

# Displaced speech and cognitive development: How children acquire state verbs in the past tense

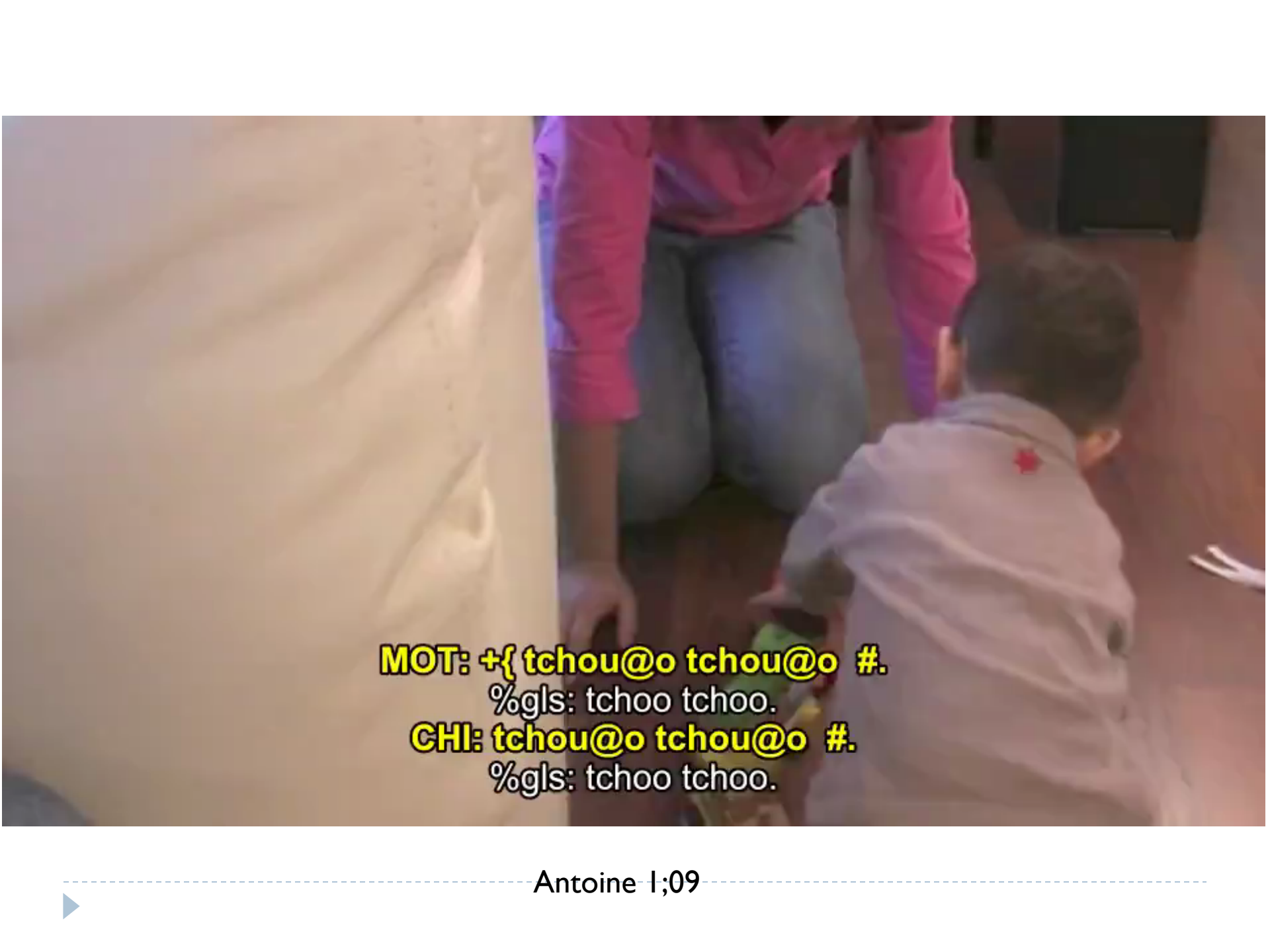
Christophe Parisse, Aliyah Morgenstern, Sophie de Pontonx

# First steps towards reference to past events

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- ▶ Children before age two live in the here and now (Piaget's first stage of cognitive development)
- ▶ Children's first references to past or future are performed about objects present in the here and now
  - ▶ Antoine: 1;09 - Oh cassé (oh broken)
    - *about a toy that just « broke »*





**MOT: +{ tchou@o tchou@o #.**  
%gls: tchoo tchoo.  
**CHI: tchou@o tchou@o #.**  
%gls: tchoo tchoo.

# Previous work on the development of reference to time

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## ▶ Aspect before tense

- ▶ Bronckart & Sinclair, 1973 (experimental study about children aged 2 to 8)
- ▶ Similar results for English
- ▶ But different results for Polish (Weist et al., 1984)

## ▶ Linguistic and cognitive development (Weist, 1989)

- ▶ Four stages
  - ▶ Speech time
  - ▶ Event time
  - ▶ Restricted reference time
  - ▶ Free reference time



# Importance of lexical aspect

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- ▶ In many languages (but not in Polish)
  - ▶ Aspect (situational/grammatical) and tense correspond to the same forms
- ▶ Strong relationship between lexical aspect (aktionsart) and tense
  - ▶ Activities – present tense
  - ▶ Telic events – past tense
    - ▶ *Le train s'est cassé* – the train broke
    - ▶ It both means a past action (when it broke) and a result (it is broken)
- ▶ See Weist (1986, 1989), Shirai & Andersen (1995), and others



# Importance of Child Directed Speech (CDS)

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- ▶ The use of aspect before tense is not specific to children: adults do the same (Shirai & Andersen, 1995)
- ▶ Children follow the production of their caretakers very closely in spontaneous language production
  - ▶ Development of verbal temporal system (Parsisse & Morgenstern, 2012)
  - ▶ Use of verb arguments (Morgenstern & Parsisse, 2012)



# Importance of the notion of displacement

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- ▶ Displacement is the ability to talk about things that are not in the here and now
  - ▶ Memory recollection
  - ▶ Anticipation of potential or future facts
- ▶ **Weist, 1989**
  - ▶ Displacement is required to go from Event time to Reference time
- ▶ **Morgenstern & Parisse, 2012**
  - ▶ Progressive mastery of displacement in French-speaking children is linked to the development of the use of tenses such as imparfait and flexional future that code past and future time



# Both tense and aspect

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Anaé 2;06



# Issues

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## ▶ Hypothesis of aspect first

- ▶ It is difficult to differentiate use of tense and aspect because most verb forms mark both tense and aspect
- ▶ Studying state verbs only allows to focus on tense (or reference to time) development rather than aspect

## ▶ Hypothesis of CDS copy

- ▶ It is difficult to know whether children are developing their own system or if they copy the adults
- ▶ Rare forms are not (or not often) copied by children (see Parisse & Morgenstern, 2012) so looking at the production of rare forms helps understand children's development



# Organization of the current work

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1. Use of state verbs for all tenses in child and adult spontaneous interaction
2. Development of reference to time
3. Use of displacement in child data
4. Link between use of state verbs, reference to time, and displacement





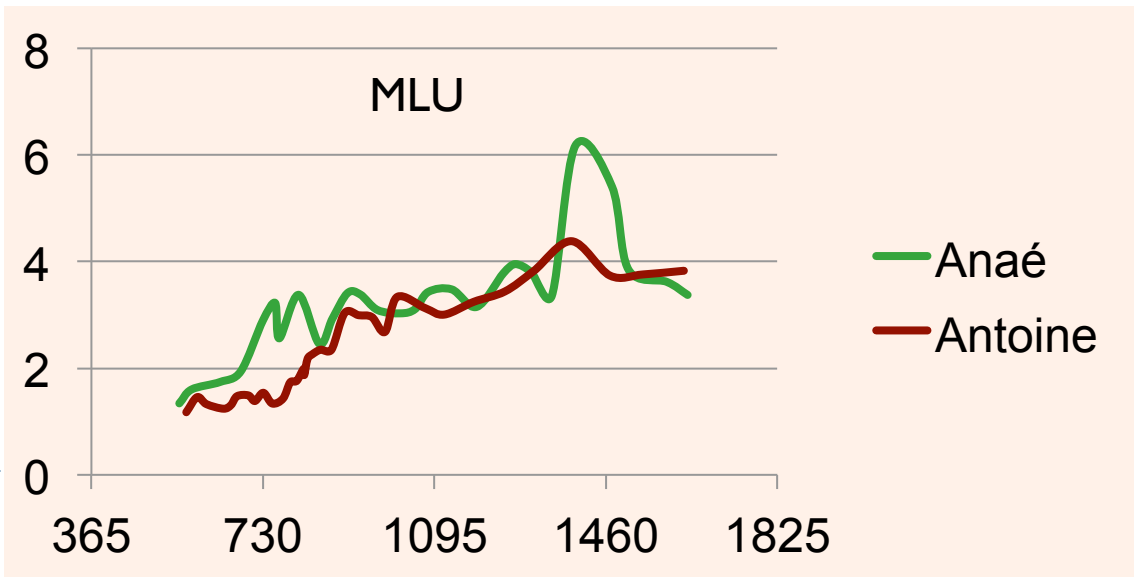
# The data



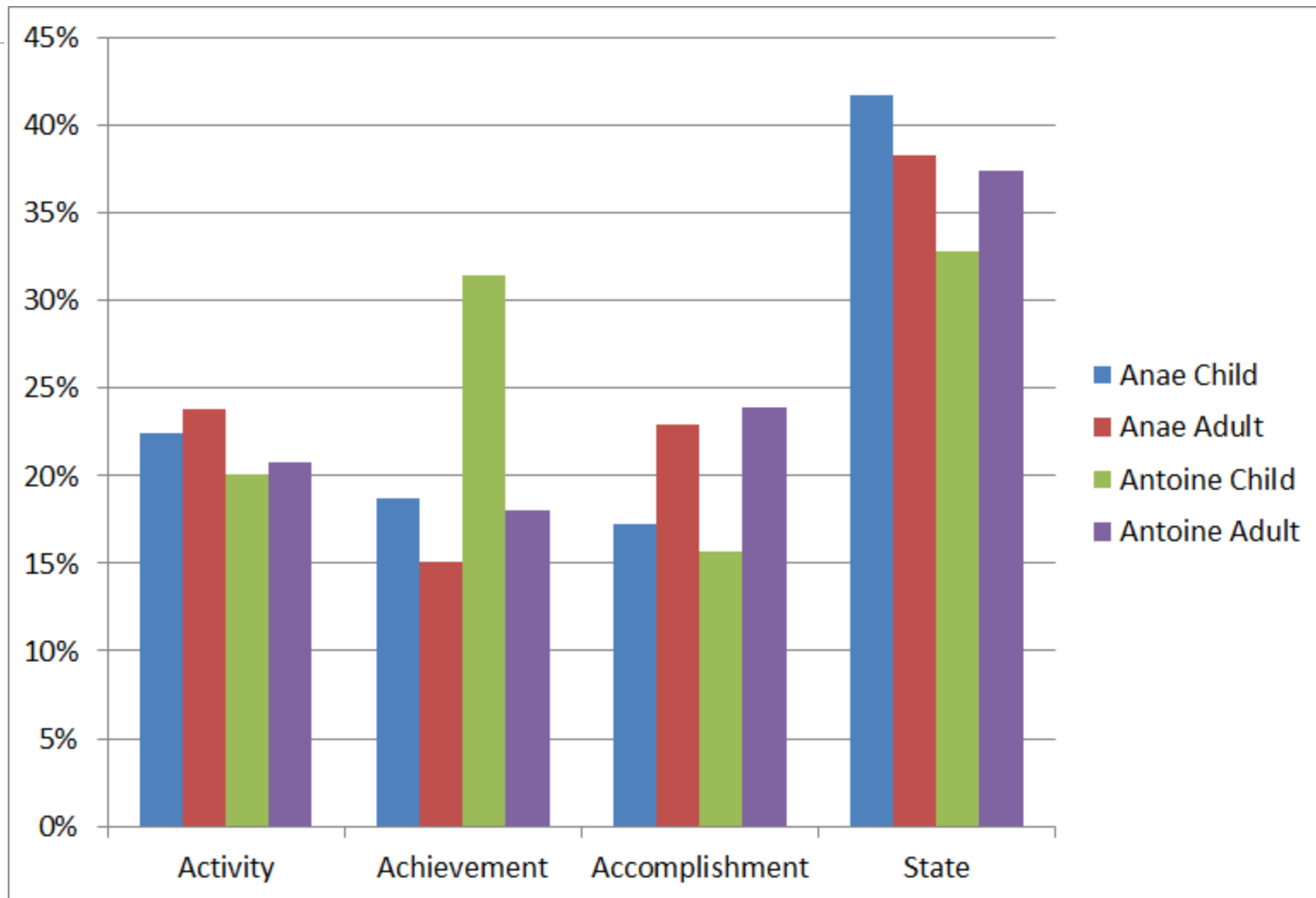
Antoine from 1;06 to 4;05  
Filmed by Christophe Parisse



Anaé from 1;06 to 4;04  
Filmed by Aliyah Morgenstern



# Use of state verbs (for all ages)



No significant differences comparing children, adults, and child vs. adult

# Use of tenses for state verbs

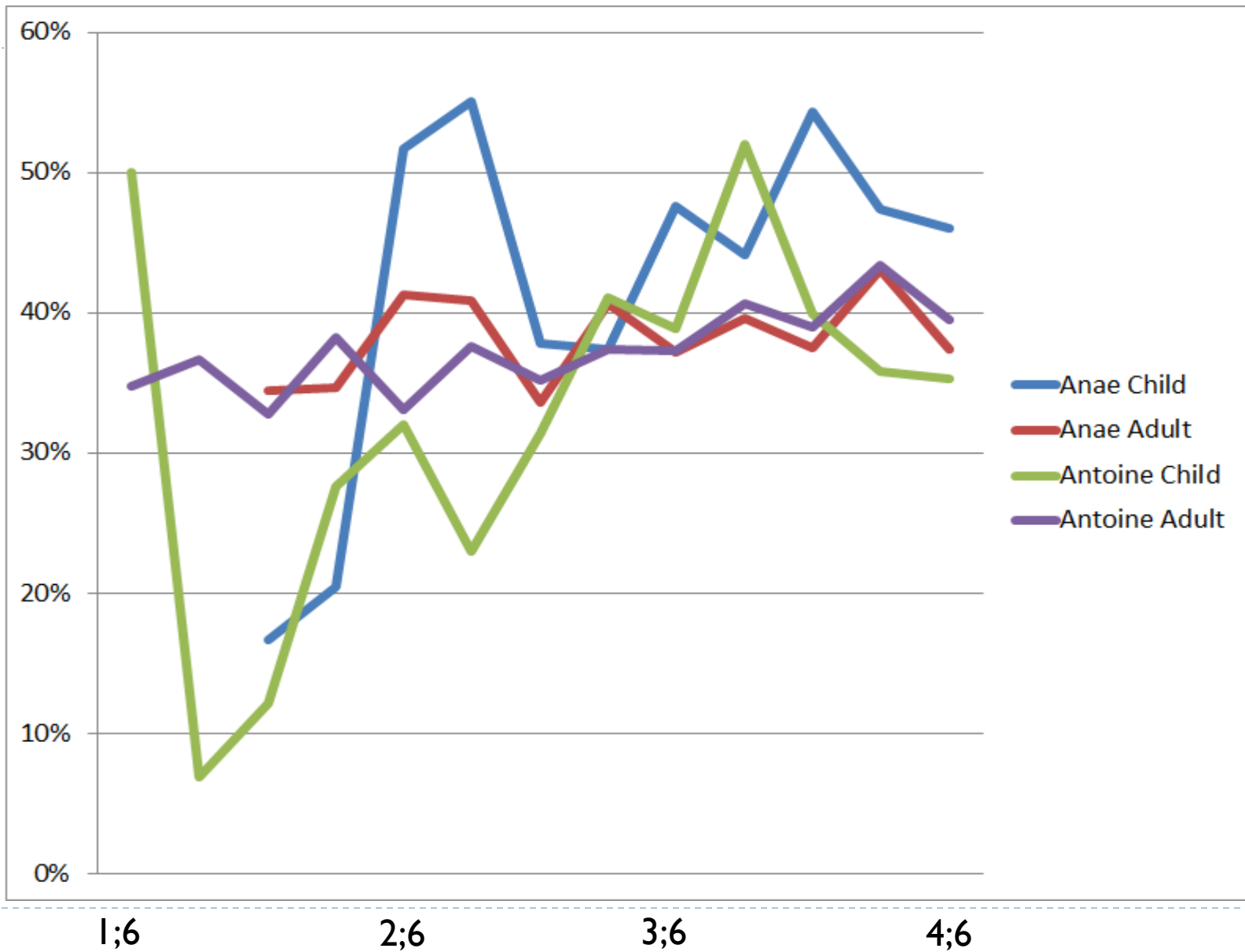
Percentages

		Condi- tional	Future	Periphra- s-tic future	Imparfait	Modal imparfait	Modal infinitive	Passé composé	Present
Anaé	Child	0%	0%	0%	6%	0%	0%	0%	92%
	Adult	1%	1%	1%	6%	0%	1%	0%	89%
Antoine	Child	0%	1%	0%	5%	0%	0%	0%	92%
	Adult	1%	1%	1%	5%	0%	1%	1%	89%

Occurrences

		Condi- tional	Future	Periphra- s-tic future	Imparfait	Modal imparfait	Modal infinitive	Passé composé	Present
Anaé	Child	2	3	5	81	1	2	5	1197
	Adult	20	26	44	204	1	29	11	3010
Antoine	Child	2	11	0	50	0	4	4	838
	Adult	40	48	41	270	3	30	44	4614

# Use of state verbs according to age



# Anaé : Child

Anaé Child	Condi- tional	Future	Periphras- tic future	Imparfait	Modal imparfait	Modal infinitive	Passé composé	Present
1;06.08								3
1;09.04								19
2;00.00			1	1		1		164
2;03.30								93
2;06.27			1				1	120
2;09.23			1	1			2	71
3;01.07				3			1	106
3;04.27		2	1	8		1		168
3;08.10				10	1			121
4;00.13	1			50			1	205
4;04.10	1	1	1	8				127

▶ Use of state verbs in different sessions

# Anaé : Adults

Anaé Adult	Conditional	Future	Periphrastic future	Imparfait	Modal imparfait	Modal infinitive	Passé composé	Present
1;06.08	3		4	7		3	1	259
1;09.04		1	3	21			1	312
2;00.00	3	5	3	27		1	1	296
2;03.30	2	2	1	16		10	2	417
2;06.27	3	1	2	6		2		229
2;09.23	2		7	16		3	5	269
3;01.07	2	1	7	26		2	1	278
3;04.27	1	3	5	12		1		225
3;08.10		3	4	28	1	2		285
4;00.13		1		19				110
4;04.10	4	9	8	26		5		330

Use of state verbs in different sessions



# Antoine : Child

Antoine Child	Condi- tional	Future	Periphras- tic future	Imparfait	Modal imparfait	Modal infinitive	Passé composé	Present
1;06.22								2
1;09.11								2
1;11.18								5
2;01.28								12
2;03.15								41
2;05.24				1				51
2;07.22				1			1	68
2;09.16				3			1	141
2;11.16				3				114
3;02.24		1				1		102
3;09.22		10		16			1	133
4;00.09				7				89
▶ 4;05.16	2			19		3	1	78

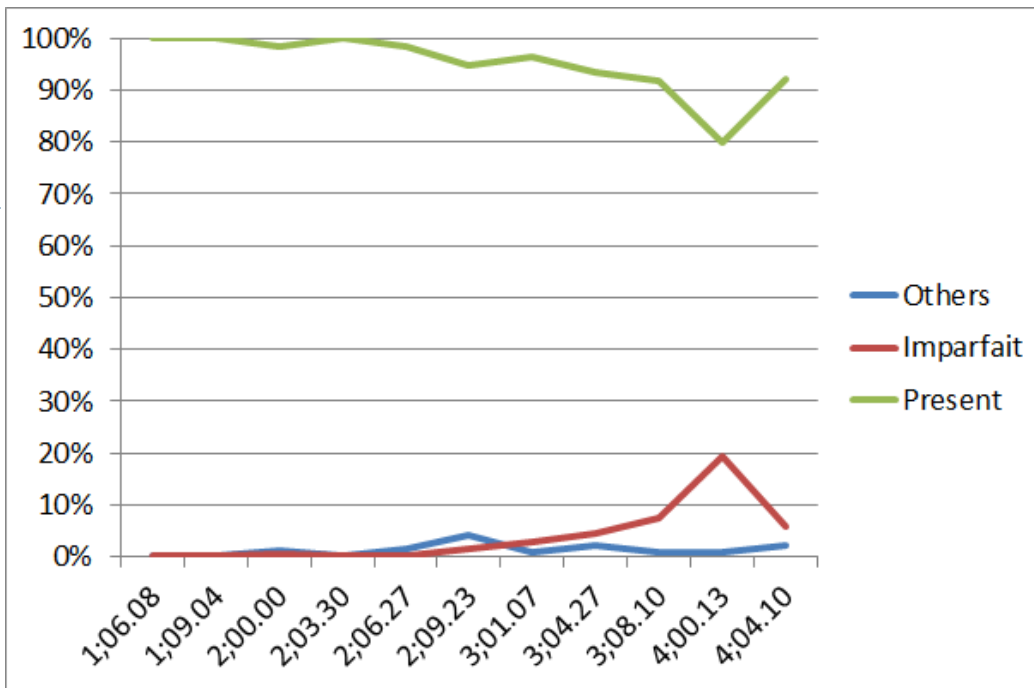
Use of state verbs in different sessions

# Antoine : Adults

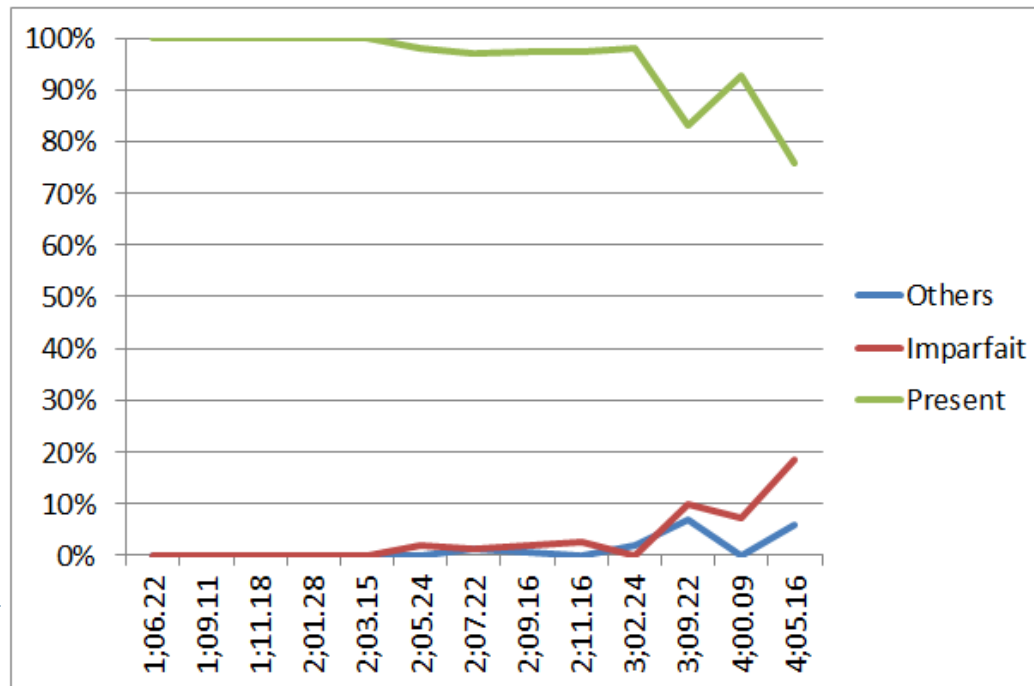
Antoine Adult	Conditional	Future	Periphrastic future	Imparfait	Modal imparfait	Modal infinitive	Passé composé	Present
1;06.22	1	3	2	17		3	5	439
1;09.11	3	3	4	41		3	5	406
1;11.18	2	2	4	4		1	4	297
2;01.28			1	16		1		277
2;03.15	1	4	3	12				290
2;05.24	2	2	2	17		2	3	373
2;07.22	1	6	1	8		4	3	254
2;09.16	4	4	6	19	1	3	3	392
2;11.16	1	3	3	14		2	2	358
3;02.24	9	9	7	23		2	7	435
3;09.22	4	6	3	35	2		4	321
4;00.09	5	4	1	36		6	3	361
4;05.16	7	2	4	28		3	5	411

Use of state verbs in different sessions

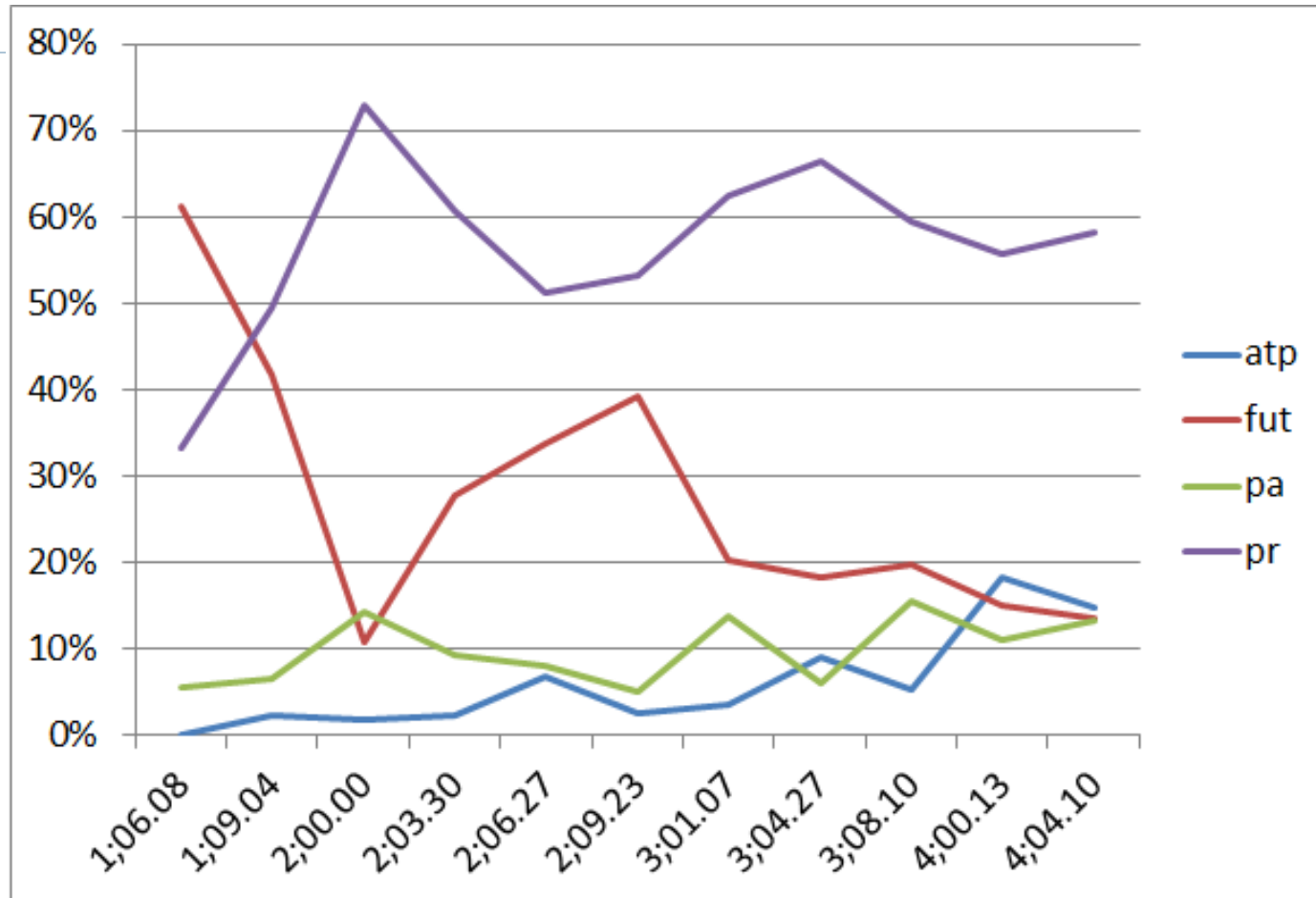
Anaé  
Child



Antoine  
Child



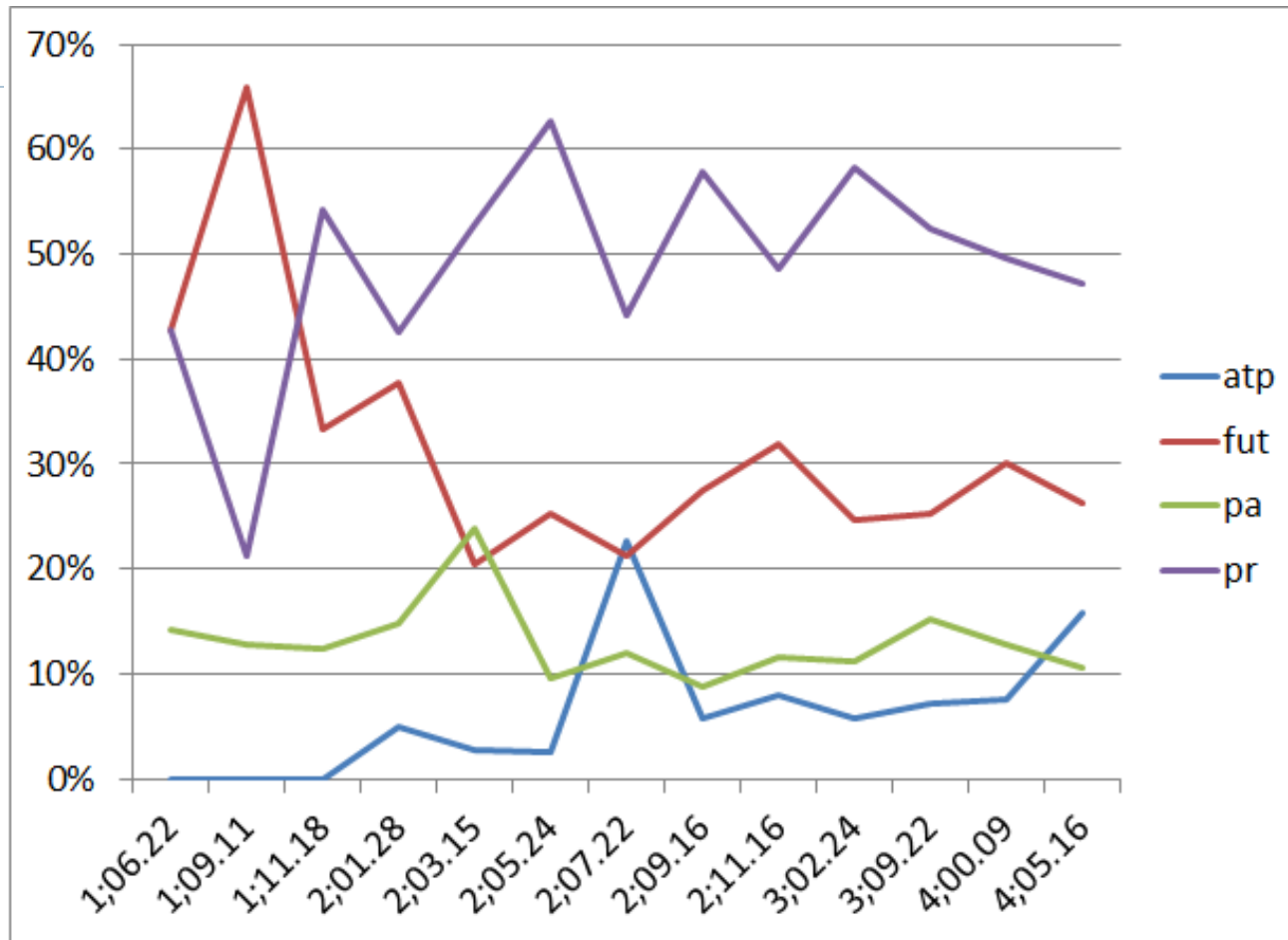
# Reference to chronological time – **Anaé**



Child

	Atemporal	Future	Past	Present
Child	8%	21%	11%	60%
Adults	2%	40%	8%	50%

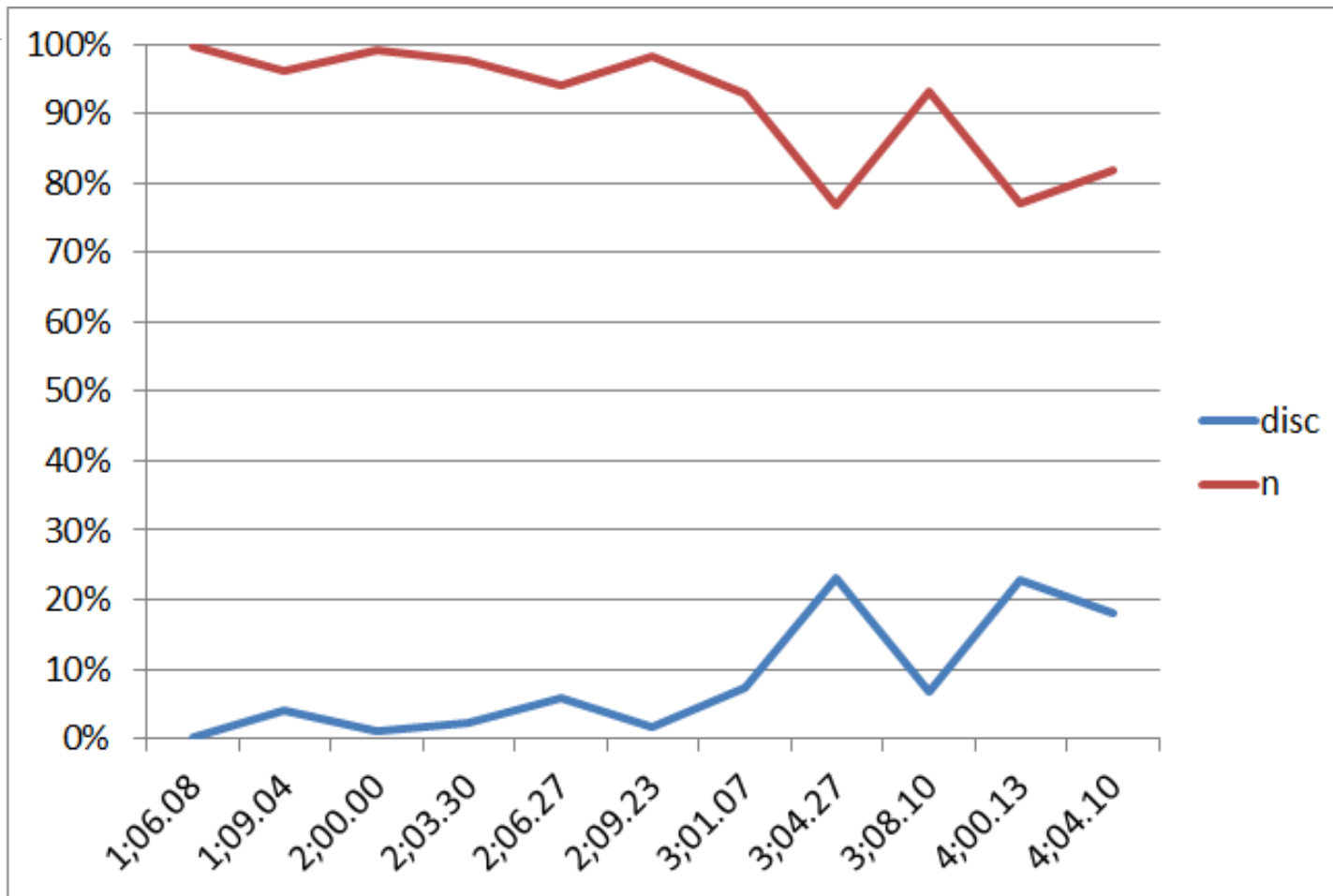
# Reference to chronological time – **Antoine**



Child

	Atemporal	Future	Past	Present
Child	8%	28%	12%	52%
Adults – 1	7%	38%	10%	45%
Adults – 2	8%	32%	11%	50%

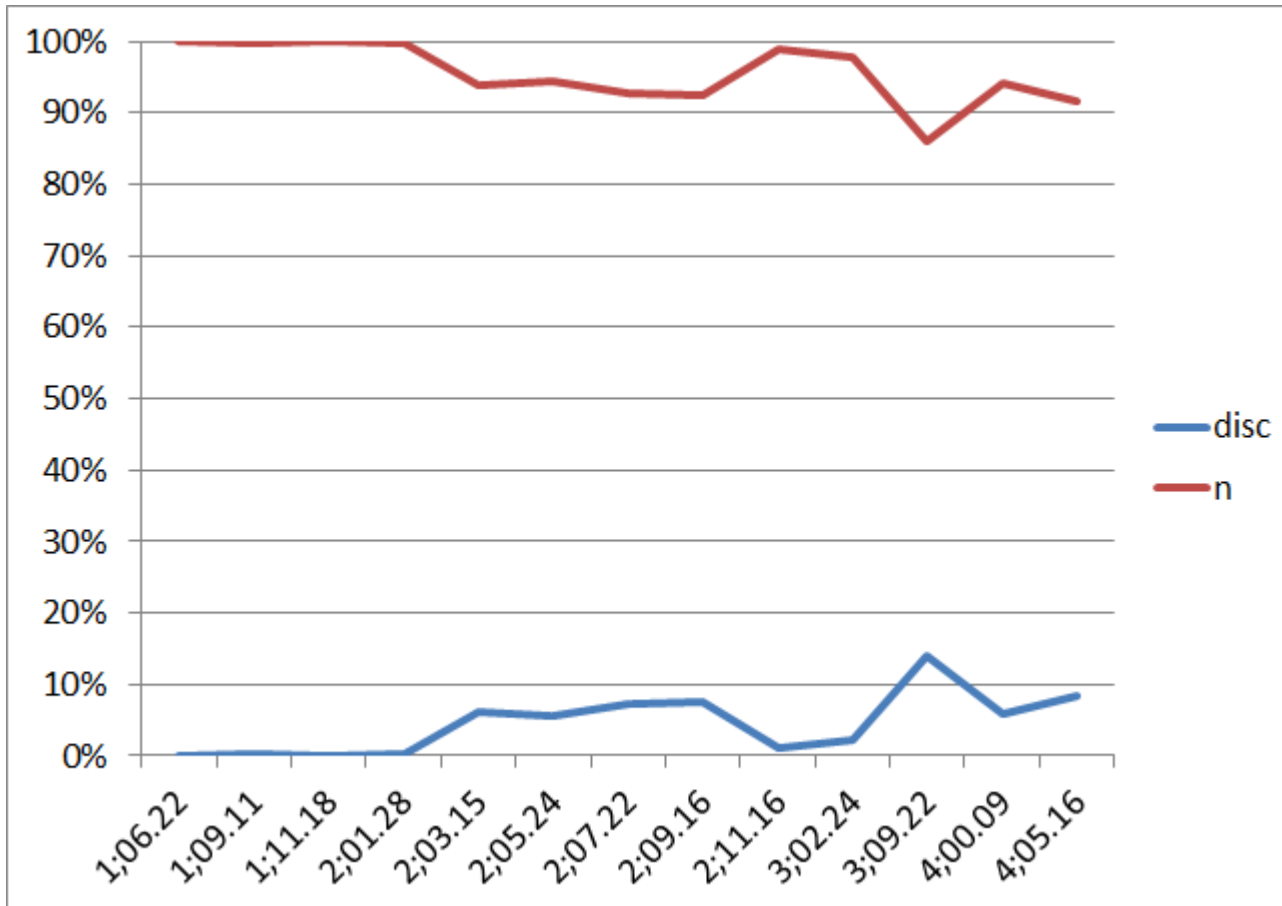
# Displacement - **Anaé**



Child

	Displacement	Here and now
Child	8%	92%
Adults	5%	95%

# Displacement – Antoine



Child

	Displacement	Here and now
Child	4%	96%
Adults – 1	2%	98%
Adults – 2	2%	98%

# Interaction of tense and displacement

<b>Anaé</b>		Future	Periphrastic future	Imparfait	Modal infinitive	Passé composé	Present
Child	Displac.	100%	20%	95%	0%	80%	6%
	No-displ.	0%	80%	5%	100%	20%	94%
Adults	Displac.		0%	94%	0%	100%	2%
	No-displ.		100%	6%	100%	0%	98%

<b>Antoine</b>		Future	Periphrastic future	Imparfait	Modal infinitive	Passé composé	Present
Child	Displac.	55%		68%	0%	100%	5%
	No-displ.	45%		32%	100%	0%	95%
Adults	Displac.	7%	0%	42%	17%	100%	0%
	No-displ.	93%	100%	58%	83%	0%	100%





# Usage analysis (frequent forms)

## ▶ Most frequent forms for Anaé

Form	Nb occ	Percent
c'est (that's)	492	44%
est ai es (is have are)	179	16%
y-a il-y-a (there's there is)	91	8%
a as (has have)	70	6%
veux veut (want)	39	3%
sais (know)	34	3%
sont (are)	29	3%

84% of all state verb occurrences  
All appear before age 2;09

## ▶ Most frequent forms for Antoine

Form	Nb occ	Percent
c'est (that's)	253	34%
est ai es (is have are)	207	28%
a as (has have)	44	6%
veux veut (want)	30	4%
sais (know)	29	4%
y-a il-y-a (there's there is)	25	3%

80% of all state verb occurrences  
All appear before age 2;09

# Usage analysis (infrequent forms)

## ▶ Less frequent forms for Anaé

Form	Nb occ	Per-cent
avait avais (had)	27	2%
c'était (that was)	22	2%
était étais étaient (were)	22	2%
y en a (there is some)	14	1%
*sontaient (are-ed)	2	0%
appelait (called)	1	0%
*ara (would have)	1	0%
croyaient (believed)	1	0%

16% of all state verb forms  
2/3 appear after age 2;09

## ▶ Less frequent forms for Antoine

Form	Nb occ	Per-cent
aime aimes (like)	12	2%
suis (am)	18	2%
sont (are)	12	2%
avais avaient (had)	6	1%
aurai (would have)	1	0%
peux faire (can do)	1	0%
pense (think)	1	0%
pensais (thought)	1	0%

20% of all state verb forms  
3/4 appear after age 2;09

# Summary of results

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- ▶ Although parents use state verbs in all forms in all sessions, children do not start to produce them in non-present forms before age 2;9
- ▶ Both children are able to refer to past and future time, thus to make displacements before being able to produce the specific tense forms
  - ▶ Looking at state verbs the change is very abrupt
- ▶ Both children start to produce a much larger variety of verb forms at the same age
  - ▶ For Anaé, everything starts at the same time : use of displacement for state verbs, use of imparfait, diversity in verb production
  - ▶ For Antoine, although there is a change (use of imparfait), a larger variety of tenses and types of displacement is produced earlier than 2;9
  - ▶ For both children, this reflects their input (so they might behave differently in other situations ?)



# Anaé: use in story telling



**Anaé: et qu' après. [=! chuchote] +...**

**%gls: and then +...**

Anaé 4;00

# Antoine: use in memory recall



Antoine 4;00

