Krio

Modality
Kin marks as a preverb habitual aspect; as a modal verb it
expresses dynamic modality (ability),as well as epistemic modality.
It also naturally occurs in conditional construction, communicating contingent
possibilities.

Krio	English
I kin ol motoka lɛ I nɔ muf.	it can hold motocars so that they cannot move
(21)Ɛn dat kin gi yu sik sɛf if yu nɔ bikayful.	If you are not careful that can even make you sick.
(22) ɛnibɔdi we wan, kin gɛt di kayn ɛdukeshɔn we go tren am fɔ spɛshal jab dɛm.	Anyone who wants can get the kind of education which will train him/her for a special job.
(23)I kin du dis if i wok wit di gɔvamɛnt ɔ if i vot fɔ pipul dɛn we go wok wit di gɔvamɛnt.	He can do this if he works with the government if he votes for people who will work with the government.

Contrary to what we show here, the Atlas of Pidgin and Creole Languages, Feature 55
states that Krio ability verbs cannot express epistemic possibilities
http://http://apics-online.info/contributions/15

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D2 The narration

Nɔto ɔltin we fain na fain - Not all that glitters is gold

A Krio oral narration, recorded and annotated

by Beatrice Nyampong

Parallel Krio - English text

Wan de ya, na wan titi bin de, i de na wan fawe vilej wit in mama ɛn papa ɛn in smɔl brɔda.

Bɔt I bin de na po po famili so i bin fotunet se na in dɛn sɛn na Fritɔŋ fɔ go skul.

We i dɔn di skul nain i gɛt fɔ ritɔn bak na di vilej.

So nain in mama tɛl am se "Eee Bindu, ɔl wi mɔni we wi dɔn gɛt nain wi dɔn put pan dis yu skul.

Once upon a time, there lived a girl in a faraway village with her mother, father and little brother.

but she was in a poor family so she was fortunate to be sent to school in Freetown.

When she completed school she had to return to the village.

So her mother told her that *Eee Bindu, we have used all the money we have for your schooling.*

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Krio – English parallel text in Sketch engine

Features, Links and Anchors*

	Features		Links		Anchors
P	Past	SUB	Subordination	Ex-Tense	External tense
PRF	Perfect	DS	Direct speech	I-Tense	Internal tense
PPRF	Past Perfect	IDS	Indirect speech		
DEON	Deontic Modality	PURP	Purpose clause		
EPIS	Epistemic Modality	RC	Relative clause		
CMPL	Completive Aspect	INF	Infinite clause		

* only showing a subset

Krio

Ex-Tense: [E   S]

Tense anchoring and event chains for Krio and English

$P_{be}, P_{be},$

$P_{be.fortunate}$

send

PURP

go_school

DEON return

SUB

finish_school

tell

DS

PRF use_money

Event chain

{live} {be_fortunate} → {send} ⟶ {attend_school} ⟶ {complete_school} → {return_home} ⟶ {use_money_school}

I-Tense [R...E]

English

Ex-Tense: [E   S]

$P_{be}, P_{be},$

$P_{be\_fortunate}$

INF

send_to_school

P(DEON) return

SUB

$P_{complete}$

P_{tell}

DS

PRF use_money_school
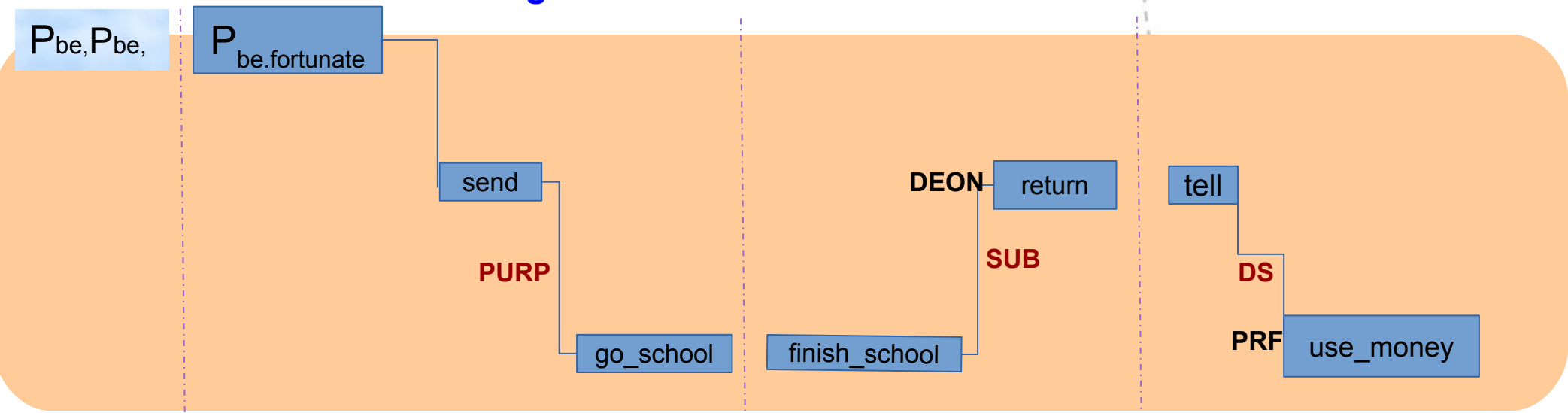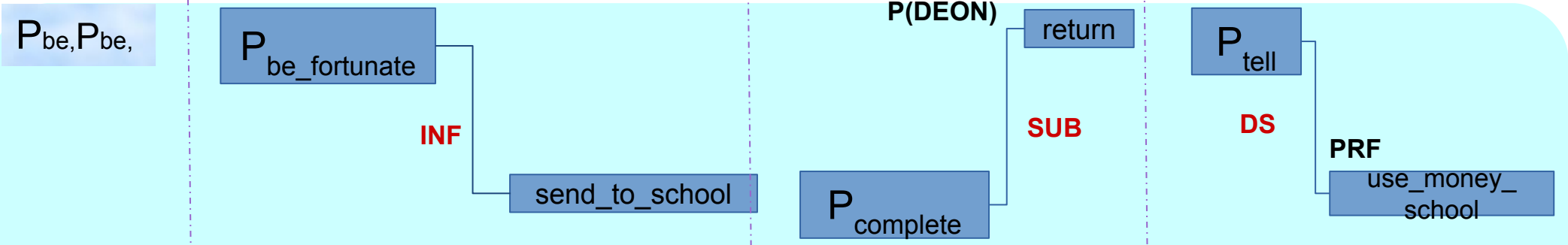
S1
(ID:449650)

S2
(ID:449654)

S3
(ID:449658)

S4 :
(ID:449660)

Narrative tense and Event tense

Looking at narration time in English what we find, roughly speaking, is that we interpret every proposition relative to an interval of time, thus the interpretation function is:

$$\mathbf{I}_{nt} \left([p, t]_0 \; \ldots [p, t]_{n+1} \right) \cdot$$

This is not what happens in Krio which determines the event time relative to speech time for a given event chain only initially. Krio narrations make use of event flow for interpretation:

$$\mathbf{I}_{et} \left([p, e] \in \{e_0 \ldots e_{n+1}\} \right)$$

Both language make use of relative tense, which leads to perfect
marked verb chains in an otherwise unmarked stretch of verbal predicates.

Conclusion

We have defined the Krio TMA features using a corpus of Krio texts.

Using a 2 domain or multi-layered model we have mapped TMA features onto the morpho-syntactic and the narrative domain.

Mapping Krio TMA features to their morpho-syntactic exponents, we found some incompatibilities between the features describing our corpus and descriptions found in the literature.

Mapping TMA features onto the narrative domain, we found salient differences in the use of narrative tense for English and Krio.

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Wikipedia

Tools:
Sketch Engine: https://www.sketchengine.co.uk/
TypeCraft : https://typecraft.org/

THANK YOU

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