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EARLY ACQUISITION OF SPANISH VERB INFLEXION.
A USAGE-BASED ACCOUNT

The paper traces the emergence of verb flexion in one Mexican Spanish monolingual child, and contrasts child production with maternal input. The child data (obtained from naturalistic observations of a girl from 19 to 26 months of age) include an accumulated verb lexicon of 131 verb types (with 3533 verb tokens). A ONE VERB-ONE FLEXION initial state for most verbs was found. The initial data relate both to frequency patterns in maternal usage and to transitivity verb types. The study shows various patterns of inflexion extension. It turned out that child's entrance to verb inflexion is related to real language use. Discussion considers the implications of this type of data for a model of language acquisition that promotes usage based accounts.

A question recently reframed in language acquisition theory concerns the character of children's early grammar as compared to an adult's type of grammar (Tomasello, 2000). In particular, the reduced productivity of children's constructions, their concrete character, and reduced interrelation have been put in focus; against the productivity, abstract generality and deep and wide correlation thought to be characteristic of the adult's grammar. Altogether, the possibility has been considered that those characteristics of children's early language may have a close relationship to adult input, in closely reproducing the more frequent patterns, and the biases and combinatorial preferences that populate real language use (Tomasello, 2003; Tomasello & Brooks, 2000).

The early attention paid to combinatorial restrictions (Braine, 1976) and piecemeal character of children's early language (Bowerman, 1985), together with repeated but scattered data on the association between specific constructions and particular lexical items has given rise to a fresh look at early language. The attention to lexically based learning is a current concern on recent language acquisition studies (Lieven, Pine, & Baldwin, 1997; Tomasello, 1992, 2000, 2003).

This proposal, first clearly and explicitly framed around the *Verb-Island hypothesis* (Tomasello, 1992), has extended its scope out of its original niche – verb-argument constructions – from syntax to morphology, from verbs to every type of lexical category, from verb argument structures to every type of syntactic construction. Robust evidence has been offered on lexical bias in the emergence of early morphological marking, and lexical anchorage of syntactic constructions. It has been argued, for instance, that early verb flexions do not combine freely with any type of verb, but with a selected set of them (Jackson-Maldonado & Maldonado, 2001, for Mexican Spanish; Sebastián, Soto, & Gathercole, 2001, for Peninsular Spanish; Anderson & Shirai, 1995, for English; Shirai 1998, for Japanese; Pizzuto & Caselli, 1992 for Italian). In the same vein, prepositions and case marking appear to be primarily associated with specific items (MacWhinney, 1985; Tomasello, 1987; Rojas, 1998); interrogative words occur initially in a restricted set of syntactic frames with a handful of verbs (Dabrowska, 2000; Rojas, 2001; Rowland, Pine, Lieven & Theakston, 2003). Even complex syntactic constructions, such as complementation, are built initially around a specific and reduced set of verbs (Diessel & Tomasello, 2000; Rojas, 2003).

This type of evidence calls for an explanation that will debate with both approaches, adult-oriented, and cognitive based. Adult-based models credit children with adult-like knowledge of language and would think of skewed combinations as a performance phenomenon, not worth consideration. On the contrary, the usage-based perspective considers that children's early grammars are better characterized on their own terms by their piecemeal character, reduced productivity and relational insularity, possibly manifesting children's selective attention to data in their real experience with language use.

As for cognitive approaches, they tend to disregard the possible effects that discourse might have on such selective choices and constructional biases; children's coding preferences and early constructions receive an explanation in terms of prototype selection, or on the basis of the supposed inherent complexity of the concepts underlying those combinations. For instance, in considering the combination of verbs and inflexion forms, a kind of harmony has been proposed between the lexical aspect – *Aktionsart* – of a given verb and the perfective or imperfective meaning of the inflexion: behind the production of an expression such as Sp. *rompió* 'it broke' (break-PST3s) there would be a calculation of both the achievement *Aktionsart* of the verb *romper* 'break' and the perfective aspect of the simple past inflexion *-ó*.

The possible cognitive scenario of lexical selection biases is hard to accept as an explanation, at least for verb-inflexion acquisition. Even if a cognitive approach would not phrase the problem in these terms, an implicit assumption credits the child with some knowledge of both semantic features involved in the specific combinations and affinities between the semantic features of the items to be combined in a given construction. On the other hand, if we prefer not crediting the child with such analytical and combinatorial abilities, we would need to appeal to a kind of prototype detector-selector, such that among the whole array of possible combinations for a given item, the child would choose the one presenting such combinatorial congruence. We must be aware that the processing capacity needed to do this would be highly complex,

unless we conceive a close pairing between prototype and use frequency, which would definitively approach both frameworks: cognitive and usage-based.

Moreover, we might agree that in a language with a reduced set of inflexion contrasts, one may find a suitable semantic hypothesis to explain the pairing of a handful of inflexion forms with a corresponding group of verb semantic categories –*Aktionsarten*, for instance. But we strongly doubt that a cognitive oriented rendition of verb-inflexion selectional bias would find an adequate answer for inflexion development in a language with a rich verb morphology such as Spanish. In fact, Spanish disposes of a set of 53 verb-inflexion forms: five simple indicative tenses, i.e. not auxiliared ones, three subjunctive sets of forms (two in some Spanish varieties), all of them with six different person contrasts each (in fact, only five in Mexican Spanish that has lost the 2nd plural and uses instead the 3rd plural for that person reference), together with two imperative forms (in fact, only one in Mexican Spanish), plus three uninflected forms: infinitive, gerund and participle. Mexican Spanish would offer in theory a set of 44 inflexion forms for every verb (which would be increased with the corresponding complex forms that are built with the perfective auxiliary *haber* 'have'). Together with this wide set of forms open for selection, there is the fact that every single inflexion form is a *portmanteau* morpheme, that codes person, number, tense-aspect, and mood, at one time (TAM, for short), as usual in flexive languages. Every child's selection of a particular verb-flexion implies the selection of a knot in a net that links a set of factors.

So in order to explain the initial selection of one among the various inflexion forms that a Spanish verb may take without appealing to frequency of use, a prototype account would need a clear prototype or unmarked form among the set of possible inflexions, i.e., a scenario similar to the *Optional infinitive hypothesis* (Wexler, 1992), convincingly criticized by Pye (2001), which would be the basic form selected for every verb. Or, otherwise, if different sets of verbs select a different inflexion starting point, it would be necessary to find one reason, or at least a reduced set of reasons, to have a specific form for every set of verbs – which is in fact what the *Aktionsart hypothesis* proposes for the biased relation between the internal aspect of lexical verbs and a preferred tense-aspect inflexion; without saying a word as to person or mood selection.

What Usage-based accounts add to this picture is the evidence that distributional biases and combinatorial selections are already present in adult use (Kemmer & Barlow, 1999; Bybee & Hopper, 2001), so that children may not have access to any possible verb-inflexion combination. In fact, we are by now well acquainted with studies showing that in adult usage distributional biases have priority everywhere; frequency counts show that combinatorial equality and generality are not the case, but rather syntactic and morphological constructions are biased toward preferential combinations. So that, focusing on verb-inflexion combinations, we know that not every inflexion type is equally present, nor every single verb occurs with any inflexion in a balanced way. We should remember, regarding this point, that some combinatorial properties of a verb with a given inflexion have been used as syntactic evidence to identify verb subclasses: for instance, imperative constructions were considered to be basic for agentive verb identification, against state verbs which are not normally used in the imperative, and also present combinatorial restrictions with progressive *-ing* inflexions (Van Valin, 1993)*.* Still focusing on verb inflex-

ion, frequency counts of Spanish verbs show that third person inflexion is more frequent than first and second person, which, in turn, are more or less equally frequent (Juilland & Chang, 1964). However, for particular verbs, the preference may go in an inverse direction: for instance, some mental verbs are found to favor first person inflexion[2]; though some other mental verbs more readily combine with second person (Romero, 2003). As for Spanish past verb inflexion forms[3], skewed selection among them emerges in frequency counts of adult Mexican Spanish (Moreno de Alba, 1978), in fact associated to particular *Aktionsarten* as reported: achievement and accomplishment verbs are biased toward simple past inflexion (*cayó* 'it fell down', *rompió* 'it broke'); unbound activities and state verbs more frequently select the imperfect past inflexion (*cantaba* 'he sang-IMPF'[4]). Nevertheless, viewing the point in a wider scope, Mexican Spanish, and Peninsular Spanish show different selectional biases for achievement verbs, since the simple past, *rompió* 'it broke', is dominant in Mexican Spanish (Moreno de Alba, 1978), while the past-perfect *ha roto* 'it has broken' is dominant in Spain.

This being the case, instead of crediting the child with complex semantic knowledge and processing strategies, we may ask whether the input data, considered from a dynamic perspective as reflected in real use, are at the origin of early use of verb-flexion forms. Usage-based accounts of verb-inflexion acquisition would predict all kinds of distributional biases and selective combinations, a rather diversified and less well ordered acquisition process (both from an individual perspective and from a system-internal view) than a formal system or even a prototype view would predict. We may expect combinatorial biases to be related to real use and concrete discourse practices. Individual differences would be more widespread and radical than expected, since language development would be relative to real individual experience with language (Schieffelin & Ochs 1996; Schegloff, Ochs, & Thompson, 1996). Frequency biases would be deeply rooted in human action, social practices and embodied cognition (MacWhinney, 1999), and not just on processing or storage, although including both. So the predicted regularities of the language – for instance, unmarked forms or prototypes – will encounter a kind of usage-based marking that will surpass the unmarked or expected combinations. In fact, unexpected uses of verb flexions – and even, some errors – may bring into focus the impact of discourse practices (Attié Figueira, 2000), not necessarily led by abstract prototype directions.

So, extending the lexical and insular acquisition initially detected in early verb constructions (Tomasello,1992) from syntax to morphological space leads us to testing the emergence, and distribution, of person flexion morphemes in early verb acquisition. The adoption of a Usage-based perspective and a child's specific type of grammar allows us to make some general predictions as in (1).

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[2] The same preference has been found for some mental verbs in English (Dieseel & Tomasello, 2000), and for adult English (Thompson & Mulac, 1991).

[3] SIMPLE PAST -*amó-,* IMPERFECT -*amaba-*, PERFECT -*ha amado-* PLUSCUAMPERFECT - *había amado-*.

[4] Abreviations used: IMP = imperative, PRT = present indicative, P ST = simple past indicative, IMPF = imperfect past indicative, INF = infinitive, SBJ = present subjunctive; 1s, 2s, 3s = first, second, and third person singular; 1p, 2p, 3p, for the corresponding plural inflexions; AUX = auxiliary verb.

(1) General predictions

Lexically based acquisition: The distribution of verb inflexion in early verbs will show a lexical selection bias. There will not be a general unmarked inflexion form.

Lexically based extension: There will be no evidence of extension of verb flexion from one verb to another, nor a common or general developmental path; we should rather find evidence of different extension routes for individual verbs.

Usage based account: Regularities or patterns of morphological acquisition may be traced back to regularities in maternal input.

Method

To test these predictions, this paper will trace the emergence of verb flexion in one Mexican Spanish monolingual child, and will contrast child production with maternal input. The data under analysis have been obtained from naturalistic observations of a girl with no siblings, member of an educated middle class family of Mexico City. She has been the subject of a two hour video-registration every seven-to-ten days from 19 to 26 months of age while interacting mainly with her mother, and less frequently with her father or some other close member of her family. The child data obtained from this corpus include an accumulated verb lexicon of 131 verb types, with 3533 verb tokens (2).

(2) The data

A Mexican urban middle class Spanish monolingual girl

Age range	19 to 26 months
Number of registrations	19
Register schedule	7 to 10 days
Total child conversational turns	16,293
Range; child turns/registration	411 ~ 958
Accumulated verb lexicon	131 types
Total number of verb uses	3533 tokens
Verb type lexicon per registration	7 (19 m) ~ 69 (25 m)
Verb spurt	22;15 = 20 verb types
	22;24 = 34 verb types.

In order to conform the specific verb corpus to be analyzed here, some methodological decisions were adopted. First, only spontaneous verb productions were considered, so that memorized pieces of text and exact repetitions of adult uses were left out; in immediate self-repetitions of the same verb type only one token was included, whenever all of them express the same intention in the same interactional move. Unclear cases either in terms of inflexion, or root type have also been left out. A frequency condition was established on spontaneous verbs in order to be included in the following analysis: no verb type used only once was included, but only verb types that were present in at least two registrations and with at least three uses on each occasion. This condition was

Table 1. Child's more frequent verbs[5]

N 416-200	200-101	100-51	50-20		19-10	9-7
estar 416 'be loc'	*caer* 113 'fall'	*bajar* 54 'descend'	*abrir* 25 'open'	*oír* 31 'hear'	*acompañar* 12 'be with'	*abrochar* 8 'fasten'
querer 394 'want'	*dar* 106 'give'	*comer* 81 'eat'	*acabar* 35 'finish'	*picar* 48 'be hot'	*buscar* 14 'look for'	*avisar* 7 'inform'
ir 242 'go'	*dormir* 122 'sleep'	*sentar* 51 'sit'	*ayudar* 25 'help'	*poder* 39 'can'	*cerrar* 13 'close'	*asustar* 7 *'scare'*
mirar 294 'look'	*tener* 116 'have'	*ver* 77 'see'	*amarrar* 31 'tie'	*poner* 36 'put'	*comprar* 18 'buy in arms'	*cargar* 7 'hold
	ser 176 'be'		*bañar* 22 'take a bath'	*quitar* 45 'take away'	*gustar* 15 'like'	*guardar* 7 'keep'
	venir 127 'come'		*caber* 43 'fit'	*romper* 39 'break'	*lavar* 17 'wash'	*saltar* 9 'jump'
			echar 20 'throw'	*salir* 35 'exit'	*llegar* 17 'arrive'	*servir* 7 'be useful'
			haber 43 'exist'	*subir* 22 'ascend'	*mojar* 12 'get wet'	*traer* 7 'bring'
			hacer 34 'make'	*tapar* 22 'cover'	*pasar* 15 'cross'	
			jugar 39 'play'	*tomar* 21 'take'	*pegar* 11 'hit'	
			meter 22 'put into'		*pintar* 13 'paint'	
					tirar 12 'throw away'	
4	6	4	27		12	8
1346	760	263	677		142	73
			55			
			3261			

[5] As a word of caution, consider that no conclusion may be drawn from the English version of this verb list as for *Aktionsarten*, transitive-intransitive or causative status, nor agentive or non-agentive meaning of these Spanish verbs; some of them may have both stative and active readings, be used in both transitive and intransitive constructions, and take causative and non-causative meanings. Moreover, these differences may be reflected in what may count as polysemous or even homonimous lexical pairs. For instance: *picar* refers either to an agentive action of pinching, i.e., with a finger (*me picó el ojo* 'he pintched me on the eye', he poked my eye'), or to 'itching' effects of cloths (*me pica el suéter*: 'the cardigan itches me'), or to chili-food effects in taste with a 'be hot' reading (*esto pica* 'this is hot'). Interestingly, in those polysemous verbs, particular inflected form selection may be related to specific transitivity readings.

set in order to work with data that could in principle present the effects of a pattern of use and not just be the sole occurrence of the moment. As for the adult data, only the mother's verbs will be here considered, since she was the main child interlocutor.

The application of these criteria for data selection yielded a total of 55 lexical verb types (out of the 131 verbs registered), which will be the basis for the forthcoming analysis. These 55 verbs represent 92% of verb tokens (3,261/3,533 cases). The 76 verbs which do not comply with our methodological conditions on frequency make up a total of 272 cases, equal to 8% of the verb tokens (see Table 1).

Exploring the distribution of verb inflexion in early verbs

According to the predictions of a Usage-based framework, one would not expect that all verbs will present a general unmarked inflexion form. One would rather expect that different verbs would present different basic verb inflexions; regardless of the underlying reason. One particular flexion may be central for a particular verb in two senses: *i.* in being the first and only flexion with which a verb first occurs; *ii.* in being the more frequent inflexion among the various inflected forms a verb may present.

Our data confirm both types of centrality for particular inflected forms. We have found a ONE VERB-ONE FLEXION initial state for most verbs (see Table 2)[6]. Besides, this particular inflected form continues to be the only one for a period that may take from two weeks to several months[7]. Only 11 out of the 55 verbs under analysis present more than one inflexion from the first documentation; among them the highly irregular verb *ir* 'go', that enters the child's lexicon at 20 months as the first verb with two different inflected forms, with an unexpected form-function pairing: *va* go-PST3s, used with a PST1s function, meaning 'I go'; *vaya* go-SBJ3s, used with a directive meaning 'you go'. Three months latter, at 23 months – four months after the first verbs entered child's lexicon, which now includes 47 accumulated verb types – some other verbs start to be used with two different inflexions from the beginning; but this does not yet become regular by the end of our observation, when the child is 26 months old and her accumulated verb lexicon already counts 131 verb types: verbs may still be incorporated and used by the child with a single inflected form.

As for the second way for an inflexion to be central for a given verb, in terms of frequency, we see that the relation between being the first inflexion form for a verb and being more frequent it is not a linear one. Certainly both criteria tend to merge in one and the same verb form, so that the first inflected form may become the dominant inflexion when that verb is already used with various inflections. To illustrate these points, see in Table 2, the prevalence column, where the index of

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[6] The same situation has been reported for Peninsular Spanish by Aguirre (2002).

[7] We have restrained ourselves from considering one form as a FIRST AND ONLY INFLECTED form, even if it was the only one for that given verb in its first registration, whenever we do not find the same piece of data in a successive one. By applying this restrictive criterion we clearly distinguish between FIRST AND ONLY INFLECTED FORM and FIRST-INFLECTED FORM. Table 2 includes exclusively this *first and only* type of data, to give the strongest evidence of the single inflected form period.

Table 2. One-verb-one-flexion period. First inflected form, permanence, and prevalence

Verb	1st inflected form	Type of inflexion	Single form permanence	Index of prevalence
mirar 'look'	*mira*	IMPERATIVE	19,05 – 26,00	1.00
dar 'give'	*dame(lo)*	IMPERATIVE	19,05 – 23,03	0.830
venir 'come'	*ven(te)*	IMPERATIVE	19,05 – 24,00	0.961
tener 'have'	*ten*	IMPERATIVE	19,05 – 21,13	0.216*
tomar 'take'	*toma*	IMPERATIVE	21,05 – 24,06	0.857
oír 'hear'	*oye(oi)*	IMPERATIVE	21,13 – 24,00	0.935
querer 'want'	*quiero*	PRESENT1s	22,15 – 23,03	0.832
poder 'can'	*puedo*	PRESENT1s	22,24 – 24,11	0.795
acompañar 'be with'	*acompañas*	PRESENT2s	23,03 – 25,06	0.333*
ayudar 'help'	*ayudas*	PRESENT2s	23,20 – 24,11	0.640
haber 'there be'	*hay*	PRESENT3s	20,15 – 23,15	0.930
caber 'fit'	*cabe*	present3s	20,15 – 21,13	0.791
picar 'taste hot'	*pica*	PRESENT3s	20,15 – 24,00	0.896
servir 'be useful'	*sirve*	PRESENT3s	23,15 – 26,00	0.857
gustar 'like'	*gusta*	PRESENT3s	23-20 – 24,11	0.400*
caer 'fall'	*cayó*	PAST3s	19,05 – 21,15	0.619
acabar 'run out '	*acabó*	PAST3s	21,05 – 22,24	0.514
hacer 'make'	*hizo*	PAST3s	22.15 – 23,15	0.206*
romper 'break'	*rompió*	PAST3s	22,24 – 24,11	0.897
abrochar 'fasten'	*(no)abroches*	PRES.SBJ.2s	23,20 – 24,18	0.715
lavar 'wash'	*lavar*	INFINITIVE	20,00 – 24,00	0.471
ver 'see'	*ver*	INFINITIVE	21-05 – 22,24	0.675
bañar 'take a bath'	*bañar*	INFINITIVE	22;15 – 22,24	0.727
sentar 'sit'	*sentar*	INFINITIVE	22,15 –23,15	0.226*
pintar 'paint'	*pintar*	INFINITIVE	24,00 – 25,18	0.385*
comprar 'buy'	*comprar*	INFINITIVE	25,12 – 25,26	0.833

Table 3. Growing trends. Stabilization processes

	1st form-function pair non canonical	target function	canonical restart
bañar 'take a bath'	**baña yo*	bath-IMP2s x bath-PRT1s	*bañar* bath-INF
	?bañaba	bath-IMPF1s x bath-PRT1s	
subir 'ascend'	**suba*	ascend-SBJ3s x ascend-IMP2s	*subir* ascend-INF
comer 'eat'	**me comes*	me eat-PRT2s x eat-PRT1s	*comer* eat-INF
necesitar 'need'	**necesita*	need.PRT3s x need-PRT1s	*necesito* need-PRT1s
poder 'can'	**puede*	can-PRT3s x can-PRT1s	*puedo* can-PRT1s
ir 'go'	**te vaya*	go-SBJ3s x go-PRT1s	*voy* go-PRT1s
	**va*	go-PRT.3s x go-IMP2s	*va* go-PRT3s
abrochar 'fasten'	*abroches*	fasten-SBJ2s x fasten-IMP2s	*abrochar* fasten-INF
	abroche	fasten-SBJ3s x fasten-IMP2s	

prevalence of initial forms has been marked with a star when it does not present a dominant value[8].

The data offered in Table 2 allow us to make the generalization that in a language like Spanish, where verbs present rich inflexion possibilities, there is not a default incorporation form. On the contrary, different verbs may enter the child's lexicon with different forms. Besides, the form which a verb first presents tends to remain as the only verb-form for a variable period, and eventually become the most frequent one for that verb. Nevertheless, the relation between being the first inflected form of a verb, and being the most frequent one is not trivial, since about half the verbs under analysis do not present an identity relation between them. Some other inflected form may become the most frequent one, even if it was not the first form used for that given verb.

What has to be emphasized is the fact that even if the developmental trends are not fixed, and discourse practices may display uncertainty and indeterminacy in the child's selection of a particular inflected form for a given verb, the tendency is to have a kind of solution that combines at the same time being the first verb form, being the only verb form, and being the more frequent verb form: a coalition of factors that lead us to test the preferences that a particular verb exposes against its use in maternal speech, not without first having a look at the second Usage-based prediction.

Looking for growing patterns. Item based extension

It being the case that most verbs present a single form in early language, which is not the same for every verb, the possibility of a similar developmental path is ruled out in principle. Since different verbs are incorporated with different inflexions as a starting point, there will also be different ways of growing: if not for every verb, at least for the set of verbs that present different initial forms. To explore this possibility, we have seen which forms occur as first and second inflected forms for every verb and tried to find a possible commonality between them, in terms of what remains constant – if anything does – between the first and the second inflected form, and what changes from one case to the other.

Seen from this perspective, we find in our data various patterns of inflexion extension. First, what we would like to call, STABILIZATION. This is the case for verbs whose first inflected form was used by the child with an inadequate person or modal reference – a point already exposed in relation to *ir* 'go' and its discourse motivation – , that is usually and shortly replaced by a canonical form. For instance, the first use of *comer* 'eat', was the inflected form of a second person declarative present: *mi comes* 'me eat-present2s', anomalously used by the child to refer to herself in asking for some food[9]; the second form of the same verb was the infinitive: *comer* 'eat-INF' (used as the proposal *a comer,* to-PREP (goal) eat-INF = 'let's eat'), which displaced the anomalous *mi comes* 'me eat2s'. Similarly, the verb *subir* 'ascend' was first used by the child as a

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[8] Not to mention the initial single forms that being unique cases have not been considered in our analysis. Or some marginal uses adopted from discourse practices that have a short duration in children's language.
[9] Typical deictic shift detected in pronominal reference as reverse deixis (Budwig, 1990; Dale & Crain-Thoreson, 1993); these reversals may also occur in person verb inflexion, as in these cases.

Table 4. Growing with a person change and a tense attractor

Type of contrast	1ˢᵗ inflected forms	2ⁿᵈ inflected form
	PERSON: 1s / 2s	
lavar 'wash'	*lavo* wash -PRT1s	*lavas* wash-PRT2s
bajar 'descend'	*bajo* descend-PRT1s	*bajas* descend-PRT2s
poder 'can'	*puedo* can-PRT1s	*puedes* can-PRT2s
querer 'want'	*quiero* want-PRT1s	*quieres* want-PRT2s
cargar 'hold in arms'	*cargo* hold-PRT1s	*cargas* hold-PRT2s
pegar 'hurt herself'	*pegué* hurt-PST1s	*pegaste* hurt-PST2s
acabar 'finish'	*acabé* finish-PST1s	*acabaste* finish-PST2s
meter 'introduce'	*meto* introduce-PRT1s	*metes* introduce-PRT2s
abrir 'open'	*abro* open-PRT1s	*abres* open-PRT1s
	PERSON: 2s / 1s	
ayudar 'help'	*ayudas* help-PRT2s	*ayudo* help-PRT1s
acompañar 'go with'	*acompañas* go with–PRT2s	*acompaño* go with-PRT1s
	PERSON: 3s / 1s	
hacer 'make'	*hizo* make-PST3s	*hice* make-PST1s
	PERSON: 1s / 3s	
llegar 'arrive'	*llegué* arrive-PST1s	*llegó* arrive-PST3s

second person present subjunctive, *subas* 'ascend-SBJ2s', normal form in discourse to express a prohibition, and used by the child non canonically as a positive directive. The second inflected form of this verb used by the child was again an infinitive, *subir,* ascend-INF', again used as a hortative, normal starting point for the morphological development of some verbs (see Table 6 below), and normal function for infinitives as well. A set of seven verbs among the 55 under study presents this non-canonical entrance and successive stabilization, which might easily be related to particular prominent discourse practices (see Table 3), competing for representing a lexical verb initial form.

The most frequent and regular patterns of inflection expansion, though, have a well established and canonical form-function relation from the beginning. Among them it is regularly the case that new forms contrast with initial forms on a single dimension and are in other ways similar. We could even talk of a kind of *attractor* – what remains constant (person, or tense-mood-aspect: TAM) in the initial and second inflected form – and a *variable*: the category in the second inflected form that establishes the contrast with the first one.

In these cases, the expansion may present a TENSE ATTRACTOR: what remains constant is the tense-aspect-mood value, and what differs from the first to the second inflected form is just personal reference (see Table 4).

So what the child adds for the same verb is a person contrast, but not always the same. For instance, *abrir* 'open' starts with *abro* (open-PRT1 'I open'), a first person singular; successively adds *abres* (open-PRT2s 'you open'), a second person singular. In contrast, a*yudar* 'help' offers the inverse direction: it starts with *ayudas* (help-PRT2s 'you help') a second person singular, and continues with *ayudo* (help-PRT1s 'I help'), a first person singular.

Otherwise, the first and the second inflected form present a PERSON ATTRACTOR.

Table 5. Person attractor: Growing with a tense-aspect-mood (tam) or number change

Type of change	1st inflected form	2nd inflected form
	NUMBER	
ser 'be'	*es* be-PRT 3S	*son* be-PRT3P
estar 'be loc'	*está* be.LOC-PRT 3S	*están* be.LOC-PRT3P
servir 'be useful'	*sirve* be.useful-PRT 3S	*sirven* be-useful-PRT3P
picar 'be.ot'	*pica* be.hot-PRT3S	*pican* be hot-PRT3P
romper 'break'	*rompió* break-PST3S	*rompieron* break-PST3P
	TENSE	
haber 'exist'	*hay* there is-PRT3S	*había* there was-PST3S
gustar 'like'	*gusta* like-PRT3S	*gustó* like-PST3S
caer 'fall'	cayó *fall-PST3S*	cae *fall-PRS3S*
traer 'bring'	trajo *bring-PST3S*	trae *bring-PST3S*
	MOOD	
oir 'listen'	*oi~oye* listen-IMP	*oyes* listen-PRS2S
avisar 'inform'	*avisa* inform-IMP2S	*avisaste* inform-PST2S
cerrar 'close'	*ciérralo* close-IMP2S	*(no)cierres* close-SBJ2S
pasar 'go through'	*pasa* go through –IMP2S	*pasas* go through-PRS2S
		pases go through-SBJ2S
buscar 'look for'	*busca* look for-IMP2S	
		buscas look for-PRS2S
		busque(s) look for-SBJ2S

What happens here is that the person reference of the first inflected form remains constant across two or –on occasions – three new inflected forms; e. g., *pasar* 'go through' is used successively in three different mood forms, always as a 2S: imperative: *pasa*; indicative: *pasas;* subjunctive: *pases.* In a similar way, a verb like *romper* 'break' occurs with a 3S inflexion: first as *(se) rompió* 'break-PST3S 'it broke' – a third person past – ; and successively as *(se) rompieron* break-PST3P, 'they broke'; also past and third person, but now, plural. So what the second inflected form may add is either a number contrast, or a tense or mood contrast. But again, these different contrasts distribute differently with different verbs (Table 5).

In conjunction both types of inflection expansion around a common attractor cover half the verbs of this analysis.

Still another set of verbs add new inflected forms by starting either with an inflected form and adding an infinitive, or the other way round: by starting with an infinitive and adding an inflected form (Table 6). What is the role of an infinitive in the morphological path is a complex point not central for our argument here[10]. What is

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[10] Infinitives have a particular status in development that should be studied. In Mexican Spanish, they are used mainly and more frequently (Luna Traill, 1980) in complex verb phrases; as in the future, with the AUX *ir* 'go' (*voy a comer* I go-PST1S to-DIR eat-INF, 'I'm going to eat'), or in modal verb constructions. These constructions have in common a sort of prospective value that the infinitives keep in child language when used in isolation, without the correspondent auxiliary verb. So we could propose that infinitive forms of lexical verbs that the child use are in fact extracted fragments of the usual complex constructions, and are coding a covert contrast in terms of modality or tense.

Table 6. Starting from or growing towards an infinitive

	1ˢᵀ VERB FORMS	2ᴺᴰ VERB FORM
	INFINITIVE	INFLECTED
lavar 'wash'	*lavar* wash-INF	*lavo* wash-PRT1s
sentar 'sit'	*sentar* sit-INF	*siéntate* sit-IMP2s
pintar 'paint'	*pintar* paint-INF	*pinto* paint-PRT1s
comprar 'buy'	*comprar* buy-INF	*compramos* buy-PRT1p
ver 'see'	*ver* see-INF	*viste* see-PST2s
	NON CANONICAL FORM-FUNCTION PAIR	INFINITIVE
bañar 'take a bath'	*baña yo* bath-PRT3s	*bañar* bath-INF
subir 'ascend'	*suba* ascend-SBJ3s	*subir* ascend-INF
comer 'eat'	*me comes* me eat-PRT2s	*comer* eat-INF
abrochar 'fasten	*abroches* fasten-SBJ2s	
abroche fasten-SBJ3s	*abrochar* fasten-INF	
	INFLECTED	INFINITIVE
echar 'throw'	*echa* throw-IMP2s	*echar* throw-INF
tomar 'take'	*toma* take-IMP2s	*tomar* take-INF
dormir 'sleep'	*duermo* sleep-PRT1s	*dormir* sleep-INF
bajar 'descend'	*bajo* descend-PRT1s	*bajar* descend-INF

relevant here is that infinitives are not a default initial form in Spanish verb morphology; rather, infinitive verb forms participate in inflexion development adding complexity to this process, with a couple of possible developmental paths: starting out with an infinitive or developing towards an infinitive.

This set of data in conjunction ratifies some of our previous hypotheses. First, we can safely generalize that the initial inflected form is not unique or general, but shows a wide variety of forms, and involves all verb flexion categories: different moods, different persons, different tenses. We have found as *first inflected forms*: 1s, 2s, 3s forms of the present indicative; again 1s, 2s, 3s forms of the simple past; present of subjunctive in 2s and 3s forms, together with infinitive and imperative forms.

In the same sense, we have found various paths for verbs to expand their inflected forms: second inflected forms are as variable as first ones and do not design a single or unified developmental path.

As for the possibility we have envisioned of having some commonalities between verbs that present the same first inflected form and a similar course of development, we can read our data to propose that from this point of view we have various types of verb groups.

One possible group of verbs presents a bias towards an initial 3ʳᵈ person flexion and starts to develop around a *person attractor,* so that the first flexion contrast is based either on number (*es* be-PRT3s 'it is'/ *son* be-PRT3p 'they are'; *rompió* break-PST3s 'it broke' / *rompieron,* 'they broke') or tense-aspect (*caer* 'fall': *cayó* 'it fell', fall-PST3s / *cae* 'it falls' fall-PRT3s. They may be characterized not just as related to a person attractor, but more specifically to a 3ʳᵈ person attractor and a time-aspect or number differentiation.

Also a *person attractor* underlies the highly notable development of 2ⁿᵈ initial person inflections towards a mood contrast. For instance, *pasar* 'pass, go through' –

already mentioned – or *buscar* 'look for': *busca* ' look for' look for-IMP2s; *buscas* '(will) you look for' look for-PRS2s; *busques* '(don't) look for' look for-SBJ2s[11].

Another group shows first inflected forms in a 1st or 2nd person and grows in the same and corresponding direction towards a 2nd or 1st person contrast, around a t*ense attractor.* Verbs like *poder* 'can', *querer* 'want', or *ayudar* 'help' offer examples of this profile: *puedo* 'I can'/ *puedes* 'you can; *quiero* 'I want' / *quieres* 'you want'; *ayudas* 'you help'/ *ayudo '*I help'.

We consider that these types of commonalities and the possible underlying reason for them depart from the course of general categories like *Aktionsart*, they address the complex interaction of the various categories that Spanish verb-flexion codes, and point towards the particular selections that prevail in real language use. So to understand the wide variety of earliest inflected verb forms and the very existence of an initial and dominant form for most verbs we should put on the carpet the question of the different discourse practices where different verbs are used, possibly with a particular inflected form.

Children face particular verb flexion selections as a junction point where different lines out of a complex net of factors cross and meet. Furthermore, children's use of different verb inflexions may be biased by use in discourse practices. Verb inflexion is deeply embedded in discourse, particularly in interactional perspective taking, and speech act realization. Talking of objects leads to a kind of descriptive discourse which considers object properties, location, and the results of the processes affecting them: it prompts 3rd person inflexions and relates to tense-aspect and number contrasts. Dialogue and interaction organization and negotiation puts interlocutor reference in the center of discourse: 1st and 2nd person verbs, imperatives and subjunctives are in charge of the negotiations of action and the organization of activities and dialogue between participants. But this possible scenario must be looked for in real language use.

Usage-based account

To consider if the lexical specificity and commonalities among the first inflected forms of some verbs can be traced back to regularities in maternal input, we must have a look at a general outline of maternal verb use. We have taken into account all the maternal verbs produced while mother and child were directly interacting, and considered the inflected form and their relative frequency. These counts show that mother uses a lexicon of 200 different verb types, considering exclusively the verbs used in utterances directed to the child[12]. These 200 verb types distribute among a total of 22 different inflexion forms, – out of the 45 different forms possible in current use in Mexican Spanish – which is already quite informative (Table 7).

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[11] This contrast mainly corresponds to different types of directives: plain directives with imperative (*busca* 'look for'), mitigated directives with present indicative (*buscas* 'will you look for'), and prohibitive directive with present subjunctive (*no busques* 'do not look for').

[12] Thus we have disregarded mother's uses of verbs addressed to other interlocutors than to the child. With this methodological restriction we try to focus on verbs that may have been probably the object of the child's attention.

Table 7. Mother and child. Inflected verb forms use

Verb form inflexion	Mother verb types 200		Child verb types 131	
	Types	Tokens	Types	Tokens
Imperative	74	722	20	434
Present 3s	62	720	24	555
Infinitive	92	549	21	210
Present 2s	62	403	23	85
Present 1s	63	277	24	378
Present 1pl	34	202	14	76
Present 3pl	32	94	11	37
Present Sbj 3s	47	92	8	16
Present Sbj 2s	31	46	9	24
Past 3s	21	87	15	136
Past 2s	23	77	2	4
Gerund	32	47	2	3
Participle	20	42	3	26
Past 1s	11	13	16	66
Present Sbj 3p	9	10	0	0
Present Sbj 1s	8	11	0	0
Imperfect 3s	3	8	1	1
Past 1pl	2	7	0	0
Past 3 pl	5	7	0	0
Present Sbj 1pl	2	6	0	0
Future 3s	1	1	0	0
Past Sbj 2s	1	1	0	0

The attested diversity of inflected forms that the mother uses in talking to her child could certainly be used as an argument to falsify the possibility that maternal use had something to do with the reduced productivity and skewed combinations of verb types and verb inflection in the child's use. We must be careful, however, in jumping to this conclusion. In fact, this inflexion diversity corresponds to a scenario not so far apart from what we have already found in the child's use profiles. Even at the schematic level of analysis that is offered in Table 7, a close parallelism emerges out of the comparison between the mother's use of inflected forms and inflexions in the child's total verb lexicon, a resemblance that already points to a close relation between the mother and child's inflexion use. Actually, we see here that the most frequent inflexion forms in the mother's use are also among the most frequent inflexion forms in the child's use. We see as well that the more productive inflection forms, as evidenced from verb-type frequency –or lexical frequency in Bybee & Hopper's terms (2001) – are also among the child's more productive inflection forms. In the same direction, at the end of the use-scale, the less frequently used and lexically infrequent inflection forms in the mother's use are the inflexion forms that the child has not yet produced.

Table 8. Crossover distribution. Mother and child's inflected forms

| VERB FORM | MOTHER VERB TYPES 200 | | CHILD VERB TYPES 131 | |
INFLEXIONS	TYPES	TOKENS	TYPES	TOKENS
PRESENT 2S	62	403	23	85
PRESENT 1S	63	277	24	378
PAST 2S	23	77	2	4
PAST 1S	11	13	16	66

Nevertheless, side by side with these commonalities, we should pay attention to some crossover phenomena that we extract from table 7 and reproduce here for facility as table 8.

What we can see here is that, even if the lexical frequency (in lexical types) may be coherent, and the child's lexical frequency mirrors on a reduced scale the mother's lexical frequency – at least in PRT1S and PRT2S inflexions – which clearly shows an inverse direction in token frequency in both person pairs. In child directed speech, the mother uses second person with a radically higher frequency than first person forms, with a ratio of 3 to 1; the child, instead, uses with higher frequency first person forms than second ones: even with a higher proportion of 4 to 1, or 15 to 1). We cannot emphasize enough that this cross-over relation has nothing to say for a monological view of Usage, but rather puts us on the track of a dialogical, interactive perspective of mother-child language use.

Notwithstanding, we should be aware that from a general perspective, the inflexion forms used by the mother already show the biases expected in real language use – as the child's distribution of inflected forms already does – . When we consider the number of verb types that the mother combines with particular inflected forms we find an uneven distribution and preferences for particular inflexions; some are used with a higher number of verb types and higher frequency (as reflected in tokens). In fact, imperatives, infinitives and the various persons of indicative present (1s, 2s, 3s) have the lion's share among verb form use. We deduce from these numbers that the child is not listening to the same verb in a wide variety of inflected forms. If we pay attention to specific pairings of lexical verbs and inflexion forms what we see is a scenario quite opposite to the generality that a schematic analysis would suggest without taking into account the lexical specificity of inflexion constructions (see Table 9).

Table 9. Inflected forms in mother's use per lexical verb type (inflexion range: 1~17)

| | INFLECTED FORMS PER VERB | | | | | | | | | | | |
	1	2	3	4	5	6	7	8	9	10	11	17
Verb types	79	43	14	22	6	7	9	9	2	4	4	1
%	39.5	21.5	7	11	3	3.5	4.5	4.5	1	2	2	0.5

Table 10. Mother-child dominant verb inflexion. Similar forms

IMPERATIVE	PRESENT 3s	PAST 3s	INFINITIVE
mira look-IMP	*sirve* be.useful-PRT3s	*acabó* finish-PST3s	*bańar* bath-INF
ten have-IMP	*pica* be.hot-PRT3s	*rompió* break-PST3s	*ver* see-INF
ven come-IMP	*hay* exist-PRT3s		*lavar* wash-INF
oye listen-IMP	*es* be-PRT3s		*comer* eat-INF
toma take-IMP	*está* be.LOC-PRT3s		*dormir* sleep-INF
dame give.me-IMP	*sale* go.out- PRT3s		*pintar* paint-INF
echa throw-IMP	*cabe* fit-PRT3s		*bajar* descend-INF
siéntate sit-IMP	*gusta* like-PRT-3s		
	falta lack-PRT-3s		
	PRESENT 2s		
	acompańas be.with.PRT2s		

When we consider in the mother's data how many inflected forms occur with the same verb, we can see that the child's experience of inflected forms through her mother's voice includes a 40% of verb types in a one-inflexion schedule. Taken together, the verbs that the child experiences in either one or two inflected forms correspond to 60% of the total of verb types that her mother uses in talking directly to her. Moreover, among these maternal verbs that present only one or two inflected forms we find some of the more frequent ones in maternal speech, where they are used with the very same inflected forms that the child presents (see Table 10). We can conclude that the maternal use of verbs shows a pattern that mimics the main inflected forms that we have detected in the child's data.

There is, however, a reduced set of verbs (see Table 11) that present an asymmetry between what counts as the main inflected form in the mother's use and the dominant and only inflexion of the very same verb in the child's use. These verbs are, in fact, a crucial type of data to understand what is going on in mother-child interactions that give as a result the close parallelism we have been attesting before.

What we have among these data is a set of verbs that show a complementary inflection: either in terms of person or –less clearly – in terms of tense; one dominant in mother's use; another dominant in child' speech. These verbs are some of the verbs that we have found in the child's data growing with a person attractor: *quiero – quieres* 'I want, you want'; *puedo – puedes* 'I can, you can', or a tense attractor: *se cae – se cayó* 'it falls, it fell'. We can hear on the basis of these complementary pairs what we have already envisioned in mother-child interaction: its dialogic character and the impact of the dialogic niche where inflected forms are put into use. These very same verbs where mother and child part from similarity, are at the center of the cross-over frequencies we have pointed out.

We can conclude, then, that the evidence that child's entrance to verb inflexion is related to real language use is pretty strong. The child's verb inflexions show, at this very early age, the frequency biases and reduced combinatorial pairings that charac-

Table 11. Mother-child dominant verb inflexion: Complementary pairs

MOTHER	CHILD	MOTHER	CHILD
quieres want-PRT.2s	*quiero* want-PRT1s	*(se) cae* fall-PRS3s	*cayó* fall-PST3s
puedes can-PRT.2s	*puedo* can-PRT1s		
ayudo help-PRT.2s	*ayudas* help-PRT1s		
pegaste hit-PST.2s	*(me)pegué* hit-PST1s		

terize real language use. The mother's inflexion use is as good a model of that as it can be: not just at a schematic level, but most notably, at the level of particular lexical items and its preferred inflected form.

But at the same time, we have found some pretty good evidence that Usage-based effects cannot be thought of as a simple quantitative basis, emerging out of a kind of statistical scenario where frequent forms rise in higher peaks and infrequent forms deep in numerical abysms, as some visual reproductions of use may lead us to think. We are urged to think from our data about Usage as an interactive and dialogical phenomenon; also to be aware that the real experience of children with real use of language does not reduce to facing a quantified inventory of forms and constructions, such that the main or only effects to be found will have a direct correlation with frequency. Frequency –we should be aware – is an index, a surface phenomenon that kind of traces the practices we realize in using language, and the child is more than reflecting directly maternal uses, which in fact she does. More interesting and deeply, mother and child are interacting and jointly-aligning their attention in a series of practices that are being acted and indexed (Silverstein 1987) by verb-inflected forms[12]. If language is – as we strongly believe – above all a cultural practice (Tomasello, 1999), we should not forget that the child is not just learning inflected forms of verbs, but is realizing the cultural practices that put them into use.

We would like to credit Usage-based analysis for directing child acquisition researchers to the path of looking to real, concrete, time-bounded, language experience as the epistemic space where the child encounters and constructs language. We would also like to phrase the need to make bridges between monological Usage views and a radical pragmatic and dialogic approach to language and interaction, that would explain our frequency findings.

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[12] If English were a richly inflected language, we might have had evidence on verb inflexion of the use reported for verbs as normal (Tomasello & Kruger, 1992): not in ostensive situations but as anticipations or near results reports. These social practices where verbs are put into use would predict the presence of future and past form inflexion.

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