

The L1 Acquisition of *gustar*: Evidence against Maturation

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1. Introduction

This paper studies the acquisition of the Spanish verb *gustar* ‘to like/to be pleasing’ by children learning Spanish as their first language. *Gustar* is considered to be an unaccusative psych-verb of class III (Belletti & Rizzi, 1988 (henceforward B&R); Parodi-Lewin, 1991). This verb poses interesting questions for acquisition theory such as *how do children acquire its non-canonical argument structure? Or are children able to acquire a construction that involves an A-chain and/or lacks an external argument?* In this paper, I will focus on the second question. The current project shows that Spanish children are able to produce unaccusative constructions, particularly those which involve the verb *gustar*, as early as age 1;10. This fact is relevant for the field of acquisition because it contributes to the debate on grammatical continuity by providing some evidence against Borer and Wexler’s (1987, 1992) Maturation Hypothesis. The Maturation Hypothesis states that some linguistic principles are subject to maturation. Specifically, Borer, and Wexler (1987, 1992) propose that A-chains do not develop in child grammar until age 5 or 6.

In recent years, different versions of the Maturation Hypothesis have been proposed. According to one version (A-Chain Deficit Hypothesis, ACDH) children cannot form A-chains. According to another (External Argument Requirement Hypothesis, EARH) children cannot tolerate the lack of an external argument. Previous data has been brought to bear on either of these two approaches. However, *gustar* provides a unique vantage point because it allows us to examine both these versions of the Maturation Hypothesis. *Gustar* (and more generally psych-verbs of class III in Spanish) can involve the raising (A-movement) of an argument to subject position (=A-chain). But they may also leave both arguments in VP resulting in no external argument. Thus, we can test the ACDH with the former configuration of arguments and the EARH with the latter.

The findings of my study seem to refute the predictions of the Maturation Hypothesis as a universal theory of language acquisition because *gustar* (with and without A-movement) is acquired early. Furthermore, an analysis of the role of parental input allows us to prove that children’s *gustar* sentences are not imitative. Thus we are prompted to look for different explanations for those phenomena, which had been explained through the Maturation Hypothesis in the past. This project corroborates the idea that children’s ability to deal with unaccusativity comes from UG and it also supports the Continuity Hypothesis of language acquisition (Pinker, 1984), which argues that UG is fixed throughout the language acquisition process.

This study is organized as follows: section 2 provides a syntactic analysis of *gustar*. Section 3 presents an overview of the Maturation Hypothesis and its supporting and contradicting evidence. Section 4 presents the CHILDES study of *gustar*. Section 5 provides a theoretical explanation for the findings of the experiment. Finally, section 6 presents the conclusion of this project.

2. *Gustar*: an Unaccusative Reading

Gustar is an unaccusative psych-verb belonging to class III (*piacere*) in B&R’s terminology. In this section I will present some background information about psych-verbs and why they are interesting from the perspective of theoretical linguistics and acquisition theory.

2.1. Psych-Verbs

Psych-verbs, that is, verbs that express psychological states, represent a challenge for both linguistic theory and acquisition theory. First of all, the goal of linguistic theory is to explain the universal constraints that underlie all languages. One of these universal constraints is the Projection Principle, which states that lexical information (such as θ -roles) is syntactically represented at all levels: “Representations at every syntactic level (D-structure, S-structure, LF) are projected from the lexicon in that they observe subcategorization properties of lexical items” (Chomsky, 1981). Typically, Agent or Experiencer roles are mapped to the subject position and the Theme role is mapped to the object position, according to the Thematic Hierarchy (Jackendoff, 1990). However, psych-verbs seem to violate this principle because they present an apparently arbitrary mapping between thematic roles and syntactic positions. B&R (1988) divide psych-verbs into three classes. These three classes have the same θ -grid involving an Experiencer and a Theme. However, these arguments are mapped onto three different syntactic configurations:

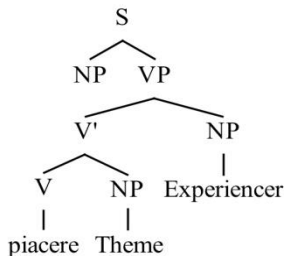
- | | | |
|--|---|---|
| <p>1) Class I (<i>temere</i>)
 Gianni teme questo
 <i>Gianni fears this</i></p> | <p>2) Class II (<i>preoccupare</i>)
 Questo preoccupa Gianni
 <i>This worries Gianni</i></p> | <p>3) Class III (<i>piacere</i>)
 a. A Gianni piace questo
 <i>To Gianni pleases this</i>
 b. Questo piace a Gianni
 <i>This pleases to Gianni</i></p> |
|--|---|---|

Class I and II appear to be transitive structures but the mapping of θ -roles to syntactic positions is reversed in the second class. In class I the Experiencer is the subject and the Theme is the object. In contrast, the Experiencer functions as the object and the Theme functions as the subject in class II. Class III has a dative Experiencer that can function as the subject.

Secondly, psych-verbs are also interesting for acquisition theory because they represent a learnability problem for the language learner. On the one hand, the learner has to understand this non-canonical mapping of thematic roles to syntactic positions. On the other hand, she has to realize that the surface structure of these verbs does not correspond directly to the deep structure.

B&R (1988) proposed an analysis of psych-verbs that explained that the apparently arbitrary mapping of thematic roles to syntactic positions was governed by “strict principles” (p. 293). The structure they propose for class I is a simple transitive structure. On the other hand, they argue for an analysis of Italian psych-verbs of class II and III as unaccusatives. Note that the D-structure they proposed for *piacere* is a double object construction with a non-thematic subject position. Both the Theme and the Experiencer are projected as internal arguments. Either the Experiencer or the Theme can move to the subject position [Spec IP] in S-structure (p. 335).

(1)



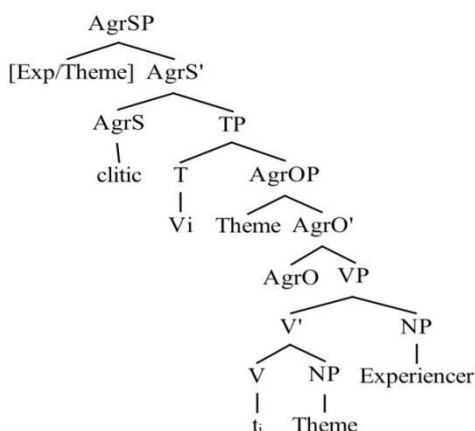
According to Belletti and Rizzi, this D-structure obeys the Thematic Hierarchy, which expresses the order of prominence among θ -roles: (Agent (Experience (Goal/Source/Location (Theme)))) (Jackendoff, 1990). Later, this hierarchy is mapped onto the syntax according to the Uniformity of Theta Assignment Hypothesis (UTAH): “Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure” (Baker, 1988, p. 46). In conclusion, class III psych-verbs can be analyzed as unaccusative verbs in

which both the Experiencer and the Theme are projected as internal arguments at D-structure. At S-structure, either the Experiencer or the Theme raises to the subject position¹.

2.2. Spanish Unaccusative Psych-Verbs

There is a general assumption in numerous studies that B&R's typology is applicable to Spanish (Franco, 1990; Parodi-Lewin, 1991; Franco and Huidobro, 2003). Despite the fact that Spanish does not have clear tests to prove the unaccusative status of its predicates such as the auxiliary distinction or the ne-cliticization tests that we find in languages like Italian, the aforementioned researchers have shown that Spanish class III behave syntactically like we expect based on B&R's classification. In (2) I present the syntactic structure of *gustar* based on Montrul (1995):

(2)



In the next section, we will present the challenges that this type of verb presents for acquisition theory.

3. Why might Class III Psych-Verbs Present a Problem for L1 Learners?

3.1. The Maturation Hypothesis

3.1.1. Arguments for Maturation

The Maturation Account was first proposed by B&W (1987). They claim that certain properties of linguistic principles take time to develop. In particular, they explored the maturation of A-chains, that is, argument-chains that link an argument that has been moved through A-movement. A-movement is movement of an XP (normally an NP/DP) into an argument position. Typically, it involves movement into the canonical subject position, SpecIP. In (3-4), I present an example of A-movement and the resulting A-chain in the passive construction *The house was painted*:

- (3) a. *e* was painted the house
 b. The house_i was painted [t]_i

- (4) A-chain: <the house_i, t_i>

Secondly, B&W (1987) studied children's difficulty with passives and believed that children's delay in specific kinds of passives comes from an inability to connect the NP to its trace and assign it a thematic role. Borer and Wexler (1987) argued that children's early passives should be analyzed as adjectival passives instead of verbal passives. The main difference between verbal and adjectival

¹ In Spanish, we also have the possible configuration in which both arguments remain within the VP.

passives is that while the former involve movement, the latter do not. (5) is an example of an adjectival passive whereas (6) is an example of a verbal passive:

- (5) The doll is torn
- (6) a. *e* is torn the doll
 b. The doll_i is torn [t]_i

They considered that once the mechanism for forming A-chains matures, children would be able to form verbal passives. The prediction of this hypothesis is that children will have difficulty with any kind of structure that involves an A-chain. Some instances of those structures are passives, and raising or unaccusative verbs. In fact, B&W (1987) supported their theory with data from English and Hebrew passives and causative structures.

B&W (1992) presented a revised version of the Maturation Hypothesis in order to deal with some counterevidence. The VP-Internal Hypothesis (Koopman and Sportiche, 1991), the idea that the subject of a sentence moves from spec VP to spec IP in all main clauses, is widely accepted in generative linguistics. This is an example of A-movement since the subject moves from one A-position to another. The fact that children present no difficulties with this kind of movement was used as evidence against the Maturation Hypothesis. B&W (1992) responded to this criticism by revising their initial version of the Maturation Hypothesis. They stated that it was only *non-trivial A-chains* (those which involve two theta positions) that are problematic for children. Subject movement according to the VP-Internal Hypothesis is a *trivial A-chain*, since only spec VP is a θ -position, and thus they are unproblematic for children. On the other hand, the A-chain in a passive construction is a *non-trivial A-chain*. The internal argument moves from its original position as sister of VP, which is a θ -position to spec VP, which is also a θ -position. Later, it moves to spec IP, which is not a θ -position. However, it is the first link of this chain, which links two θ -positions, what presents a problem for L1 learners.

Babyonyshev et al. (2001) provided further support for the Maturation Hypothesis. Their support comes from an analysis of the acquisition of Russian unaccusatives. In particular, they studied the genitive-of-negation construction with unaccusative verbs. They stated that when children are apparently using a structure which involves A-movement and lacks an external argument, they are really using an s-homophone (syntactic homophone). This was the case with passives (children use adjectival passives, which have the same S-structure as verbal passives). They also assumed that children analyze unaccusative verbs as unergative verbs. The former but not the latter involve an A-chain and lack an external argument. However, in the genitive-of-negation construction it is not possible for the child to use an s-homophone. The reason for this claim is that the genitive of negation is restricted to base-generated objects, that is, either the object of a transitive verb or the only argument of an unaccusative verb. This genitive inflection cannot be used with arguments that are base-generated in the subject position such as the subject of a transitive verb or the subject of an unergative verb. A-movement in this construction, then, is covert rather than overt. In this way, they had an objective test to ascertain if the child is using an unergative homophone since the unergative homophone will be morphologically different from the unaccusative verb. Only the latter but not the former will be inflected for genitive case.

They found that children perform poorly in this construction since they can't use an unergative structure and do not have the necessary mechanisms to form an unaccusative structure. This is the pattern predicted by B&W's Maturation Hypothesis. This is what Babyonyshev et al. (2001) named the A-Chain-Deficit Hypothesis that is, children cannot produce/understand passives and raising or unaccusative verbs because of an inability to link the two elements of an A-chain. On the other hand, they present a new and slightly different formulation of the Maturation Hypothesis: the External Argument Requirement Hypothesis, which predicts that children's difficulty with this kind of structures stems from their inability to deal with the absence of an external argument.

The two versions make the same predictions with regard to the genitive-of-negation construction: absence of the construction in children's speech and absolute lack of comprehension of this structure. Since this correlates with Babyonyshev et al.'s (2001) findings, they claim that their study provides support for both versions of the Maturation Hypothesis.

Since the genitive-of-negation construction with unaccusative verbs both lacks an external argument and contains an A-chain, we cannot discriminate between the two hypotheses. On the other hand, there are certain types of structures, which would allow us to distinguish between the ACDH and the EARH since the two hypotheses make different predictions with regards to these structures:² for constructions that lack an external argument and an A-chain (for instance, finite complements embedded under raising verbs), the ACDH predicts them to be unproblematic while the EARH predicts them to be problematic. On the other hand, constructions that have an external argument and A-chains (for instance, reflexive clitic constructions in Romance Languages) are predicted to be unproblematic for the EARH but problematic under the ACDH.

With regard to my data, we will be able to provide independent evidence against both the ACDH and the EARH. This will be presented in section 4.

3.1.2. Arguments against Maturation

The Maturation Hypothesis has been severely challenged by numerous researchers on the basis of children's early acquisition of unaccusative verbs and verbal passives. Pierce (1992) and Déprez and Pierce (1993) showed that children were able to raise the internal argument of an unaccusative verb resulting in SV order. Thus, the order SV in which the internal argument remains in its original position is exceptional. Snyder et al. (1995) studied the acquisition of auxiliary selection with reflexive clitics in French and Italian. Reflexive clitic constructions are regarded as having an unaccusative structure (Marantz 1984). They found that children select the right auxiliary with clitic pronouns much earlier than the Maturation Hypothesis predicted (earlier than 4).

Early knowledge of verbal passives has also been reported by several researchers. Pinker, Lebeaux and Frost (1987) proved that children were able to produce and comprehend passives with nonce verbs by 3 years of age. Pye and Quixtan (1988) studied the "precocious" development of passives by children learning Quiché Mayan. Demuth (1989) showed that children acquiring Sesotho, a Bantu language, produced and comprehended verbal passives as early as 2;8. Maratsos et al. (1985) and Fox and Gorzinsky (1998) presented evidence from early knowledge of the passive in English.³

The current project, in line with the experimental studies presented in this section, provides further evidence against the Maturation Hypothesis.

4. CHILDES study

4.1. Goals

The main goal of this study is to analyze all of the utterances containing the verb *gustar* by 5 of the children in the CHILDES database in order to ascertain the crosslinguistic validity of the Maturation Hypothesis. Sentences with *gustar* (and other class III psych-verbs) involve A-movement when either the Theme or the Experiencer is raised to spec of IP. If the two elements remain in VP, then there is no A-movement. By analyzing sentences that involve A-movement, we will be able to test the A-chain version of the Maturation Hypothesis, the ACDH. The prediction is that these structures will be absent⁴ in the children's output since the mechanism for A-chain formation does not mature until age 5 or 6. If, on the other hand, children are able to produce sentences with A-movement, their

² Torrens et al. (2006) analyzed Spanish Experiencers with psych-verbs. They argue that their data provides support for the EARH. However, it is not clear in their article, which is the syntactic analysis that they assign to these constructions. Due to this fact, I am unable to evaluate their argument.

³ The limitations showed by the children in these two last experiments seem to be an undesired result of the chosen methodology.

⁴ As a reviewer pointed out, avoidance of the structure in spontaneous speech data is not reliable since the child might not use the construction because she does not have the contextual support to justify its use. In fact, likes and dislikes are very common topics of conversation with and among children, so it is likely that they will have plenty of contexts for using these constructions. However, I understand that this strategy is subject to limitations and it is an important issue to keep in mind. For this reason, a comprehension experiment has been planned in order to check these facts in a more controlled manner.

grammar has to include the mechanism for forming A-chains. Also, the analysis of the children's sentences without A-movement will help us evaluate the EARH. The prediction again is that these sentences will be absent in the children's utterances since they lack an external argument. If these constructions are present in the children's output, we will conclude that children have the ability to cope with the absence of the external argument.

Furthermore, the presence of these constructions in the input is not enough to determine that children are indeed using a structure with an A-chain or no external argument. We need to demonstrate that this structure is not an s-homophone. That is, we need to show that children are really using an unaccusative construction and not an unergative syntactic homophone.

Finally, analyzing the role of parental input will allow us to determine if children's sentences with *gustar* are imitative or are a product of the children's internal grammar.

4.2. Subjects

I examined data from 5 children from the CHILDES database (MacWhinney, 2000). The children's age range was 1;10-4;11 (Aguirre, 2002, 2005; Linaza, 1981; López-Ornat, 1994; Montes, 1987, 1992; Ojea, 1997).

4.3. Procedure

I collected all of the children's utterances, which contained any instance of the verb *gustar* (present, past, past participle, 1st, 2nd, 3rd person)⁵. The context of the utterances was carefully examined in order to make a judgment on the grammaticality of the sentences. Also, repetitions were not included in the total number of sentences.

4.4. Analysis of *gustar*-sentences

First of all, the children studied for this project produced a total of 123 sentences containing *gustar*. 26% of those sentences involved A-movement and 74% did not.

Table 1
Percentage of sentences with and without A-movement in children's output

Corpus	Child Name	Age	A-movement	No A-movement
Aguirre	Magín	1;10-2;7.26	6.7% (3/45)	93.3% (42/45)
Irene	Irene	2;9.113;1.22	50% (6/12)	50% (6/12)
Montes	Koki	2;4.18-2;11.14	50% (5/10)	50% (5/10)
Linaza	Juan	3;9-4;11	37.5% (3/8)	62.5% (5/8)
Ornat	María	1;11-3;10	31.3% (15/48)	68.7% (33/48)
TOTAL			26% (32/123)	74% (91/123)

Secondly, we analyzed sentences involving A-movement. These are sentences in which either the Theme or the Experiencer has moved to specIP. Thus, an A-chain is formed between the moved argument and its trace as we can see in (7).

- (7) [A mí]_i me gusta t_i (Irene 2;9.26)
 To me me-dat like-3pl
I like it

⁵ Relative clauses and wh-questions were not included since they involve A'-movement. Thus, only declaratives and yes/no questions were analyzed in this section and in the analysis of the mothers' sentences.

A clear pattern arises from the analysis of this type of sentence: the children were on average 93.7% correct when using *gustar*. This seems to indicate that they did not find this construction to be particularly problematic. This provides evidence against the ACDH. Since children are able to produce constructions that contain an A-chain, they must have the mechanism that allows you to link a moved NP with its trace, contrary to what B&W (1987, 1992) had proposed.

Table 2
Analysis of gustar with A-movement in children's output

Corpus	Child Name	Age	Correct <i>gustar</i>	Verb choice	Clitic choice
Aguirre	Magín	1;10-2;7.26	66.7% (2/3)	3gusta	3 me
Irene	Irene	2;9.11-3;1.22	100% (6/6)	3gusta/2gustan/1gustó	5me/1te
Montes	Koki	2;4.18-2;11.14	80% (4/5)	4gusta/1gustan	1me/ 3te/1le
Linaza	Juan	3;9-4;11	100% (3/3)	2gusta/1gustan	1me/2te
Ornat	María	1;11-3;10	100% 15/15)	8gusta/6gustan/1gustaba	10me/4te/1le
TOTAL			93.7% (30/32)		

In the third place, we looked at sentences that did not involve A-movement. These are sentences in which both arguments remain in the VP (or one argument, if only one is present). Since no argument is moved, no A-chain is formed. However, since *gustar* is embedded in an unaccusative construction, the construction lacks an external argument.

- (8) No le gusta el cole a Pipo (María 2;01)
 No le-dat like-3sg the school to Pipo
Pipo does not like school

The analysis of the sentences lacking A-movement yields a similar result to the one with sentences with A-movement. The children were on average 93.4% correct. This undermines the EARH version of the Maturation Hypothesis. The fact that children produce sentences like these entails that they are able to deal with structures that lack the external argument contrary to the predictions of the EARH.

Table 3
Analysis of gustar without A-movement in children's output

Corpus	Child Name	Age	Correct <i>gustar</i>	Verb choice	Clitic choice
Aguirre	Magín	1;10-2;7.26	95.2% (39/42)	36gusta/6gusta	19me/20te/2le/1Ø
Irene	Irene	2;9.11-3;1.22	100% (6/6)	1gusta/1gustan/ 1gustaba/3gustó	3me/3te
Montes	Koki	2;4.18-2;11.14	100% (5/5)	5gusta	2me/3te
Linaza	Juan	3;9-4;11	100% (5/5)	3gusta/2gustan	3me/2te
Ornat	María	1;11-3;10	90.9% (30/33)	27gusta /4gustan/2gustado	12me/18te/2le/1Ø
TOTAL			93.4% (85/91)		

We know that the children were not using the *gustar* structures as memorized chunks or frozen expressions because they use the *gustar*-sentences productively in a variety of contexts and including different elements in the structures. Here I illustrate six ways in which the children's production of *gustar* includes variation:

First, children use different pronouns for the Experiencer:

- (9) ¿Te gusta? (Magín 2;6.10)
 You-dat like-3sg
Do you like it?
- (10) A Carlete no le gusta la tele (María 2;02)
 To Carlete no le-dat like-3pl the TV
Carlete does not like TV
- (11) No, a mí me gustan éstos (Juan 4;7.05)
 No, to me me-dat like-3pl these
No, I like these

Secondly, the Theme can be not only a noun but also a verb as we can see in (12).

- (12) No me gusta irme al cole (Magín 2;4.25)
 No me-dat like-3sg go to school
I don't like going to school

Thirdly, they also use different tenses like present, past (preterite and imperfect) and present perfect:

- (13) Me gustaba (Irene 2;11.27)
 Me-dat like-3sg-past imp
I used to like it
- (14) Me gustó (Irene 3;0.24)
 Me-dat liked-3sg past pret
I liked it
- (15) ¿A qué te ha gustado? (María 3;10)
 To what you-dat has-3sg liked
Have you liked it, haven't you?

Fourthly, they show both singular and plural agreement as we can see in (16-18):

- (16) Sí, te gusta la luz (Koki 2;5.24)
 Yes, you-dat like-3sg the light
Yes, you like light
- (17) No me gustan (los catalanes) (María 2;11)
 No me-dat like-3pl (the Catalans)
I don't like Catalans
- (18) Me gustan los perritos (Juan 4;4.24)
 Me-dat like-3pl the puppies
I like puppies

Fifthly, children use the verb *gustar* in questions as in (19):

- (19) ¿Sabes cuál me gusta? (Irene 2;9.11)
 Know-2nd sg which me-dat like-3sg
Do you know which one I like?

Finally, they also understand the flexibility of this class of verbs to allow the Experiencer and the Theme to be in either preverbal or postverbal position. We can see this in (20) where the Theme is preposed and in (21) where the Experiencer is the argument that is pre-posed.

- (20) Ese vestido no me gusta (María 2;02)
This dress no me-dat like-3sg
This dress, I don't like
- (21) A mí no me gustan las Barbies (Irene 2;9.11)
To me no me-dat like-3pl the barbies
I don't like barbies

In each of the children's data, we can definitely see a progression over time since we can observe more errors in the early files than in the later ones. Table 4 presents the age at which *gustar* errors occurred in relation to the age of the first and last files in which the child uses *gustar*.

Table 4
Age at which errors occurred

Corpus	Child Name	Number of errors	Age of the first and the last files in which the child used <i>gustar</i>	Age at which the <i>gustar</i> errors occurred
Aguirre	Magín	4	1;10-2;7.26	1;10 / 2;0.15 / 2;6.20
Irene	Irene	0		
Montes	Koki	1	2;4.18-2;11.14	2;4.18
Linaza	Juan	0		
Ornat	María	3	1;11-3;10	1;11 / 2;02 / 2;4

4.4.1. Analysis of *gustar* errors

Even if their performance was almost flawless we have to account for the fact that their productions of *gustar* were incorrect 6.5 (8 out of 123 sentences) percent of the time. Next, I will analyze the nature of those errors. These mistakes fell into three classes: first, errors with agreement occurred in (22), (23) and (24). Second, errors with the clitic involved either use of the wrong clitic as in (25) and (26) or absence of the clitic as in (27) and (28). Third, there is one mistake (see Footnote 8) which seems to be a transcription error so I will not count it as a child's mistake in Table 5.⁶

Table 5
Percentage of error classified by error type

Error Type	Specific utterance	Error percentage	Total percentage	Error
Agreement	(22) (23) (24)	42.9% (3/7)	42.9%	
Clitic	Wrong clitic	(25) (26)	28.5% (2/7)	57.1%
	Absence of the clitic	(27) (28)	28.5% (2/7)	

⁶ Yo me he tomado la leche, te gusta tú leche? (María 2;4)
I me-dat have taken the milk you-dat like-3rd sg you-nom?/your? milk
I have drunk the milk, do you like milk

This sentence is difficult to interpret. I believe that this sentence could be a transcription mistake instead of one of the child's mistakes. If *tú* were missing the accent, *tu* would be a possessive determiner and the sentence would be more natural: *Do you like your milk?* What makes me think that this is a transcription mistake is the fact that we have not seen that kind of mistake in any of the other children.

Next, I will analyze each group of errors individually. First of all, we have sentences in which the verb does not show the correct agreement. As a reminder for the reader, I would like to reiterate that the verb agrees with the Theme not with the Experiencer. We see this type of error in (22), (23) and (24):

- (22) No gusta (Magín 1;10)
 No like-sg
I don't like it

In (22) the Theme is plural *las cartas* ‘the cards’, so the verb should be *gustan* (3pl) instead of *gusta* (3sg). The child’s mother partially corrects the mistake saying “no *gustan*” but this does not seem to have any effect on the child.

- (23) A mí me gusta (Koki 2;4.18)
 To me me-dat like-3sg
I like it

Since the Theme is plural *las medias amarillas* ‘the yellow stockings’ in (23), the child should have used the plural form of the verb (*gustan*).

- (24) No, no te gusta la(s) galletas (María 2;02)
 No, no you-dat like-3rd sg the cookies
No, no you don't like cookies

In (24) we can see the third agreement mistake. Since *las galletas* is plural, the verb should be plural too, *gustan*.

Secondly, in (25) and (26) the clitic *me* is omitted, which is ungrammatical in Spanish. In both examples, the child is missing the clitic *me*.

- (25) No gusta (Magín 1;10)
 No like-3sg
I don't like it

- (26) No shusta (María 1;11)
 No like-3sg
I don't like it

Thirdly, the wrong clitic is used in two occasions (27) and (28):

- (27) No le gusta (Magín 2;0.15)
 No him-dat like-3sg
He doesn't like it

Looking at the context, it is clear that the child means *no me gusta* ‘I don’t like it’. So, he uses the wrong person (*le*, 3rd person singular) for the Experiencer, instead of *me* (first person singular).

- (28) A Cuchicu no me gusta (Magín 2;6.20)
 To Cuchicu no me-dat like-3sg
Cuchicu doesn't like it

The grammatical sentence in (28) should be *A Cuchicu no le gusta* ‘Cuchicu doesn’t like it’, that is, the clitic *me* should be replaced by *le* (*Cuchicu* is the child’s nickname). However, since *Cuchicu* refers to the child, it is easy to understand how he gets the pronouns confused since the grammatically wrong clitic choice is actually semantically correct.

There is reason to believe that errors with agreement do not reveal specific problems with the verb *gustar* and its unaccusative structure but are part of a more general phenomenon: Root Infinitives. Pratt and Grinstead (2007) argue that, contrary to traditional belief, Spanish is a Root Infinitive language. They claim that 3rd person singular present tense is actually a bare stem and can be analyzed as a Root Infinitive. The mistakes with the Experiencer clitic also seem to be independent of the unaccusative nature of *gustar* (or even the inherent dative case of the Experiencer). The reason for this is that the clitics and the overt Experiencers always bear dative case marking and thus they seem to be integrated in an unaccusative configuration since dative subjects can only appear in this kind of constructions. This allows us to claim that children are not using an unergative s-homophone since we would expect them to have a nominative Experiencer if that were the case.

The fact that these children's errors cannot be clearly related to the unaccusative structure of *gustar* supports my prediction that children are able to deal with unaccusativity, contrary to Borer and Wexler's (1987, 1992) Maturation Hypothesis.

4.5. Analysis of parental input

Next, I will analyze the mothers' *gustar* sentences and describe the patterns found in the children's input. I looked at the percentage of sentences with A-movement versus the percentage of sentences with no A-movement. I considered that sentences that involved A-movement were those in which either the Experiencer or the Theme were preverbal. On the other hand, sentences with no A-movements are those in which the arguments remained in the VP and none of the arguments raised. Then we will try to correlate these findings with the children's output data.

Table 6
Sentences with and without A-movement in children's input

Child's mother	A-movement	No A-movement
Aguirre's mother	20% (12/59)	80% (47/59)
Irene's mother	40% (38/95)	60% (57/95)
Montes' mother	64% (9/14)	36% (5/14)
Linaza's mother	0	0
Ornat's mother	14% (7/49)	86% (42/49)
TOTAL	30.5% (66/217)	69.5% (151/217)

Interestingly, the input shows a clear pattern: most of the sentences actually lack A-movement.

- (29) No le gusta a Lucas el verde (Koki's mother)
no le-dat like-3sg to Lucas the green
Lucas does not like the green one

This indicates that the ability of children to form A-chains does not come from an abundant presence in the input. In other words, children's correct *gustar* expressions are neither imitative nor unanalyzed wholes based on high frequency in the input. The same should be said about their wide variety of constructions presented in 4.4. Questions such as: how are children then able to produce A-chains from such a young age? Or where does the mechanism that enables this process come from? will be answered in the Discussion section.

The fact that we find some mistakes in the mothers' output and the kind of mistake we find also need a special mention:

- (30) A ti si me gusta ver pelis (Irene's mother)
To you yes me-dat like-3sg to watch movies
You/I do like watching movies

- (31) Mira ya le estas secando a mí y no le gusta (María's mother)
 Look already le-dat are-2sg drying to me and no le-dat like-3sg
Look you are already drying him/me and he doesn't like it
- (32) Barbie le gusta también ver la tele (Irene's mother)
 Barbie le-dat like-3sg too to watch TV
Barbie also likes watching TV
- (33) Mira. Papá también le está gustando el cuento (Irene's mother)
 Look, Dad also le-dat is liking the story
Look, Dad is also liking the story

In (30) there seems to be a confusion with the clitic and the Experiencer since the Experiencer refers to the second person singular while the clitic refers to the first person singular. In (31), the clitic is 3rd person singular while the overt Experiencer is 1st person singular. On the other hand, in (32) and (33), the Experiencer appears by itself without the preposition *a* that always accompanies it and that indicates dative Case⁷. Remarkably, either adults have a problem with unaccusativity or these problems have a different kind of origin. In particular, for the mistakes in which the preposition *a* is eliminated, we can think of an explanation that has to do with the low perceptual saliency of this element and also its limited communicative value since the omission of this element does not interfere with communication. Montrul and Bowles (2008) put forward this argument with regard to heritage speakers. However, I believe the same reasons could account for the omission of the preposition *a* in the adult speakers. The mistakes with clitics seem to be either an accidental slip of the tongue or a transcription mistake.

Lastly, the analysis of both children's and mothers' utterances with *gustar* yielded some very interesting results; mainly the fact that very young children do not seem to experience difficulty producing sentences that either lack an external argument or include an A-chain. Also, we ascertained that this ability is not just a reflection of the input to which children are exposed.

5. Discussion

My study shows that children learning Spanish as their first language are able to produce constructions involving *gustar* from an early age. Through the CHILDES study, I presented evidence supporting the idea that children learning Spanish manifest a very early knowledge of the verb *gustar*. Since *gustar* is an unaccusative verb, we can claim that these children do not exhibit any problems with the formation of A-chains or the lack of an external argument. This contradicts Borer and Wexler's (1987) Maturation Hypothesis. More specifically, it contradicts both versions of the Maturation Hypothesis: the A-Chain Deficit Hypothesis and the External Argument Requirement Hypothesis.

Borer and Wexler (1987) showed that children's apparent use of A-chains in verbal passives was due to the fact that children gave verbal passives an adjectival analysis. Babyonyshev et al. (2001) presented a similar kind of evidence for Russian unaccusatives. Children analyzed unaccusative verbs as unergative verbs. Both adjectival passives and unergative verbs lack movement. Thus, Borer and Wexler (1987), on the one hand, and Babyonyshev et al. (2001), on the other, demonstrated that children were unable to use A-chains and that their apparent correct use of them took place when children were using an s-homophone (syntactic homophone). In this production study, we can state with certainty that children are not using an s-homophone because the Experiencer and the clitic bear dative case in all of the children's utterances. If they were using an unergative structure, the subject would be nominative. Thus, they are really applying an unaccusative analysis to the *gustar* sentences.

Also, we can claim that children's grammar is guided by the Thematic Hierarchy and UTAH from an early age, since they assign a prominent place in the structure to the NP carrying the Experiencer θ -

⁷ In fact, it is not uncommon to hear this in people's rapid speech.

role and demote the Theme at D-structure. This refutes Babyonyshev al.'s claim that UTAH seems to be violated in children's structures with unaccusative verbs.

I believe this early knowledge of *gustar* to be evidence of the fact that the unaccusative structure of these verbs (*piacere-gustar*) is encoded in UG and L1 learners are able to use this structure as soon as the lexical items are available to them. This supports the Lexical Learning Hypothesis (Wexler & Chien, 1985), which states that innate principles become effective as soon as lexical learning has occurred.

Further evidence for the view that the unaccusative nature of *gustar* and the mechanisms to deal with A-chains are part of the child's innate biological program comes from the data collected from the mothers' sentences. With regard to *gustar*, we discovered with this analysis that sentences that include A-movement are rare in the children's input. So, it is unlikely that they are able to learn the structure from the scarce input available to them. Thus, the unaccusative structure of psych-verbs has to be encoded in the child's UG.

We can support the argument for the innateness of the unaccusativity of *gustar* with cross-linguistic evidence. Landau (2010) claimed that psych-verbs exhibit psych-effects, that is, special syntactic properties associated with Experiencers. In particular, for verbs from class III, these psych-effects come from their unaccusative nature.⁸ Landau states that this is true for almost every language where psych-verbs have been studied and supports this claim with data from languages as disparate as Greek, Hebrew, English, Faroese and Spanish.

In particular, Landau (2010, p. 84) proposed a parameter that is related to psych-verbs and how they are acquired: the Quirky Subject Parameter (QSP). He defines the concept of quirky subject as follows: "a quirky subject is just an argument that displays more canonical subject properties (except for agreement), but bears inherent case" (Landau, 2010, p. 81). Quirky subjects are those that are inserted in unaccusative structures, so the subject of Spanish class III psych-verbs is considered to be a quirky subject. Secondly, human languages are parameterized with respect to quirky subjects by means of the Quirky Subject Parameter. According to the QSP, there are three possible parameters and thus three types of languages. Some languages like Icelandic, Faroese and Greek allow dative, accusative and genitive Experiencers to function as a quirky subject. Other languages such as Italian, Spanish and Dutch only allow dative Experiencers to occur as subjects. Finally, languages like English, French and Hebrew do not allow any kind of quirky subject.

I believe my data showed that the Quirky Subject Parameter is set very early at least for Spanish children. This fact provides support for Wexler's (1996) Very Early Parameter Setting (VEPS): "Basic parameters are set correctly at the earliest observable stages, that is, at least from the time that the child enters the two-word stage around 18 months of age."

If we assume that Spanish children have set the Quirky Subject Parameter very early in their acquisition process, they will know that the subject of class III psych verbs is a quirky subject. If the subject of these verbs is a quirky subject, it has to be part of an unaccusative configuration. As we have seen in section 4, Spanish children possess knowledge of these facts as early as age 1;10. The findings analyzed of this project also corroborate the Continuity Hypothesis (Pinker, 1984, p. 6): "the null hypothesis in developmental psychology is that the cognitive mechanisms of children and adults are identical."

6. Conclusion

This study showed that children learning Spanish are able to use *gustar* with a minimal error rate from an early age. Since these verbs are unaccusatives, they lack an external argument and involve movement of the Experiencer or the Theme from the object to the subject position (a non-trivial A-chain). This refutes both versions of the Maturation Hypothesis: the External Argument Requirement

⁸ Landau makes a more general claim with respect to the reason for *psych effects* in psych verbs. According to him, Experiencers are mental locations, that is, locatives, and this explains the special syntactic properties exhibited by psych-verbs. He rejects the idea that all psych-verbs belonging to class II are unaccusatives. On the other hand, he agrees with the idea that class III verbs are unaccusatives and provides evidence from different languages (Spanish, Icelandic or Greek among others) (Landau, 2010, p. 7-8).

Hypothesis and the A-Chain Deficit Hypothesis, which claim that the mechanism necessary to produce and comprehend structures that lack an external argument and/or involve A-chains are subject to maturation. Notice that this study does not provide evidence against the gist of the Maturation Hypothesis, namely that some principles mature later in life. However, it provides evidence against the maturation of A-chains and the ability to handle the absence of an external argument. My conclusion from the data presented in this paper is that children's ability to use unaccusative structures with psych-verbs comes from UG and is not subject to maturation but is immediately available to the child.

Some other questions were not answered with this experiment. Some of these questions are: would children exhibit the same pattern of behavior with psych-verbs that are not as common as *gustar*? Would the patterns found in the production experiment be replicated by comprehension data? In order to answer those questions, a comprehension experiment has been planned. This will allow us to broaden our understanding of this topic in a more controlled environment.

Future research should endeavor to study this class of verbs in an L2 population in light of the new findings in the L1 literature. Numerous researchers (Chen, 1995; Juffs, 1996; Montrul, 1998, 2001 among others) have illustrated the problems that L2 learners experience with psych-verbs.⁹ If unaccusativity is encoded in UG, and if L2 learners have access to UG,¹⁰ their problems with these verbs should be of a different nature. Montrul (1998) claims that the source of difficulty for native English speakers learning Spanish comes from the dative case assignment, which is not present in English. Also, since resetting parameters can be a challenging process for L2 learners, we could expect L2 learners (who are native speakers of English or any other language that does not allow quirky subjects) to have problems resetting the Quirky Subject Parameter and allowing any kind of Experiencer to function as a quirky subject.

More research in the area of psych-verbs is needed to ascertain if L2 learners have access to UG. If they don't, we need to investigate what the source of this problem is. If they do, we need to discover what the specific sources of difficulty with this kind of verb are. Finally, in this paper we argued that the first language acquisition process is consistent with the Continuity Hypothesis. A further step in this research project will be to confirm the validity of the Continuity Hypothesis in the L2 realm.

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⁹ I conducted an informal study with Professor Julia Mack in which we analyzed written compositions from heritage learners and L2 students taking advanced Spanish courses at the University of North Carolina at Chapel Hill. We discovered that errors with the *gustar*-type verbs were some of the most lasting mistakes among students.

¹⁰ This claim is very controversial (White 1985; Schwartz and Sprouse 1996 among others).

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