Early acquisition of verb forms through interaction in conversation

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1 Introduction

The aim of this study is to examine the emergence of verb forms in French. In the early stages, when the child's phonological skills are not yet fully developed, the interpretation provided by the adult as well as the interaction sequence between the child and the adult are of utmost interest for the acquisition process. Indeed we can often only rely on how the adult interprets the child's utterances to get an idea of what the child said. Recent work has emphasized the influence of the input children receive in learning a language, leading towards an input-based theory of acquisition (Shirai & Andersen 1995, Lieven *et al.* 1997, Veneziano 2005). Yet the correlation between acquisition and child-adult interactions has not been thoroughly studied.

Analysis of the data shows that children slowly build their repertoire of verbs over time, initially following the pattern "one verb–one form". They then gradually produce different forms for the same verb. The question therefore is whether, in the early stages, the adult provides limited information to the child, and then expands that information as the child's abilities grow; or does the child receive complex information from the beginning, but latches onto selected forms only?

To answer this question, I analyze the changes over time in two children's elaboration of verb forms as well as the input one child receives within the interactions between child and adult.

The study shows the influence of the input when acquiring verb forms. Children are sensitive to relative frequency in adult speech: they latch onto the most salient verb form, if any, and adhere to it. The pattern "one verb–one form" especially persists for the verbs acquired early on. Verbs for which children receive more contrastive information seem to be the first to appear in different tensed forms.

2 French verb conjugations

This section briefly presents the characteristics of French verb conjugation which are important for this study.

French has three verb conjugation classes. The first conjugation groups the verbs in *-er* having only one stem across tenses. Ninety percent of the French verbs belong to this category. It is also a very productive group: new additions in the verb lexicon often follow that conjugation (e.g., *débriefer* 'to debrief', *forwarder* 'to forward'). The second conjugation contains the verbs

in *-ir* which have a stable radical among tenses, but for which the suffix *-iss-* is added between the radical and the verb ending in some cases (e.g., *finir* 'to end' – *ils finissent* 'they end'). The third class groups the verbs which do not belong to the first nor to the second conjugations, mainly the verbs in *-oir* and *-re* as well as the verbs in *-ir* which do not present the addition of the suffix *-iss-* in some tenses. The first and second conjugations are regular, whereas the third one is not: typically the verbs of the third conjugation have more than one stem.

Contrary to the two other classes, in the first conjugation, the infinitive (*aimer*) and the past participle (*aimé*) are homophonous. For all conjugations the two imperative forms (singular *aime!* and plural *aimez!*) are pronounced in the same way as the 2sg present and 2pl present forms. Only contextual cues can disambiguate between these homophonous forms.

3 Data

The data presented here come from two longitudinal studies of mother-child dyads. The dyads are recorded in 10 and 11 videotaped sessions of 30 minutes each, over 9 months. At the beginning of data collection, the children are roughly 18 months old, and the study stops when the children are a little bit over 2. (The exact age of the children –in year.months.days– at each recording session is given in table 1.) One child, Camille, is a second-born girl; the other, Gael, is a boy. They are both acquiring French in Geneva, Switzerland. The sessions take place at home, in naturally-occurring interactions. The settings are similar across different sessions: free play with the adult (usually with the mother, but sometimes with the observer) in the living room, book-reading, and occasional snack times. When the interaction takes place with the observer, the mother is always present or nearby.

Camille		**Gael**	
session	age	session	age
8a	1.06.22	6a	1.07.23
9a	1.07.04	8a	1.09.00
10a	1.07.18	9a	1.09.11
10b	1.07.18	10a	1.09.20
11a	1.08.03	11a	1.10.03
12a	1.08.15	12a	1.10.17
13a	1.09.03	13a	1.10.17
13b	1.09.03	14a	1.11.15
14a	1.10.12	15a	1.11.25
15a	2.02.06	16a	2.01.00
		17a	2.03.04

Table 1: EXACT AGES OF THE CHILDREN AT EACH SESSION.

4 Elaboration of verb forms

As the purpose of this study is to examine the acquisition of verb forms, all words that look like verbs in the child's utterances have been coded for tense. Following Veneziano (1981) as well as Vihman and McCune (1994), the identification of the child's production is based on phonological form as well as on conversational functioning, including the adult's interpretation. Indeed we can often only rely on the dialogic context and the interpretation provided by the adult to determine whether the child's utterance contains a verb or not. The coding differentiates between verbs produced spontaneously by the child and verbs repeated after the adult (following Clark & Bernicot 2008). I first examine how both children develop their verb lexicon. I then analyze the acquisition of tense.

4.1 Building up the verb lexicon

In terms of lexical acquisition, there is a steady increase in the number of verbs used or repeated by the children as they get older, as shown by the graphs in figure 1.

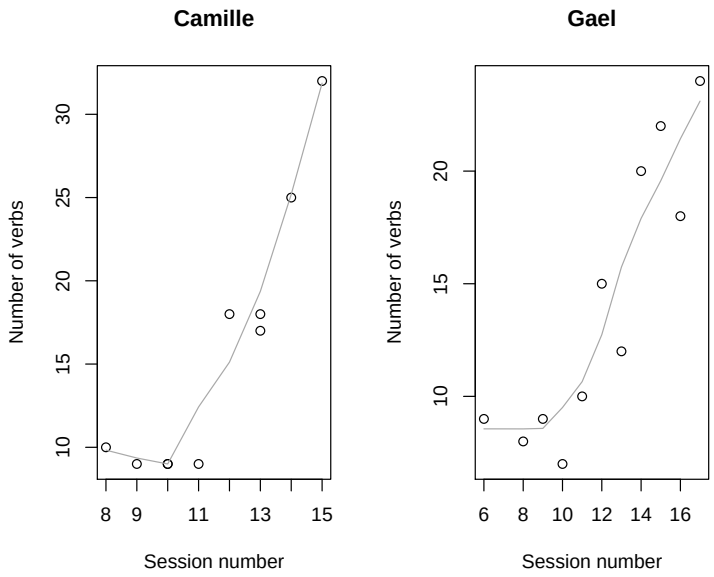

Figure 1: # VERBS PRODUCED BY THE CHILDREN, BY SESSION.

The graphs in figure 1 conflate the verb forms initiated by the child and those the child repeats after the adult. In tables 2 and 3, I list, per session, all the verbs that the children initiate. The order in the lists is alphabetical. The verbs in bold case are verbs that did not appear in previous sessions, i.e., new lexical items produced by the child. The rightmost columns give the count of verbs in the list, the number of new lexical items and the percentage of child utterances containing a verb.[1]

[1] As I do not have the full transcription for sessions 11a and 13b, I could not count the total number of child utterances, and hence not calculate the percentage—when I lacked the transcription, I only transcribed the parts

session	verbs	# verbs	# new	% verbs
8a	asseoir, boire, cacher, tomber, tourner	5	–	12.5
9a	asseoir, cacher, **casser**, **courir**, tourner	5	+ 2	9.5
10a	boire, **boucher**, casser, courir, **piquer**	5	+ 2	11.5
10b	asseoir, casser, **chercher**, **fermer**, **perdre**, piquer, **sortir**, tomber, tourner	9	+ 4	16.9
11a	casser, **être** (frame), **lire**, **monter**, piquer, **pouvoir**, tomber, tourner, sortir	9	+ 4	
12a	**avoir** (frame), **avoir peur**, **enlever**, être, **glisser**, lire, **mettre**, **ouvrir**, **pleurer**, pouvoir, **regarder**, **sauter**, sortir, tomber, **voir**, **vouloir**	16	+ 11	13.3
13a	avoir froid, boire, **coucher**, enlever, **frotter**, piquer, regarder, tomber, **venir**, vouloir	10	+ 3	17.0
13b	asseoir, avoir (frame), avoir froid, coucher, courir, enlever, être, **habiller**, **laisser**, lire, mettre, ouvrir, pouvoir, regarder, sauter, tourner	16	+ 2	
14a	**aller**, **accrocher**, **attacher**, avoir, cacher, casser, coucher, **donner**, **dormir**, enlever, être, **faire**, **laver**, lire, mettre, ouvrir, pleurer, **promener**, tomber, tourner, **voler**, venir	22	+ 9	19.3
15a	**arriver**, attacher, **attendre**, avoir, avoir froid, coucher, **enfiler**, enlever, **essayer**, être, faire, **falloir**, laver, **lever**, mettre, **passer**, pouvoir, regarder, **remettre**, **savoir**, **se tromper**, sortir, **tenir**, **tirer**, tomber, tourner, venir, voir, vouloir	29	+ 12	33.9

Table 2: CAMILLE – CUMULATIVE LIST OF VERBS PRODUCED BY THE CHILD SPONTANEOUSLY.

For Camille, session 12a marks a transition, with a clear jump in the number of verbs initiated. Tables 2 and 3 clearly show that the increase in verbs is not solely due to more repetitions from the adult; the children also produce more verbs by themselves. Among the 54 verbs that Camille produces spontaneously (table 2), according to the context in which they are used (no verbs are polysemous yet in the child speech), 10 should be intransitive verbs, and 5 are most often used as auxiliaries in adult speech (*avoir* 'to have', *être* 'to be', *pouvoir* 'to be able to', *faire* 'to make' and *falloir* 'to have to'). Camille also uses one pronominal verb: *se tromper* 'to be mistaken'. Gael produces 63 verbs spontaneously (table 3): 18 which are intransitive verbs, the 2 most frequent auxiliaries (*avoir* 'to have', *être* 'to be'), and the other verbs are transitive ones.

The percentage of utterances containing a verb form varies across sessions, with an upward

containing verbs.

session	verbs	# verbs	# new	% verbs
6a	avoir (frame), casser, écrire, monter, ouvrir, rater, taper, tourner	8	–	9.2
8a	**asseoir**, avoir (frame), **cacher**, **manger**, ouvrir, **tomber**	6	+ 4	6.6
9a	**aller**, avoir (frame), casser, **être** (frame), **laisser**, ouvrir, **piquer**, **pleuvoir**, tomber	9	+ 5	7.9
10a	**accrocher**, avoir (frame), casser, **chercher**, écrire, ouvrir	6	+ 2	11.7
11a	avoir (frame), **avoir peur**, **boire**, **cracher**, être (frame), **mettre**, taper, tomber, **voir**	9	+ 5	13.4
12a	accrocher, aller, asseoir, **attendre**, avoir (frame), avoir peur, boire, cacher, ouvrir, **porter**, taper, **tenir**, tomber, tourner	14	+ 3	18.3
13a	avoir peur, boire, cacher, chercher, **donner**, être (frame), mettre, ouvrir, **partir**, tenir, tomber	11	+ 2	13.3
14a	avoir (frame), **avoir faim**, boire, **brûler**, cacher, casser, chercher, **coller**, être (frame), **manger**, monter, piquer, pleuvoir, ouvrir, **ranger**, tenir, tomber	17	+ 5	15.5
15a	**aider**, boire, casser, **coincer**, **courir**, être (frame), **fumer**, **jouer**, **lancer**, ouvrir, **passer**, porter, **pousser**, **regarder**, **sauter**, **sautiller**, **sortir**, tenir, **tirer**, tomber, tourner	21	+ 13	20.3
16a	**appuyer**, avoir (frame), boire, casser, chercher, coller, **cuire**, donner, écrire, **être**, **faire**, **laver**, ouvrir, tenir, tourner, **trouver**, **vouloir**	17	+ 7	22.0
17a	**arrêter**, **avancer**, avoir (frame), boire, **brosser**, cacher, casser, chercher, donner, **dormir**, être, faire, **grimper**, mettre, partir, piquer, **prendre**, **promener**, **revenir**, **sonner**, sortir, tenir, tomber, tourner	24	+ 9	18.7

Table 3: GAEL – CUMULATIVE LIST OF VERBS PRODUCED BY THE CHILD SPONTANEOUSLY.

trend. What happens is a clear increase in verb forms in the lexicon, but not yet in syntactic usage. The percentage of child's utterances containing a verb is meaningless by itself. It needs to be compared to the percentage of utterances containing a verb in adult conversation, as well as in child-directed speech. To compute this figure for adult conversation, I drew on 12 conversations from the Switchboard corpus.[2] In these exchanges, 77% contain a verb. The remaining 33% are mostly back-channels (*yeah*, *uh-huh*), and also partial answers (*a nanny, sort of*). A similar

[2]I thank Ani Nenkova for computing the figures for me.

percentage holds for child-directed speech, as shown in table 4.

session	% verbs
8a	75.2
9a	77.8
10a	72.5
10b	76.1
12a	88.5
11a	57.3
13ab	79.1
14a	73.9
15a	70.2
Mean	74.5

Table 4: PERCENTAGE OF ADULT UTTERANCES CONTAINING A VERB IN THE CAMILLE DATA.

The verbs *être* 'to be' and *avoir* 'to have' appear first in fixed frames: *c'est* 'it is', *il y a* 'there is', *il n'y a pas/plus* 'there is no/no more'. Other verbs too (*courir* 'to run', *lire* 'to read', *piquer* 'to sting', *tourner* 'to turn', *brûler* 'to burn') appear first in formulaic utterances. From the context, it is clear that in a routine game, the children learn a formulaic utterance, and then repeat it whenever appropriate. The verb *tourner* 'to turn' for instance is always used in the same context: when playing with a spinning-top or a hoop, or when talking about a merry-go-round (examples 1 and 2).

Example 1 (Camille 10b, 1.07.18)

Adult: et puis la toupie elle est aussi dans le sac?
and then is the spinning-top in the bag too?

Child: /é toun/ *it spins* [taking the spinning-top out of the bag and looking at it]

Adult: eh tu as trouvé, eh tu as trouvé
hey, you found it

Child: /é toun é: e' pie/

Adult: tu as trouvé la toupie qui tourne
you found the spinning-top which spins

Example 2 (Gael 15a, 1.11.25)

Adult: ouh un carrousel oui
yes a merry-go-round

Child: /a turn/ (ça tourne) ←
[pointing at the merry-go-round]

Adult: oui ça tourne
yes, it turns

In example 3, Camille touches the prickly spot on the image of a face in a picture book and says that it stings (*ça pique*); this is one of a series of actions called for with this book. In example 4, Camille gives the book to her mother and asks if they can read (*on lit*), a common activity in the child's day. In example 5, Gael and her mother are playing with a toy bathtub and they pretend that hot water is coming out, and he fakes that he has been burned (*ça brûle*).

Example 3 (Camille 10a, 1.07.18)

Child: /è'pik/ [touches the prickly spot on the image]

Adult: ça pique oui !
it stings yes

Example 4 (Camille 11a, 1.08.03)

Child: /oli/ [takes the book on the table, and goes to her mother]

Adult: on lit, on lit l'histoire
we read, we read the story

Example 5 (Gael 14a, 1.11.15)

Adult: tu mets l'eau? là tu as le droit de tourner les robinets parce qu'à la maison il a pas le droit
you put in water? here you can turn on the tap because at home he's not allowed to

Child: /o sa brûl/ (ça brûle) ←
it's hot [removing his hand quickly, and rubbing it]

Adult: ah oui il faut faire attention hein
yes, you have to be careful

Below I take up the question of why these formulaic utterances are important, and what role they may play in acquisition.

4.2 Towards multiple tensed forms for the same verb

The next issue that has to be addressed is the acquisition of tense. At first, children use verbs in one single tensed form, constant per verb (see Gathercole, Soto & Sebastián 1999, for similar findings in Spanish). The verb forms represented in the early sessions (up to 12a for Camille, up to 13a for Gael) are the 3sg present, the past participle and the infinitive. For Camille, an occasional 2sg present, as well as 1sg passé composé (abbreviated as "p.comp." in some tables), also appear in repetitions based on adult utterances. Across sessions however, most of the verbs are always produced in the same form. The distribution of these verbs for each tensed form is given in tables 5 and 6.

Recall that in French, for the first conjugation verbs (in *-er*), the infinitive (*aimer*), the past participle (*aimé*) and the imperative form (*aimez!*) are difficult to differentiate since the pronunciation of these forms is identical. The tense intended as the target is only discernible from contextual cues such as pronouns (e.g., *je pousse* 'I push' vs. *il pousse* 'he pushes'), 'pour

form	phonemic forms	verbs
participle	/asi/	asseoir (*sit*)
infinitive	/bwaʁ/, /uvʁiʁ/	boire (*drink*), ouvrir (*open*)
participle/infinitive	/kase/, /ʃeʁʃe/	casser (*break*), chercher (*look for*),
	/kuʃe/, /fɛʁme/	coucher (*lie down*), fermer (*close*)
3sg present	/a fʁwa/, /kuʁ/, /li/	avoir froid (*be cold*), courir (*run*), lire (*read*),
	/plœʁ/, /pø/	pleurer (*cry*), pouvoir (*be able*),
	/pik/, /son/	piquer (*sting*), sonner (*ring*)

Table 5: CAMILLE – VERBS AND FORMS IN WHICH THEY APPEAR ACROSS SESSIONS.

form	phonemic forms	verbs
infinitive	/bwaʁ/, /fɛːʁ/	boire (*drink*), faire (*make*)
participle/infinitive	/akʁoʃe/, /kaʃe/	accrocher (*hang*), casser (*break*),
	/mãʒe/, /mɔ̃te/,	manger (*eat*), monter (*go up*),
	/tɔ̃be/	tomber (*fall*)
3sg present/imperative	/va/, /pik/, /plø/	aller (*go*), piquer (*sting*), pleuvoir (*rain*),
	/tjɛ̃/, /vø/	tenir (*hold*), vouloir (*want*)

Table 6: GAEL – VERBS AND FORMS IN WHICH THEY APPEAR ACROSS SESSIONS.

+ infinitive' (e.g., *pour donner à boire au bébé* 'to give to drink to the baby', *où il est le trou pour passer le bras* 'where is the hole to put the arm') or 'il faut + infinitive' constructions (e.g., *il faut pas la toucher* 'you cannot touch it', *il faut lui passer le bras dans le trou* 'you have to put its arm in the hole'), presence of an auxiliary (e.g., *ai donné* 'gave' vs. *donné* 'given'), or presence or absence of a subject (e.g., *donne un peu à boire à la poupée* 'give a little bit to drink to the doll' vs. *on lui donne à boire* 'we give it to drink'). But these cues are absent from child speech in the early stages. And, for all conjugations, the pronunciation of the imperative is always identical to one of the present verb forms. This makes it hard to identify the actual form intended by the child on each occasion.

In the Camille data, only three verbs clearly appear in two different forms **across** the early sessions, and are child-initiated (these forms have different phonological realizations): *cacher* 'to hide', *tomber* 'to fall' and *sortir* 'to go out' appear both in the 3sg present (/kaʃ/, /tɔ̃b/, /sɔːʁ/) and as participles (/kaʃe/, /tɔ̃be/, /sɔːʁti/). Across the early sessions of Gael's data, *taper* 'to hit', *mettre* 'to put', *cacher* 'to hide' and *laisser* 'to let' appear both as infinitives (or participles, /tape/, /mɛtʁ/, /kaʃe/, /lɛse/) and in the present (/tap/, /mɛ/, /kaʃ/, /lɛs/).

When do several forms for the same verb first appear in the **same** session, in child-initiated utterances? For Camille, this starts to occur in session 13b with the verb *tourner* (3sg present /tuʁn/ and infinitive/participle /tuʁne/). Then in sessions 14a and 15a, as table 7 shows, contrasting forms for additional verbs also emerge.

The future is expressed by the periphrastic form with the verb *aller* 'to go' (example 6: *on va*

13b	tourner	*turn*	3sg present	/tuʁn/	inf./part.	/tuʁne/		
14a	donner	*give*	present/imp.	/done/	1sg p.comp.	/e done/		
	tomber	*fall*	inf./part.	/tɔ̃be/	3sg p.comp.	/ɛ tɔ̃be/		
	aller	*go*	1pl present	/alɔ̃/	1sg p.comp.	/e ete/	3sg present	/va/
	dormir	*sleep*	participle	/dɔʁmi/	3sg present	/dɔːʁ/		
15a	être	*be*	3sg present	/ɛ/	3pl present	/sɔ̃/		
	mettre	*put*	3sg present	/mɛ/	3sg future	/va mɛtʁ/		
	enfiler	*put on*	inf./part.	/ãfile/	1sg p.comp.	/e ãfile/		
	enlever	*remove*	inf./part.	/ãləve/	3sg future	/va ãləve/		
	faire	*make*	infinitive	/fɛːʁ/	3sg present	/fɛ/		

Table 7: CAMILLE – VERBS AND FORMS PRODUCED IN THE SAME SESSION.

accrocher 'we are going to fasten'). In session 14a the child starts to produce the passé composé on different verb roots (/e done/ 'gave', /ɛ tɔ̃be/ 'fell', /e ete/ 'went', /e di/ 'said'). In session 15a she also starts to use more complex constructions using the verb *falloir* 'to need to/to have to' and *pouvoir* 'to be able' as auxiliaries (examples 7 *faut mettre*, 8 *on peut enlever* and 9 *on peut pas enlever*).

Example 6 (Camille 14a, 1.10.12)

Adult: tu veux lui accrocher?
Do you want to tight it around her?

Child: oui

Adult: comme ça ? comme un pampers ?
like this? like a diaper?

Child: oui

Adult: tiens ça lui fait une petite jupe
look, it makes a little skirt for her

Child: o **va** e'koché maman (on **va accrocher** maman)
we are going to fasten mummy

Example 7 (Camille 15a, 2.02.06)

Child: /é pui pou metr ot' zamb/ [removing the pants from the doll]
and then to put other leg

Child: /lotr zamb **fo metr**/ (l'autre jambe faut mettre)
the other leg must put

Example 8 (Camille 15a, 2.02.06)

Child: /wi on **pe oevé**/ (oui on peut enlever) [handling the skirt of the doll]
yes we can take off

Adult: qu'est-ce que tu veux enlever là ? tu veux lui enlever sa jupe ?
what do you want to take off? you want to take off her skirt?
Child: oui

Example 9 (Camille 15a, 2.02.06)

Child: /on **pe pa lenvé** sa/ (on peut pas enlever ça) [looking at the doll]
we cannot take this off
Adult: montre ? non c'est tout cousu ça
show me. no, it's all sewn that

Gael rarely uses yet different forms of the same verb in the same session: there are sporadic sessions with one or two verbs in two different forms, as shown in table 8. Periphrastic forms and complex constructions do not appear in Gael's productions during the period recorded. In the last two sessions though, he produces the 3sg present passive (*est cassé* 'is broken'), the 3sg passé composé (*est tombé* 'is fallen') and the imperfective (*grimpait* 'climbed').

8a	ouvrir	*open*	present/imperative	/uvʁ/	infinitive	/uvʁiʁ/
14a	chercher	*look for*	infinitive	/ʃeʁʃe/	3sg present	/ʃeʁʃ/
	ranger	*clean*	infinitive	/ʁɑ̃ʒe/	3sg present	/ʁɑ̃ʒ/
15a	casser	*break*	3sg present passive	/ɛ kase/	3sg passé composé	/a kase/

Table 8: GAEL – VERBS AND FORMS PRODUCED IN THE SAME SESSION.

Even though the verb repertoire has started to grow, verb morphology is still limited, both in terms of the number of forms produced by the child and the number of verbs for which different tensed forms are produced (see also Gathercole *et al.* 1999, Pizzuto & Caselli 1992, Tomasello 1992).

The data analysis reveals two different groups of verbs: those that appear only in the same tensed form across all sessions (hereafter "one-form" verbs) vs. verbs that the child uses in two or more different tensed forms within the same session ("multiple-form" verbs). A natural question to ask is whether the input varies for these verbs: does the child receive restricted information in the early stage for some verbs or does she receive complex information but at first latches onto one form only?

The Camille corpus contains enough data to allow further analysis: the later sessions show the emergence of several verbs occurring in different forms in the same session (table 7). To assess the nature of any correlation between the acquisition of tensed forms and the input, I compare the input Camille received for the "one-form" verbs (table 5) with the input for "multiple-form" verbs (table 7). Is there any difference between the forms and the cues given by the adult between the verbs which appear in one form only in the child's speech compared to the verbs for which the child acquires different tensed forms?

4.3 Role of the input: a "dominance-based" account

The first step in comparing "one-form" verbs and "multiple-form" verbs is to look at all the tensed forms used by the adult. I took into account the early sessions (sessions 8a to 12a), before the child starts using a same verb in different tenses. The XRCE French tagger which provides morphological analysis has been run on the adult data, and I manually corrected the output. Generally there is one dominant tensed form in the adult speech for "one-form" verbs (the one the child latches onto), whereas there is no clear dominant form for the "multiple-form" verbs in the adult speech.

Tables 9 and 10 show, respectively, the figures for the "one-form" verbs and the "multiple-form" verbs in adult speech: the division is done according to phonological forms rather than tensed forms, since different tensed forms are often pronounced in the same way in French.

verb		dominant form			other forms					
asseoir	*sit*	**11**	assis	(participle)						
avoir	*have*	**150**	a	(3sg present)	4	ont	3	avoir	2	eu
boire	*drink*	**21**	boire	(infinitive)	5	boit				
casser	*brake*	**13**	casser	(inf./participle)	1	casse				
courir	*run*	**6**	court	(3sg present)						
fermer	*close*	**6**	fermer	(inf./participle)	1	ferme				
piquer	*sting*	**5**	pique	(3sg present)						
pleurer	*cry*	**6**	pleure	(3sg present)	2	pleurer				
pouvoir	*be able*	**35**	peux/t	(present)	1	pouvez	1	puisse		

verb		formulaic use			other forms			
coucher	*lie down*	1	couché	(participle)				
lire	*read*	2	lit	(3sg present)				
sonner	*ring*	1	sonne	(3sg present)				

verb								
chercher	*look for*	9	chercher	(inf./participle)	6	cherche	1	cherchera
ouvrir	*open*	4	ouvrir	(infinitive)	3	ouvre		

Table 9: FORMS OF "ONE-FORM" VERBS IN ADULT SPEECH FOR THE EARLY SESSIONS.

The "one-form" verbs display three different patterns in adult speech, corresponding to the groups of verbs in table 9: nine verbs clearly appear dominantly in one tensed form (first group); three verbs appear only in one form with very few occurrences (middle); and two verbs appear in different forms but without dominance (last group). Note that the verbs with few occurrences in the data appear in formulaic utterances, in routine games, which could make them salient for the child. The use of exactly the same form in the same context creates a link between a meaning (construed from the context) and the form. Overall, most of the "one-form" verbs have

verb		contrasting forms, in order of frequency									
donner	*give*	13	donner	10	donne						
(en)dormir	*sleep*	1	dormir	1	dort						
enfiler	*put on*										
enlever	*remove*	11	enlever	7	enlève						
(re)mettre	*put*	32	mettre	30	met	17	mis				
tourner	*turn*	27	tourne	18	tourner						
aller	*go*	**97**	va	27	vais	13	aller	1	ira	1	vont
être	*be*	**329**	est	37	était	24	sont	4	été	1	suis
faire	*make*	**98**	fait	22	faire	10	font	1	faisait		
tomber	*fall*	**30**	tomber	2	tombe						

Table 10: FORMS OF "MULTIPLE-FORM" VERBS IN ADULT SPEECH FOR THE EARLY SESSIONS.

a salient form in the adult speech.

At the same time, for half of the verbs in table 10, the adult speech does not exhibit any dominant form. The bottom part of table 10 could be seen as patterning more like the "one-form" verbs; however *aller* 'to go', *être* 'to be' and *faire* 'to make' are general purpose verbs, and therefore do not manifest a clear semantics, contrary to the other verbs which are more specific in meaning. They are used in a variety of contexts: *aller* and *être* are often auxiliaries (73/97 for the form *va*, 81/329 for *est*), *être* is also very frequent in frames (*c'est* 173/329), and *faire* is used in causative constructions as well as in fixed expressions (*faire mal* 'to hurt', *faire du bruit* 'to make noise', *faire dodo* 'to sleep'). The generality of these verbs is also revealed by the very high frequency of the different forms for these verbs in the adult speech, compared to all the other verbs we have been examining. Overall, adult speech does not offer clear salient forms for the "multiple-form" verbs (except for *tomber* 'to fall').

Another factor that differentiates single-form verbs and mutliple forms is the timing of the first appearance in child speech. Most of the "one-form" verbs appear initially in the early sessions (all except *avoir froid*, which occurs for the first time in session 13a). For the "multiple-form" verbs, the picture is more variable: five verbs appear early (*tomber*, *tourner* 8a; *être* 9a; *enlever*, *mettre* 12a) and five appear in the latter sessions (*dormir* 13a; *aller*, *donner*, *faire* 14a; *enfiler* 15a). Later-appearing verb forms in the developmental trajectory might lead to better uptake of contrasting tensed forms. In the data, *aller* 'to go', *donner* 'to give', and *enfiler* 'to put on' appear immediately in different tensed forms. The child starts to produce the passé composé, and does it appropriately, for *aller* and *enfiler*.

From this sample of parental data, it appears that relative frequency in the input matters: children appear to latch onto the most frequent tensed forms they hear, proportional to other forms of the same verb. The semantics of the context has to be taken into account too, to

determine salience.

In a study of caused-motion constructions in French, Chenu and Jisa (2006) ruled out the frequency-based account for one of the children they examined. However relative frequency would fit well the data of both children. In their study, Chenu and Jisa analyzed the caused-motion constructions of two French-acquiring children, MAR and THE, as well as the child-directed speech. French has two different ways of expressing caused-motion events: the semantically general verb *mettre* 'to put' as well as more specific verbs, such as *attacher* 'attach to', *poser* 'put down', or *accrocher* 'hook (on)to'. On the children's side, MAR has a preference for the verb *mettre*, while THE prefers to use more specific verbs. THE's mother does show a larger proportion of more specific verbs than MAR's mother (THE's mother uses specific verbs 60% of the time, compared to 29% for MAR's mother), but both mothers use the verb *mettre* more frequently than any specific verb. Contrary to what Chenu and Jisa argue, a frequency-based account can explain both datasets, if phrased in terms of relative frequency and dominance of forms: on the whole, *mettre* in MAR's mother speech is the dominant verb used to express caused-motion events, while it is not prominent in THE's mother speech. The term "dominance-based" might be better suited to define this account.

4.4 Criteria for distinguishing homophonous forms

What added elements would distinguish among homophonous uses in children's speech? As already mentioned, for homophonous forms, the tense intended as the target is only discernible from contextual cues such as the presence or absence of a subject, the presence of an auxiliary, the pronouns used as subjects, and some syntactic constructions like 'pour + infinitive' or 'il faut + infinitive'.

In the current data, there are not yet elaborated syntactic constructions which permit distinguishing between homophonous forms. But subjects of verbs begin to appear, and I therefore analyzed the evolution of the subjects. I also looked at how aspect could help distinguishing between homophonous forms.

Emergence of subjects in formulaic utterances. The first subjects to appear, accompanying verb forms, are pronouns in formulaic utterances. The subject slot is also the one where pronouns appear first.

Both children follow a comparable path in their acquisition of pronouns. They first appear as subjects of formulaic utterances. While these pronouns share some structural properties with grammatical morphemes (they indicate awareness that there is a slot to fill), they do not have yet an adult-like phonological realization of the subject pronoun and they lack the structural constraint of obligatory production. They are therefore proto-morphemes or fillers (see Peters & Menn 1993), and I label them "proto-pronouns". Instances of these "proto-pronouns" in formulaic utterances were given above in examples 1, 2, 3, 4 and 5. In example 10 below, Camille repeats the pronoun after the adult, and later in example 11 she points at the image of a dog in the picture book and says that it is running (*il court*), something that is said by the parent each time they look at the picture. In example 12, Gael explains the story of a book that his

mother often reads to him: a truck is stuck in a field, and the farmer tries to push it (*il pousse*) with the help of his horse. The first proto-pronouns to appear are based on the third person forms *ça*, *on*, and *il*.

Example 10 (Camille 12a, 1.08.15)

Adult: qu'est-ce qu'il fait le chien là ?
what is the dog doing there?

Child: là ?

Adult: oui, il court
yes, he is running

Child: hein ?

Adult: il court
he is running

Child: e e kur ←

Example 11 (Camille 13b, 1.09.03)

Child: i kur é chien, ga i kur é chien ←
he is running the dog, look he is running the dog [pointing at the dog in the book]

Adult: il court le chien? fais voir
the dog is running? show me

Example 12 (Gael 15a, 1.11.25)

Adult: qu'est-ce qu'ils font là alors ?
what are they doing there then?

Child: /**i** pousse/ ←
he's pushing

Adult: le paysan pousse et puis le cheval tire
the farmer is pushing and the horse is pulling

It is important to note that the first occurrences of these formulaic utterances in the child's speech appear without subjects. Then proto-pronouns appear as subjects, and the children start to produce pronominal subjects in non-formulaic utterances only later.

The status of fillers has long been debated in the acquisition literature (see Menn & Peters 1993, Veneziano & Sinclair 2000 and references therein); Veneziano even emphasized the importance of studying filler-producing children (Veneziano 2001). Most work shows how fillers phonologically and morphologically evolve to an adult-like form, but the context in which they first appear has not been thoroughly examined. Often random and sporadic appearance is reported. The most convincing hypothesis of filler status was proposed by Veneziano & Sinclair (2000).[3] They hypothesized the "organization of surface regularities" where fillers take on a different status with each step in development: from a pre-morphological period where "fillers"

[3]Note that this work uses the Camille data.

reflect phonoprosodic properties (and could thus be called Prefixed Additional Elements), to a proto-morphological stage where they start to share some general properties with grammatical morphemes (and can then be called fillers). Notice however that this account concentrates on children's production, and doesn't address comprehension.

Proto-pronouns are clear evidence for the proto-morphological stage of fillers. Further, this case study might lead to a re-evaluation of the claim of random and sporadic uses of fillers. In the preverbal position, the current data argue for the importance of formulaic utterances. Proto-pronouns do not emerge at random: they appear first in formulaic utterances, before being extended to other non-formulaic verb uses. It would be worthwhile examining where proto-morphological status starts. Are there specific utterances in which these proto-morphemes emerge, before they are extended?

Aspectual classes. Aspectual classes of verb explain why different verb endings appear at the same time in the children's speech but are distributed selectively with different populations of verbs. For English, Bloom *et al.* (1980) showed that the inflection *-ing* occurred overwhelmingly with events that are durative/non-completive, *-ed*/IRREG with events that are non-durative/completive, and *-s* with events that are durative/completive. This leads to the 'aspect before tense' hypothesis. Similar results have been reported by Clark (1996): her study confirms that the emergence of verb inflections supports the context-based assignment of the verbs to the aspectual classes of activity, accomplishment, achievement and state (*-ing* appears first on verbs denoting an activity, whereas *-ed* occurs mainly at first on accomplishment verbs).

The importance of aspect in the acquisition of verb inflection has also been observed for French. Bronckart and Sinclair (1973) analyzed children from 2 years, 11 months to 8 years, 7 months in an experimental study. They enacted actions that varied the type of result, frequency, and duration of the action (for example, a horse jumps over a fence, a truck pushes a car toward a garage, a fish swims in a basin). Even though the children were asked to talk about each event after they saw it, younger children used different tensed forms for different types of actions: 'actions that obtain a clear result are mostly described in the passé composé, actions without an intrinsic aim are described in the present or the passé composé, and actions that do not lead to any result are described in the present' (p. 125).

Antinucci and Miller (1976) report similar observations for Italian. Children use a past participle to describe the *end-state* of an action. (In Italian, contrary to French, the past participle has a different form from the infinitive.) On the other hand, 'stative verbs and activity verbs, i.e. those verbs which describe an event without an end result, are never used in the past tense in the children's speech, although they do occur in the present tense' (p. 174). They show the distinction children make between change-of-state verbs with no result and change-of-state verbs with clear result: the change-of-state verbs with no result pattern like activity and stative verbs.

From the French and Italian studies, it seems that the notion of result is pertinent and matters for the children. Note that the age range of the children in the studies mentioned above is somewhat higher than the ones of the children under study here. However looking at

the "one-form" verbs of Camille and Gael (tables 5 and 6), all the verbs used in the present fall within one of the following categories, in concordance with the predictions: activity, state, or change-of-state with no result (most of the analogous Italian verbs appear in Antinucci & Miller's data). If we accept this hypothesis, then analysis of the type of the action could help disambiguate between a homophonous infinitive and participle. Further research is planned to analyze in depth the correlation between tense and type of the event as well as time of the speech act with respect to the action: before, simultaneous, after. Non-ambiguous forms from third conjugation verbs will enable an evaluation of the hypothesis: does the child use a past participle only when the action leads to a clear result? Interestingly, the adult reformulations differentiate homophones in context, and reveal preferences in assignments of meanings to child forms along the *time* scale: child verb uses that followed an action are treated as past participles by the adult, while those anticipating an action are generally treated as infinitives, usually after a finite form of *aller* 'to go' which marks the immediate future, or a modal verb like *vouloir* 'to want' or *devoir* 'to need to'.

So far, this study supports the view that, particularly early on during the acquisition, children are conservative learners: they latch onto the most prominent forms in the input (both in terms of relative frequency and salient semantics), if any, and adhere to these. Children also show piecemeal knowledge during the course of development: tensed forms are developed verb by verb, and not across-the-board. These findings are consistent with the literature (see the "verb island hypothesis" of Tomasello 1992, Clark 1996, Lieven *et al.* 1997, Gathercole *et al.* 1999).

The role of the input had been previously emphasized in other works (Shirai & Andersen 1995, Lieven *et al.* 1997, Veneziano 2005), but interactions between child and adult only begin to receive attention more recently (see Veneziano 2005, Clark & Estigarribia 2007, Clark & Bernicot 2008). I therefore turn next to how the adult and the child interact using verb forms, focusing on what sort of feedback is given by the adult, and whether the child takes up on any corrections by the adult.

5 Interactions between child and adult

First, I introduce the coding used for interactions between child and adult. I then analyze the interactions around all verb forms, targeting the exchanges around (a) the "one-form" verbs and (b) "multiple-form" verbs in the early sessions.

5.1 Coding for interaction

Sequences of interaction were coded for all targets that look like verbs in the child's utterances. As already mentioned, I distinguished sequences where the adult initiates the verb use from the ones where the child initiates it. When the adult initiates use of a verb form, the sequence may look as follows:

A. ADULT-INITIATED
- adult utterance

– child repeats the target form

– adult ratifies (with/without correction) **or** acknowledges

– child acknowledges **or** repeats

By acknowledgment, I mean that the speaker confirms or ratifies the previous utterance with a form such as *oui* 'yes' or a back-channel (*mh mh*). In example 13 the sequence is "maximal": all the steps described above are present, the adult initiates the verb form, the child repeats it, the adult then ratifies the child's use while correcting it, and the child repeats again. In example 14, the sequence is shorter: the adult initiates the verb, the child repeats it and the adult ratifies; but the child takes no further step.

Example 13 (Camille 14a, 1.10.12)

Adult: oh il est tombé; qui est tombé ?
oh he fell, who fell?
Child: yà. anfan obbé
Adult: les enfants sont tombés ?
the children fell?
Child: mh. afan obbé

Example 14 (Camille 14a, 1.10.12)

Adult: et puis ce bébé qu'on a lavé on va le couvrir parce qu'il aura froid
and now this baby we washed we are going to cover him up because he will get cold
Child: bébé # afwà [puts the blanket on the doll]
Adult: il a froid oui
he is cold yes

When the child initiates the verb form, the longer "child-initiated" sequences have the following scheme (example 15), but they too can be shorter (example 16):

B. CHILD-INITIATED

– child utterance = target form

– adult asks for clarification

– child repeats (with/without fix)

– adult repeats (with/without correction) **or** rephrases **or** answers

– child re-repeats (with/without fix) **or** acknowledges

Example 15 (Camille 14a, 1.10.12)

Child: /obé ta/
Adult: mh ?
Child: /tobbé(y)a/
Adult: tombé là hein ?
fallen there

Child: oui maman

Example 16 (Camille 14a, 1.10.12)

Child: /opalà/

Adult: ils sont pas là ?

aren't they there?

Child: oui

Adults and children can simply *repeat* the target verb form, with or without correction, or they can *rephrase* it. The difference between repetition and rephrasing depends on the amount of new material added. In a repetition the adult can make a syntactic/semantic/morpho-phonological correction (addition of subject, object, auxiliary). When rephrasing, the adult is either adding an intention or answering with a verb different from the one used by the child. Examples will clarify this: examples 15 and 16 are repetitions. Rephrasing with another predicate are shown in examples 17 (*tomber* 'to fall' vs. *retourner* 'to put upside down'), 18 (*lire* 'to read' vs. *regarder le livre* 'to look at the book') and 19 (*être couché* 'to lie down' vs. *avoir sommeil* 'to be sleepy'). But 20, 21 and 22 are examples of rephrasing in which the adult adds "intentional" material.

Example 17 (Camille 13a, 1.09.03)

Child: /o! obbé # oto:/ (tomber)

Adult: oui le vélo là il est retourné

yes the bike there is upside down

Example 18 (Camille 14a, 1.10.12)

Child: /oli maman. oli là. oli maman. oli là. maman oli là/

Adult: oui on va regarder le livre toutes les deux

yes we're both going to look at the book

Example 19 (Camille 14a, 1.10.12)

Child: /na dodo dodo kouché bébé/

Adult: il a sommeil ?

is he sleepy?

Child: oui

Example 20 (Camille 13a, 1.09.03)

Child: /abik bébé apik/ [looking at the baby doll and sweeping it with the blanket]

Adult: il a le nez qui pique le bébé ?

does the baby's nose itch?

Example 21 (Camille 13a, 1.09.03)

Child: /no assis/ [takes the baby doll from the hands of the adult and puts it on the floor]

Adult: ah il doit rester assis oui
ah he has to sit down
Child: oui

Example 22 (Camille 14a, 1.10.12)

Child: /vi và maman/
Adult: où est-ce que tu veux aller ? au salon ? tu veux aller au salon ?
where do you want to go? into the living room? you want to go into the living room?
Child: oui

5.2 Global interaction around verb forms

This section gives an overview of the patterns of interaction between the adult and the child, organized around verb form uses. It reveals how much feed-back is given by the adult.

I first focus on the child-initiated exchanges. A summary for each session of the Camille data is given in table 11. Table 12 shows the summary for Gael. The second column of these tables gives the total number of child-initiated exchanges.[4] The third column indicates how many times the adult responded to the child's utterance; and the adult's response is coded according to its type (repeating–"repeat", rephrasing the utterance–"rephrase", or answering–"answer"). The column entitled "corr." gives the number of repetitions containing a correction. In the child follow-up's, the column "repeat" indicates the number of times the child follows the adult's utterance with a further repetition, but without fixing his previous utterance (these can be seen as unsuccessful attempts at fixes). The column "fix" gives the number of successful fixes.

In the early sessions with Camille (until session 13b, 1.09.03) the adult responds nearly all the time to the child. The adult checks the child's utterance, often by repeating it and making a phonological and/or morpho-syntactic correction. In session 15a, fewer corrections are needed as the child's phonology has improved so the adult can understand her better on the first round. A similar pattern of interaction is observed with Gael (see table 12): until session 12a (1.10.17), the adult often repeats in responding to the child.

There is a clear increase in the number of acknowledgments given by Camille (the last column of table 11). I looked at whether this was triggered by an interrogative intonation in the adult response. Most of the child's repetitions and acknowledgments appear after the adult queries what the child had said, typically in side-sequences (Schegloff 1972), but the child does not always follow up an adult's interrogative form. In the later sessions, however, a lot of the adult's interrogative forms get answered by the child, consistent with the findings of the literature in acquisition (by age 2, children know that they have to answer questions (Ervin-Tripp 1979)).

[4]The side sequence in which the adult asks for general clarification by means of *mh?* appears marginally in the data, and is therefore not reported in the table. In the whole Camille corpus, there are 8 general clarification demands from the adult, and the child answers all of them except once. The same pattern appears in the Gael data: there are 9 general clarification demands from the adult, and the child answers to all of them. What also occurs in the Gael data are 5 misunderstandings from the adult that the child tries to correct by repeating his utterance.

session	# seqs initiated by child	**# times adult** responds:	repeat	corr.	rephrase	answer	**child follow-up's** repeat	fix	acknowledge
8a	9	9	9	(9)	–	–	2	–	–
9a	9	9	9	(9)	–	–	2	1	–
10a	7	5	4	(4)	1	–	1	–	1
10b	10	9	7	(7)	1	1	2	–	–
11a	10	10	10	(10)	–	–	–	–	–
12a	29	27	13	(11)	8	6	1	–	8
13a	16	15	7	(6)	5	3	1	1	4
13b	34	24	16	(16)	4	4	4	1	5
14a	65	43	21	(19)	16	6	4	1	24
15a	90	52	16	(10)	15	21	7	5	20

Table 11: CAMILLE – CHILD-INITIATED EXCHANGES CONTAINING VERB FORMS.

session	# seqs initiated by child	**# times adult** responds:	repeat	corr.	rephrase	answer	**child follow-up's** repeat	fix	acknowledge
6a	9	7	7	(6)	–	–	–	–	–
8a	15	13	9	(7)	3	1	–	–	1
9a	11	10	8	(8)	2	–	2	–	–
10a	15	11	9	(7)	2	–	1	–	–
11a	15	11	6	(6)	5	–	1	1	3
12a	35	18	15	(9)	1	2	1	–	4
13a	22	12	7	(7)	1	4	1	–	2
14a	25	21	5	(5)	9	7	4	1	4
15a	31	24	16	(10)	4	4	2	1	–
16a	39	29	12	(11)	10	7	4	1	5
17a	41	20	6	(6)	9	15	1	–	9

Table 12: GAEL – CHILD-INITIATED EXCHANGES CONTAINING VERB FORMS.

In the last session of the Camille data (15a), the child is trying to fix her utterances when she repeats to follow up an adult repetition. I report here one of the rare attempts to fix an utterance from an early session, as well as two examples from the last session (examples 23, 24 and 25):

Example 23 (Camille 9a, 1.07.04)

Child: /èsci:/ [takes a baby doll and makes it sit down]

Adult: il est assis c'lui là

that one is sitting down

Child: /asci: asci:/ ←

Example 24 (Camille 15a, 2.02.06)

Child: /moa lariv pa/ (moi j'arrive pas) *I can't do it*

Adult: tu essaies avant de dire que tu n'arrives pas
you try before saying that you can't do it

Child: /j'ariv pa/ ←

Example 25 (Camille 15a, 2.02.06)

Child: /la bouch é é la bouch él **é** la/ [pointing the forehead]

Adult: elle est là la bouche ? *is the mouth there?*

Child: /wé él **è** pa là/ ←

Gael also tries to fix some of his utterances. Example 26 gives one attempt to fix an utterance in an early session, whereas example 27 comes from a later session:

Example 26 (Gael 11a, 1.10.03)

Child: /plû/

Adult: il y en a plus? *there is no more?*

Child: /**a** plû/ ←

Example 27 (Gael 16a, 2.01.00)

Child: /è tassé/ *broken*

Adult: qui est-ce qui a cassé? *who broke?*

Child: /**a** tassé/ ←

I turn now to the interactions where the adult initiates the verb form. Since I am targeting the child's utterances, the sequences always begin with an adult utterance being repeated by the child. The question is whether the adult responds to the child's utterance (ratifying it or acknowledging it), and if the child takes up this adult response. Analysis of the data show that overall, the adult responds to the child's repetition, usually ratifying it as well as correcting it. Nonetheless the child rarely goes further on these corrections, and particularly in the case of Gael, as can be seen in tables 13 and 14.

This global analysis of interaction clearly shows how much feed-back is given by the adult, in both cases (child-initiated as well as adult-initiated exchanges). To some extent, the child-initiated sequences indicate that the children accept the adult interpretation offered in the repetition or the reformulation. Children do frequently repeat the corrected form and so ratify the interpretation, or agree (*ouais*, *mmh*, *oui*), before going on with the exchange.

session	# seqs initiated by adult, repeated by child	**third turn: # times adult**				**child follow-up's**	
		responds:	ratifies	corr.	acknowledges	repeats	acknowledges
8a	8	4	4	1	–	3	–
9a	5	5	5	5	–	–	–
10a	8	7	5	5	2	1	–
10b	6	5	4	4	1	–	–
11a	–	–	–	–	–	–	–
12a	3	3	3	3	–	1	–
13a	16	11	8	7	2	1	–
13b	6	4	3	3	1	1	–
14a	11	9	9	8	–	2	5
15a	21	11	6	5	5	2	4

Table 13: CAMILLE – ADULT-INITIATED EXCHANGES CONTAINING VERB FORMS.

session	# seqs initiated by adult, repeated by child	**third turn: # times adult**				**child follow-up's**	
		responds:	ratifies	corr.	acknowledges	repeats	acknowledges
6a	1	1	–	–	1	–	–
8a	1	1	1	1	–	–	–
9a	3	2	2	1	–	–	–
10a	4	2	1	–	–	–	–
11a	7	6	3	3	3	–	1
12a	1	1	1	–	–	–	–
13a	3	3	2	2	1	–	–
14a	7	2	2	1	–	–	–
15a	8	2	–	–	2	–	–
16a	5	4	2	–	2	1	–
17a	6	6	3	3	3	–	–

Table 14: GAEL – ADULT-INITIATED EXCHANGES CONTAINING VERB FORMS.

5.3 Interaction for the "one-form" verbs and "multiple-form" verbs

I now examine the interaction for the verbs of interest here: the "one-form" and "multiple-form" verbs. As in the study of the input in adult speech, I restricted this analysis to the early sessions.

The only striking difference in the interaction sequences is the number of child-initiated sequences (see tables 15 and 16): 37 child-initiated exchanges for the "one-form" verbs vs. 15 exchanges for the "multiple-form" verbs, due to the late appearance of half of the "multiple-form" verbs, as already noted. The number of adult-initiated sequences is roughly identical (7 sequences for the "one-form" verbs, and 6 for the "multiple-form" verbs). The only small difference in interaction is that the adult *always* responds to the child in the case of "multiple-verb" forms.

session	# seqs initiated by child	here	**# times adult** responds:	repeat	corr.	rephrase	answer	**child follow-up's** repeat	fix	acknowledge
8a	9	4	4	4	(4)	–	–	1	–	–
9a	9	6	6	6	(6)	–	–	2	1	–
10a	7	4	3	3	(3)	–	–	–	–	–
10b	10	7	6	5	(5)	–	1	1	–	–
11a	10	5	5	5	(5)	–	–	–	–	–
12a	29	11	9	3	(2)	6	–	–	–	3
total		37	33	26	(25)	6	1	4	1	3

Table 15: CAMILLE – CHILD-INITIATED EXCHANGES CONTAINING "ONE-FORM" VERBS.

session	# seqs initiated by child	here	**# times adult** responds:	repeat	corr.	rephrase	answer	**child follow-up's** repeat	fix	acknowledge
8a	9	2	2	2	(2)	–	–	1	–	–
9a	9	2	2	2	(2)	–	–	–	–	–
10a	7	–	–	–	–	–	–	–	–	–
10b	10	2	2	1	(1)	1	–	1	–	–
11a	10	3	3	3	(3)	–	–	–	–	–
12a	29	6	6	3	(2)	2	1	–	–	2
total		15	15	11	(10)	3	1	2	-	2

Table 16: CAMILLE – CHILD-INITIATED EXCHANGES CONTAINING "MULTIPLE-FORM" VERBS.

For the two groups of verbs, I compared the examples of adult rephrasing in child-initiated exchanges, as well as the adult ratifications in the adult-initiated exchanges. I looked at the kind of information given by the adult in these exchanges. For the "one-form" verbs, the adult either strictly repeats the verb form she gave in the previous turn (examples 28, 29, 30, 31 and 32) or the adult makes use of a different word from the one used by the child (examples 33, 34 and 35). In these exchanges, contrastive forms for the same verb are never given.

Example 28 (Camille 8a, 1.06.22 – "one-form" verb)

Adult: tu avais entendu la cloche qui sonne à Montana?

did you hear the bell which rings in Montana?

Child: /sonn/

Adult: comment elle fait la cloche? *what does the bell make?*

Child: /sonn/

Adult: sonne. elle fait ding-dong

Example 29 (Camille 9a, 1.07.04 – "one-form" verb)

Adult: et pis là y a le chien, i court
and then here there is a dog, it's running

Child: /cou:/

Adult: i court le chien tu vois *the dog's running you see*

Example 30 (Camille 10a, 1.07.18 – "one-form" verb)

Adult: ah, ils sont assis les bébés *ah the babies are sitting down*

Child: /asi/

Adult: ah ! ils sont assis ! *ah! they are sitting down*

Example 31 (Camille 10b, 1.07.18 – "one-form" verb)

Adult: où c'est qu'on va aller le chercher Vincent? tu sais au jardin
where are we going to pick up Vincent? you know at the kindergarten

Child: /can éché/

Adult: oui on va le chercher après *yes we are going to pick him up afterwards*

Example 32 (Camille 12a, 1.08.15 – "one-form" verb)

Adult: il court *it's running*

Child: /e kur/

Adult: il court le chien? *the dog's running?*

Example 33 (Camille 12a, 1.08.15 – "one-form" verb)

Child: /ah mamà oli olouzè/

Adult: mhmh à maman le livre *mhmh to mummy the book*

Example 34 (Camille 12a, 1.08.15 – "one-form" verb)

Child: /oli poppón/

Adult: tu sais Popol ne regarde pas le livre *you know, Popol doesn't look at the book*

Example 35 (Camille 12a, 1.08.15 – "one-form" verb)

Child: /mh uppá/ (pouvoir)

Adult: t'arrives pas *you can't do it*

In contrast, for the "multiple-form" verbs, there is not always strict repetition. The adult does give contrastive information for some verbs, as shown by examples 36, 37 and 38. In these three examples, the adult offers two different forms for the verb that the child used.

Example 36 (Camille 10b, 1.07.18 – "multiple-form" verb)

Child: /é toun é: e' pie/

Adult: tu as trouvé la toupie qui tourne, on la fait tourner?

you found the spinning-top which turns, are we making it turn?

Example 37 (Camille 9a, 1.07.04 – "multiple-form" verb)

Adult: il est tombé *it fell*

Child: /èbé/

Adult: tombé hein? *fallen he?*

Example 38 (Camille 10b, 1.07.18 – "multiple-form" verb)

Adult: oh il est tombé. qui est tombé ? *oh he fell. who fell?*

Child: /yà. anfan obbé/

Adult: les enfants sont tombés ? *the children fell?*

In these few examples where the adult provides more information about the verb, we see that there are different patterns between the "one-form" verbs and the "multiple-form" verbs: contrastive information is only given for some of the "multiple-form" verbs. This could help the child build a connection between contrastive forms for a same verb.

6 Conclusion

This case study aimed at investigating the early acquisition of verb forms in French. The data come from two longitudinal studies of mother-child dyads, in which the children are acquiring French (from 1 year 6 months old to 2 years 3 months). Analysis of the data shows that, initially, children use one single tensed form constant per verb. The first attested forms are the 3sg present, the past participle and the infinitive. Over time, there is a clear increase in the verb lexicon, but no real development of verb morphology yet.

In the latest sessions of the data collection, one child, Camille, starts to use different forms for the same verb. Thus, two different categories of verbs emerge from the Camille data: on the one hand, the verbs which are used constantly in the same form across all data samples ("one-form" verbs) and, on the other hand, the verbs which end up being used in different forms within the same session ("multiple-form" verbs). The "one-form" verbs are acquired early by the child, compared to the "multiple-form" verbs which appear later in child-initiated utterances.

Analysis of the input shows that relative frequency of the verb forms in adult speech is an important factor explaining the two verb categories. Most of the "one-form" verbs have a dominant form in the adult speech (which is the one the child latches onto), whereas the adult speech does not offer a dominant form for the "multiple-form" verbs (if there is a most

frequent form for some of the "multiple-form" verbs, these are general purpose verbs which do not manifest a clear semantics, and this does not make the form salient).

The interaction between the child and the adult around verb forms differ somewhat between the two verb categories. Occasionally, the adult gives contrastive verb forms in turns surrounding a child's utterance containing that same verb, but this only happens for the "multiple-form" verbs. Receiving such direct contrastive information could facilitate the acquisition of different forms for these verbs. However the current data carry too few examples to be assured of significance. Nonetheless further analysis of interaction between child and adult could confirm the trend appearing in the Camille data.

In addition, this study underlines the important role played by formulaic utterances. Verbs occurring in formulaic utterances are indeed acquired very early, and the pattern "one verb–one form" holds for these, in accordance with the dominance-based account proposed here. In the data from the two children, they are also the first place where subjects appear, which are potential cues for distinguishing homophonous forms.

Overall this study confirms an input-based theory of acquisition, and supports the view that, early on, children are conservative learners. Children latch onto the most prominent verb forms in the input, in terms of relative frequency and salient semantics, and adhere to it for a long time. The French data presented here also confirm the idea of piecemeal acquisition: tensed forms are developed verb by verb.

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