Productive Agreement in Swahili: Against a Piecemeal approach

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1.0 Introduction

b.

(1) Errors of substitution are rare.

a. Mommy eat cake

ERROR OF OMISSION – common

(3rd person subject, missing 3rd person agreement)
I eats cake

ERROR OF SUBSTITUTION – rare

(1st person subject with 3rd person agreement)

Table 1. Frequency of verbs with 1 SG subjects

Stem	Irregular Past	-ed	-S
1349	325	47	3

(Harris & Wexler, 1996).

(2) <u>Early Morphological Convergence (EMC)</u> – Children readily converge on the specific morphosyntax of the adult target language (Hoekstra & Hyams, 1998).

<u>Very Early Knowledge of Inflection (VEKI)</u> – the child knows the grammatical properties of many inflectional elements from the earliest observable stages (Wexler 1998, 2003).

Table 2. Rates of agreement errors cross-linguistically.

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Child	Language	Age	n	%error	Source			
Simone	German	1;7-2;8	1732	1%	Clahsen & Penke, 1992			
Martina	Italian	1;8-2;7	478	1.6%	Guasti, 1994			
Diana	Italian	1;10-2;6	610	1.5%	Guasti, 1994			
Guglielmo	Italian	2;2-2;7	201	3.3%	Guasti, 1994			
Claudia	Italian	1;4-2;4	1410	3%	Pizzuto & Caselli, 1992			
Francesco	Italian	1;5-2;10	1264	2%	Pizzuto & Caselli, 1992			
Marco	Italian	1;5-3;0	415	4%	Pizzuto & Caselli, 1992			
Marti	Cat/Spanish	1;9-2;5	178	0.56%	Torrens, 1992			
Josep	Cat/Spanish	1;9-2;6	136	3%	Torrens, 1992			
Gisela	Catalan	1;10-2;6	81	1.2%	Torrens, 1992			
Guillem	Catalan	1;9-2;6	129	2.3%	Torrens, 1992			

(Sano & Hyams, 1994)

1.1 Abstract Rule or Piecemeal?

• Pizzuto & Caselli (1992): plural agreement occurs very rarely in the speech of three Italian children (aged 1;4-3;0), and so plural agreement is not acquired. Therefore the children have not acquired an abstract rule of agreement in Italian.

Pizzuto & Caselli's Acquisition Criteria:

Criterion 1: 90% observance in obligatory context.

Criterion 2: Criterion 1 must be observed in 3 consecutive transcripts.

— Criterion 3: a minimum of 5 obligatory contexts must occur in each of these transcripts.

Many thanks to Bonnie D. Schwartz for discussion and comments on earlier versions of this talk.

- Hyams (1992): the mere avoidance of plurals does not constitute evidence against the child having acquired an abstract rule of agreement.
- Rubino & Pine (1998): In addition to plural agreement being rare, the rate of substitution errors are significantly more abundant in plural contexts than in singular contexts.

... no evidence for an abstract rule of agreement, but rather, agreement (at least in Brazilian Portuguese) is acquired piecemeal, on an item-by-item basis.

1.2 The Piecemeal Approach

Piecemeal approaches, also known as item-based, or lexical-based approaches (Peters, 1983; Lieven, Pine & Baldwin, 1997; Tomasello, 2000; Rubino & Pine, 1998; Wilson, 2003, a.o.):

- no access to innate principles of language.
- children acquire language on an item-by-item basis, making associations with particular lexical items.
- A child learns a single verb, e.g., eat
- the child learns to associate *Mommy* with eat
- the child then learns the chunk 'Daddy eat'.
- At this stage, the child has no internal analysis of these strings they are simply learned forms.
- As the child builds her repertoire of related learned forms, the child is able to generalize over the items and form a more general construction, e.g., NP *eat*.
- (3) Two Predictions of the Piecemeal Approach:

PREDICTION 1: SUBSTANTIAL ERRORS IN AGREEMENT.

PREDICTION 2: MINIMAL VARIATION IN FORMS

- (i) Agreement should not occur on many different verb roots;
- (ii) Alternations of agreement should not occur.
- (4) Two Predictions of the Nativist Syntactic Approach:

PREDICTION 1: FEW ERRORS IN AGREEMENT.

PREDICTION 2: VARIABILITY EXHIBITED

1.3 **Rubino & Pine (1998)**

- investigate the acquisition of agreement in Brazilian Portuguese in the speech of one child aged 3;2 – 3;4. The data come from 10 samples during this 2 month period. The agreement paradigm for BP is given in table 3.

Table 3. Brazilian Portuguese agreement paradigm

	Escrever 'to write' (regular)	Fazer 'to do/ to make' (irregular)
1 sg	Eu es'crev <u>o</u>	Eu 'faç <u>o</u>
2 sg	Você es'crev <u>e</u>	Você 'faz
3 sg	Ele es'crev <u>e</u>	Ele 'f az
1 pl	A gente es'crev <u>e</u>	A gente 'faz
1 pl	Nós escre'vemos	Nós fa'z <u>emos</u>
2 pl	Vocês es'crev <u>em</u>	Vocês 'faz <u>em</u>
3 pl	Eles es'crev <u>em</u>	Eles 'faz <u>em</u>

(Rubino & Pine, 1998, 39).

Table 4. Overall accuracy of agreement in the BP corpus.

Overall Subject-Verb Agreement	N	%
Correct	1420	97.0
Incorrect	44	3.0
Total	1464	100

(Rubino & Pine, 1998, 42)

Table 5. Overall tokens of singular and plural agreement in the BP corpus.

	N	%
Singular Agreement	1414	96.6
Plural Agreement	50	3.4
Total	1464	100

(Rubino & Pine, 1998, 42).

Table 6. Error rates in singular and plural contexts.

	Errors	%
Singular Subject	30/1414	2.1%
Plural Subject	14/50	28.0%

(adapted from Rubino & Pine, 1998, 43).

Table 7. Error rates in the Brazilian Portuguese agreement paradigm.

	Number of occurrences	Correct Agreement	Agreement Errors	Incorrect (%)
1 SG	297	272	25	8.4
2 SG	188	188	0	0
3 SG	929	924	5	0.5
1PL A Gente	17	13	4	23.5
1PL Nós	10	10	0	0
2 PL				
3 PL	23	13	10	43.5

(Rubino & Pine, 1998, 44).

Rubino & Pine argue that the data are more compatible with a piece-meal approach to language acquisition.

(5) 7 tokens of 3PL that are categorized into two *types*:

a. Mas **esses são** Babas 'But these are Babars.'

b. E **esses são** Mickeys 'And these are Mickeys.'

c. U/um/e **esses são** soldados 'U/um/ and these are soldiers.'

d. **Eles vão** / zê jogo co lobo-mau? 'Are they going to play a game with the big bad wolf?'

e. [Eles] **vão** ganhá e apota 'Are they going to win and (uninterpretable).'

f. [Eles] vão fazê co lobo-mau 'They are going to play with the big bad wolf.'

g. Onde a gente/onde a gen/ eles vão? 'Where are we/where are we/ are they going?

'Thus, 58.3% of the 3 PL verb inflections exhibiting correct subject-verb agreement observed between ages 3;03.04 and 3;04.08 could be accounted for by the learning of two unanalyzed subject-verb strings'

(Rubino & Pine, 1998, pp.50-51).

According to Rubino & Pine, the following two points are sufficient to show that the child in their study acquired agreement in a piecemeal, item-based manner:

- 1. Significant rates of errors of substitution in plural contexts.
- 2. Low-flexibility in usage. The criterion they appear to be using to designate utterances as exhibiting low-flexibility is that a particular subject-verb-agreement string must occur at least three times.

1.4 Some (critical) thoughts on Rubino & Pine (1998)

1. Claim: 'Low flexibility' → little variation

But: Within the group (3d-g), **vão** appears to select at least two (perhaps) three

different verbs. This apparently does not count towards flexibility.

2. Claim: 'Low flexibility' → few utterance types

But: 6 other tokens could not be grouped, therefore a total of 8 types across 13

tokens. Is this not sufficient flexibility?

3. Claim: Remaining tokens are in fact 'formulaic'.

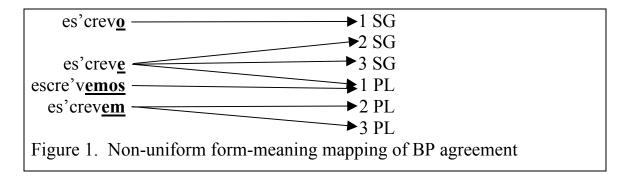
But: What counts as a formulaic vs. learned string?

4. Claim: Low flexibility made on the basis of 7 tokens.

But: What about the \sim 1400 tokens of *correct* agreement? Are they irrelevant?

5. Claim: Errors definitively rule out the possibility of an abstract rule of agreement.

But: Hyams (1992) and many others point out that this is false.



2.0 The Acquisition of Agreement in Swahili

Preview:

- the overall error rate is extremely low, as expected.
- errors of substitution are very rare in both the singular and the plural, contra R&P
- agreement in both the singular and the plural are not constrained or limited in variation, contra R&P's results from Brazilian Portuguese.

2.1 Method

The data come from the naturalistic audio-recorded speech of two Swahili-speaking children (ages 1;8-2;2 and 2;10-3;0) collected in Nairobi, Kenya.

Table 8. Age, MLU and V-ratio for HAS

File	Age	MLU	V Ratio
HAS01	2;10.13	3.15	0.301
HAS02	2;10.27	3.46	0.301
HAS03	2;11.11	3.47	0.228
HAS04	3;0.01	4.23	0.405

Table 9. Age, MLU and V-ratio for FAU

File	Age	MLU	V Ratio
FAU01	1;8.01	2.97	0.208
FAU02	1;9.01	3.66	0.172
FAU03	1;9.14	3.4	0.238
FAU04	1;10.02	3.28	0.166
FAU05	1;11.01	3.47	0.177
FAU06	1;11.27	3.93	0.213
FAU07	2;0.26	6.1	0.591
FAU08	2;1.07	3.35	0.232

(6) The minimal Swahili verbal complex:

Subject Agreement – Tense – Verb Root – Indicative.

Table 10. Subject Agreement in Nairobi Swahili (non-Standard)

Person	Singular	Plural
1 st (animate)	ni	tu
2 nd (animate)	u	mu
3 rd (animate)	a	wa
Inanimate	i	zi

(7) m-toto m-zuri a – me – anguk - a 1-child 1-good SA_{3s} – Pr.perf. – fall - IND 'The good child has fallen.'

(8) wa-toto wa-zuri wa – me – anguk - a 2-child 2-good SA_{3pl} – Pr.perf. – fall - IND 'The good children have fallen.'

(9)	Optional Pronoun	SA	T	Verb	FinalVowel	Gloss
1 st singular	Mimi	/ni-\	-li-	-anguk-	- a	I fell
2 nd singular	Wewe	/ u- \	-li-	-anguk-	- a	You fell
3 rd singular	Yeye	a-	-li-	-anguk-	- a	He fell
1 st plural	Sisi	tu-	-li-	-anguk-	- a	We fell
2 nd plural	Ninyi	\mu-/	-li-	-anguk-	- a	You (all) fell
3 rd plural	Hawa ¹	\wa-	-li-	-anguk-	- a	They fell

¹ This is specific to Nairobi Swahili. The 3rd person plural pronoun in Standard Swahili is *wao*

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3.0 Data

3.1 General Frequencies

Table 11. Frequency of subject agreement produced by HAS, by file.

	H1	H2	Н3	H4	Total
1 SG Animate	19	18	7	22	66
2 SG Animate	11	19	3	17	50
3 SG Animate	37	20	11	43	111
1 PL Animate	4	5	1	3	13
2 PL Animate	1	0	0	0	1
3 PL Animate	7	0	1	3	11
Inanimate SG	5	3	9	16	33
Inanimate PL	0	0	0	1	1
	84	65	32	105	286

Table 12. Frequency of subject agreement produced by FAU, by file.

	Fau1	Fau2	Fau3	Fau4	Fau5	Fau6	Fau7	Fau8	Total
1 SG Animate	7	8	6	3	5	9	10	5	53
2 SG Animate	6	3	4	3	8	4	7	6	41
3 SG Animate	1	9	9	3	5	7	36	22	92
1 PL Animate	1	0	3	0	1	1	10	0	16
2 PL Animate	0	0	0	0	0	0	0	0	0
3 PL Animate	0	0	0	0	0	2	0	1	3
Inanimate SG	0	0	3	0	0	3	2	2	10
Inanimate PL	0	0	0	0	0	0	0	0	0
Total	15	20	25	9	19	26	65	36	215

Table 13. Combined singular and plural agreement markers in each child's corpus.

<u> </u>		
	HAS	FAU
Singular	260	196
Plural	26	19
	286	215

3.2 Errors in Agreement...or not

Each child utterance that contained subject agreement was identified, and the subject was determined. Because Swahili is a null subject language, if the subject was null the subject was identified through context. Unclear cases were excluded. Results are presented in table 14.

Table 14. Correct and incorrect subject agreement in the speech of two Swahili speaking children.

	I	Has	Fau		
	Correct	Incorrect	Correct	Incorrect	
1 SG Animate	49	0	43	0	
2 SG Animate	46	0	42	0	
3 SG Animate	94	1	88	1	
1 PL Animate	10	0	15	0	
2 PL Animate	1	0	0	0	
3 PL Animate	8	0	2	0	
Inanimate SG	12	2	6	0	
Inanimate PL	1	0	0	0	
(Unclear)	62		18		
Total (excluding unclear)	221	3	196	1	

Table 15. Rate of errors in singular and plural contexts.

	HAS	FAU
Singular	3/204 (1.47%)	1/180 (0.5%)
Plural	0/20	0/17

This is precisely what we expect if an abstract rule of agreement is operating in child language.

But perhaps flawless agreement is not enough to show knowledge of an abstract rule of agreement. We must investigate the amount of variation that occurs on lexical items.

- Little variation with respect to lexical items → an abstract rule of agreement is unnecessary (recall Prediction 2 of the Piecemeal Approach on p.2)
- Significant variation → argument for an abstract rule of agreement (lots of verb roots taking different agreement markers)
- Alternations on individual verb roots \rightarrow strong argument for an abstract rule of agreement.

3.3 Flexibility in agreement

(10)



Table 16. All utterance in HAS01 that exhibit 1 SG agreement

Utterance	preverbal	SA	T	OA	Verb	Postverbal
1	•	na	ka		ambia-je	
			cont		tell-what	
2		ni	ka		angalia	
			cont		see-IND	
3		ni			ende	
					go-SUBJ	
4		ni	me	ku	imbia	
			pr.perf		sing-appl-IND	
5		ni	me	ku	imbia	
			pr.perf		sing-appl-IND	
6	mimi	ni	li		kua	kwa kina Vano
	I		past		be-IND	
7	ndio	ni	•		kuje	
	yes				come-SUBJ	
8	<u> </u>	ni	ja		mumbia	
			neg-perf		tell-IND	
9		ni	ka		nunulua	nikaku
			cont		buy-appl-IND	
10		n	ka	mw	ona	
			cont		see-IND	
11		na	na	i	ona	
			pres		see-IND	
12		ni	•		ongee	
					talk-SUBJ	
13		ni			ongee	
					talk-SUBJ	
14		ni			pe	
					give-SUBJ	
15		ni			pe	
					give-SUBJ	
16	ma	ni		ku	semade	wasemaje?
					say-what	
17		ni			swali	
					pray	
18		ni			towa	hii kitu kaa hivo hivo
					remove-IND	
19		ni			weke	
					put-SUBJ	

Note: For presentational reasons, the verb root in this table includes the mood final vowel. 'preverbal' = all material before the verbal complex; postverbal=all material after the verbal complex; ka=continuative tense, ni=present tense, mw=OA_{3s}

Table 17. Agreement on different verb stems and different verb roots in HAS01.

	Tokens	Different Roots	Different Stems
1 SG Animate	19	15	16
2 SG Animate	11	10	10
3 SG Animate	37	21	35
1 PL Animate	4	4	4
2 PL Animate	1	1	1
3 PL Animate	7	6	6
Inanimate SG	5	4	5
Inanimate PL	0	0	0
	84	61	67

Table 18. Agreement on different verb stems and different verb roots in FAU07.

_	Tokens	Different Roots	Different Stems
1 SG Animate	10	3	5
2 SG Animate	7	7	7
3 SG Animate	36	19	31
1 PL Animate	10	5	7
2 PL Animate	0	0	0
3 PL Animate	0	0	0
Inanimate SG	2	1	1
Inanimate PL	0	0	0
	65	35	51

Alternations of agreement morphemes 3.4

Alternations including a plural agreement marker in the file HAS01:

kua, 'to be' (11)

a.
$$ni - li - kua$$

b.
$$a - li - kua$$

$$3 \text{ SG} - \text{past} - \text{be} - \text{IND}$$

c.
$$tu - li - kua$$

d. $i - li - kua$

kula, 'to eat' (12)

d.

a.
$$tu - na - kula$$

b.
$$wa - na - kula$$

(13)kula, 'to eat'

a.
$$u - li - kula$$

b.
$$tu - li - kula$$

Alternations including a plural agreement marker in the file FAU07:

(14) kimbiza, 'to chase'

a.	ni – li – kimbiza	1 SG – past – chase – IND	FAU, line 957
b.	a – li – kimbiza	3 SG – past – chase – IND	FAU, line 909
c.	tu – li – kimbiza	1 PL – past – chase – IND	FAU, line 941

(15) *kua*, 'to be'

a.	ni – li – kua	1 SG - past - be - IND	FAU, line 947
b.	a – li – kua	3 SG - past - be - IND	FAU, line 1308
c.	tu – li – kua	1 PL - past - be - IND	FAU, line 1318, 1396

4.0 Conclusion

The data presented here today show that

- (i) errors of agreement are superbly rare, both in the singular as well as the plural;
- (ii) individual agreement morphemes occur on a range of different verbs, and
- (iii) individual verbs show alternations in agreement, even in the plural.

These data strongly favor the analysis that children have an abstract rule of agreement at these early stages in development.

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Appendix.

In the following two tables, * indicates that the same verb root occurs with a particular agreement morpheme at least 3 times, and \$ indicates the same verb stem occurs with a particular agreement morpheme at least 3 times.

Table A1. Utterances from HAS01 containing agreement.

		711. Otterances				ingular	
		preverbal	SA	T	OA	Verb	Postverbal
			na	ka		ambiaje	
			ni	ka		angalia	
			ni			ende	
			ni	me	ku	imbia	
			ni	me	ku	imbia	
		mimi	ni	li		kua	kwa kina Vano
		ndio	ni			kuje	
			ni	ja		mumbia	
			ni	ka		nunulua	nikaku
			n	ka	mw	ona	
			na	na	i	ona	
			ni			ongee	
			ni			ongee	
			ni			pe	
			ni			pe	
		ma	ni	ku		semade	wasemaje?
			ni			swali	
			ni			towa	hii kitu kaa hivo hivo
			nı			weke	
			-	•			
	1			na pe T	on s	singular Verb	Dt l
*	\$	preverbal	SA	1	UA		Postverbal hassani
*	\$	wacha	u			fungue fungue	Hassam
*	\$	Ah basi	u u			fungue	Hassan
	φ	All basi		na		itwa	nani?
			u	na li		kula	na Sami dundu?
			u	me		lete	niongee
		ulisema	u	ta		nunua	nini?
		unscma	u	li		nunulia	mawa yangu
			u	11		ona	Nimo!
		baba	u	li		sema	utanunua nini?
		Saumu	u	na		taka	sikiza?
		Saama	u	me		ungusa	mujiki?
			G	1110		ungusu	ing mi.
			3	rd pe	erson s	singular	
		preverbal	SA	T	OA	Verb	Postverbal
		sungula	a	ka	mw	acha	
		Msungula	a	ka	wa	ambiwa	aende kulala
		Misunguia				i	
		Wisunguia	a	ka	wa	ambiwa	na sungula
		Misunguia		ka li	wa	ambiwa anguka	na sungula
		Ivisunguia	a	li li	wa		na sungula
		tena	a a	li	wa	anguka	na sungula
*			a a a	li li	wa	anguka anguka	na sungula

-		a	ka		enda	
*	akawambiwa	a			ende	kulala
*		a			endeza	
		a	ka		fanya	
		a	li	m	gotaje	
		a	li		ibiwa	ledio
	mtoto	a	me		ibiwa	
		a	li		ibwa	na mtu mwingine
	ati Auntie	a	na		imbagaje?	
	Ausie	a	na		imbanga	Adija
		a	li		kua	nakulanjia
	Saumu	a	li		kua	nataka kusikiza
	alafu	a			kuja	
	maskiti	wa	na		kulanga	pilau
	si	a			ni	Mariam
		a	li	m	piga	hivi ngumu
		a	li	m	pigaje	ngumu?
		a	ki		pika	
*	ati	a	me		sema	Saumu
*	alafu	a	ka		sema	bye-bye'
*		a			sema	nini?
*		a	na		semabiaje?	
	alafu	a	ka		sikiza	
	wacha Saumu	a			sikize	
		a	li		tembea	
		a	na		tembea	
		a	na	ni	tengaje?	
		a	ka		tiika	
		a	me		tiika	
		a	li	mw	unguse	yule
				erson	plural	
	preverbal	SA	T	OA	Verb	Postverbal
*		tu	li		kua	tunakula pilllau!
*	tulikua	tu	na		kula	pilllau!
*		tu	li		kula	dundu du
		tu	na		piga	korna
MINIMATINA MARIA	nakwambia	tu	allillation and a second		pige	korna
			2nd p		plural	
	preverbal	SA	T	OA	Verb	Postverbal
	na	mu	ta	wa	fanya?	
<u> </u>					plural	
	preverbal	SA	T	OA	Verb	Postverbal
		wa	ka		enda	nayo
		wa	na		kula	pilau
		wa	na		kula	dundu
	watu	wa	na	ka	lia	
	na cartoon	wa	li		pigana	
	saudizi	wa			semaje?	
		3370	li	m	umbia	ledio na speaker
		wa	11	111	umora	redio na speaker

 	preverbal	SA	T	oanim OA	Verb	Postverbal		
	1	i	na		fanya	kaji		
		i	li		kua	kwa jacket		
	nyanya	i			ongee			
		i	a		toka	wapi schule?		
	mawa yangu	i	ka		toka			

		A2. Utterances from				singular	
		preverbal	SA	T	OA	Verb	Postverbal
			ni	ta	ku	kata	
		mi	ni	li	m	kimbiza	M.
		mimi	ni		wa	kimbiza	kina A. jana
		na mi	ni	li		kua	hapa,
*		mimi	ni	li	m	piga	machavo
*	\$	si	ni	ta	ku	piga	na nguvu
*	\$		n	ta	ku	piga	Н
*	\$		n	ta	ku	piga	
*	\$		ni	ta	ku	piga	
*	\$	Н	ni	ta	ku	piga	
			2	nd p	erson	singular	
		preverbal	SA	T	OA	Verb	Postverbal
			u	ki		ingiza	?
		ah weh	u	sha		uma	
		Н	u	li		kuja	kwetu
		si	u	na		ona	H. aliua
			u	ki		enda	huko chini ya funguli
		saa zile	u	ta	ku	kanyanga	
			u	ta	n	kata	na kisu?
			3	_	erson	singular	
		preverbal	SA	T	OA	Verb	Postverbal
		si	a	na		beba	hile bag
*	\$		a	ki		enda	
*	\$		a	ki		enda	
*	\$	H.	a	ki		enda	
*			a	li		enda	kwa kitanda kwa mtatu huko
*		si	a	na		enda	nyaja?
			a	ka		fanya	
		mama S. ni H.	a	na		fanya	kwa bagi yako
		kwa kiambiambio	a	li		fika	
			a	ka	m	fuata	nani
		ata nya	a	ka		ingia	
			a	ka	ni	kanyaga	hivi
	1	1	a	ka	m	kimbiza	İ

a li m kimbiza akakingiza alimkimbiza a ka kingiza H. a ki kua M. S. a li kua hapa a ka kuba * charlie a li kuja ndani ya slippers bii ndua ni nani a ta kuja ? * a ta kuja apige	
H. a ki kua M. S. a li kua hapa a ka kuba * charlie a li kuja ndani ya slippers hii ndua ni nani a ta kuja ?	
S. a li kua hapa a ka kuba * charlie a li kuja ndani ya slippers * hii ndua ni nani a ta kuja ?	
* charlie a li kuja ndani ya slippers * hii ndua ni nani a ta kuja ?	
* charlie a li kuja ndani ya slippers * hii ndua ni nani a ta kuja ?	
* hii ndua ni nani a ta kuja ?	
a na lala chini	
a ka lia	
a ka ona H.	
a ki opa adunde adunde	
a na mw opa	
* a ka m piga	
* a ta ku piga H.	
* atakuja a pige	
* \$ a ka pigwa S.	
* \$ H a ka pigwa	
* \$ a ka pigwa picha	
* H. a li sema wewe lipigwa	
* H a na sema weh C.ndeleiva	
* a na semaje mamake?	
H. a li ua	
1st person plural	
preverbal SA T OA Verb Postverbal	
preverbal SA T OA Verb Postverbal yeh tu ka m chapa hivi	
preverbal SA T OA Verb Postverbal yeh tu ka m chapa hivi tu ka mw ita yeye mtu	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.situlikuatuu	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.situlikuatuuhiitulikuaapana	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.situlikuatuuhiitulikuaapana*tukapigwapicha	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.situlikuatuuhiitulikuaapana*tukapigwapicha*na mama H.tukapigwa	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.situlikuatuuhiitulikuaapana*tukapigwapicha*na mama H.tukapigwa*na mih nilikua hapatukipigwapicha na H.	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.situlikuatuuhiitulikuaapana*tukapigwapicha*na mama H.tukapigwa*na mih nilikua hapatukipigwapicha na H.*tulipigwapale, pale juu	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.situlikuatuuhiitulikuaapana*tukapigwapicha*na mama H.tukapigwa*na mih nilikua hapatukipigwapicha na H.	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.situlikuatuuhiitulikuaapana*tukapigwapicha*na mama H.tukapigwa*na mih nilikua hapatukipigwapicha na H.*tulipigwapale, pale juu	
Preverbal SA T OA Verb Postverbal	
preverbalSATOAVerbPostverbalyehtukamchapahivitukamwitayeye mtutulikimbizawakina A.situlikuatuuhiitulikuaapana*tukapigwapicha*na mama H.tukapigwa*na mih nilikua hapatukipigwapicha na H.*tulipigwapale, pale juu	
Preverbal SA T OA Verb Postverbal yeh tu ka m chapa hivi tu ka mw ita yeye mtu tu li kimbiza wakina A. si tu li kua tuu tu li kua apana * tu ka pigwa picha * na mama H. tu ka pigwa picha na H. * na mih nilikua hapa tu ki pigwa pale, pale juu * tu li pigwa Postverbal No occurrences Postverbal Postverbal Postverbal hivi tu li pigwa picha A. tu li pigwa picha na H. tu li pigwa Postverbal P	
Preverbal SA T OA Verb Postverbal	
Preverbal SA T OA Verb Postverbal yeh tu ka m chapa hivi tu ka mw ita yeye mtu tu li kimbiza wakina A. si tu li kua tuu tu li kua apana * tu ka pigwa picha * na mama H. tu ka pigwa picha na H. * na mih nilikua hapa tu ki pigwa pale, pale juu * tu li pigwa Postverbal No occurrences 3rd person plural No occurrences	
Preverbal SA T OA Verb Postverbal yeh tu ka m chapa hivi tu ka mw ita yeye mtu tu li kimbiza wakina A. si tu li kua tuu tu li kua apana * tu ka pigwa picha * na mama H. tu ka pigwa picha na H. * na mih nilikua hapa tu ki pigwa pale, pale juu * tu li pigwa Postverbal No occurrences 3rd person plural No occurrences	
preverbal yeh tu ka m chapa hivi tu ka mw ita yeye mtu tu li kimbiza wakina A. si tu li kua tuu tu li kua tuu hii tu li kua pigwa picha * na mama H. tu ka pigwa picha na H. * na mih nilikua hapa tu ki pigwa picha na H. * tu li pigwa pale, pale juu * tu li pigwa No occurrences 3rd person plural No occurrences	
Preverbal SA T OA Verb Postverbal	