

# Are All L1 Grammatical Properties Simultaneously Transferred?

## Lexical Causatives in L2 Spanish and L2 English

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### 1. Introduction

The present study investigates the L2 acquisition of lexical causatives (henceforth, LCs) by two groups of adult learners: L1 English/L2 Spanish and L1 Spanish/L2 English. Our focus is the phenomenon known as overgeneralization of causatives, namely LCs that are unacceptable in the target language (*\*Peter laughed the girl.* “Peter caused the girl to laugh.” / *\*Peter arrived the girl at school late.* “Peter caused the girl to arrive at school late.”). We propose that overgeneralized causatives are motivated by transfer of different L1 properties at different stages of acquisition. More specifically, beginners and intermediates transfer L1 *constructional properties* of LCs, but not L1 *specific lexical properties* of verb classes, and advanced learners transfer both types of properties.

The paper is organized as follows. In section 2, we discuss the properties of LCs in English and Spanish. In section 3, previous studies on the L2 acquisition of LCs are briefly reviewed. In section 4, we present our study (hypothesis, predictions, experimental design, and results). In section 5, the group results are discussed, and an account is proposed. Section 6 concludes the discussion.

### 2. Lexical Causatives in Spanish and English

#### 2.1 Distribution of lexical causatives

In English and Spanish intransitives that encode change can appear in LCs (e.g. Levin and Rappaport Hovav 1995, Hale and Keyser 2002). Verbs that typically participate in the causative alternation are change of state unaccusatives like *break/romper*, exemplified in (1) below. There are also change of location unaccusatives, like Spanish, *subir* ‘go up’, *bajar* ‘go down’, that can alternate in transitivity, as shown in (2). The transitive forms of such verbs are associated with the meaning given in (3).

- (1) a. Peter broke the window. / Pedro rompió la ventana.  
b. The window broke. / La ventana se rompió.
- (2) a. Pedro subió al niño a la mesa.  
‘Pedro put the kid on the table.’  
b. El niño se subió a la mesa.  
‘The kid got on the table.’
- (3) CAUSE [Change of State/Location]

Unergative verbs like *laugh/reír* are not allowed in LCs for principled reasons, because they do not encode change of state or location (cf. 4a).

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- (4) a. \*Peter laughed Mary. / \*Pedro rió a María.  
 ‘Peter caused Mary to laugh.’  
 b. Mary laughed. / María se rió.

However, not all unaccusatives in English and Spanish encoding change of state or location can appear in LCs. These include verbs of appearance (e.g. *occur/ocurrir*) and most of the inherently directed motion verbs (e.g. *arrive/llegar*) (5-6). We will refer to these as “non-alternating unaccusatives”.

- (5) a. \*Peter occurred an accident. / \*Pedro ocurrió un accidente.  
 ‘Peter caused an accident to occur.’  
 b. An accident occurred. / Ocurrió un accidente.  
 (6) a. \*Peter arrived Mary at school late. / \*Pedro llegó a María tarde a la escuela.  
 ‘Peter caused Mary to arrive at school late.’  
 b. Mary arrived at school late. / María llegó a la escuela tarde.

Chierchia (1989) proposes that non-alternating unaccusatives are idiosyncratically marked for the non-lexicalization of the transitive counterpart. If this proposal is correct, LCs with non-alternating unaccusatives, although unrealized, are not grammatically impossible in the grammars of English and Spanish<sup>1</sup>.

While unergatives are banned from participating in the causative alternation in both English and Spanish, the two languages differ in the following respect. In English, but not in Spanish, manner-of-motion verbs may appear with a goal PP complement (Talmy 1985, Aske 1989), as exemplified in (7) and (8).

- (7) a. The soldiers marched to the camp.  
 b. John danced across the room.  
 (8) a. \*Los soldados marcharon al campamento.  
 b. \*Juan bailó al otro lado del salón. [\*change of location reading]  
 (9) a. The soldiers marched. / Los soldados marcharon.  
 b. John danced. / Juan bailó.

Manner-of-motion verbs have different properties depending on whether they appear with a goal PP or not. They are unergatives in the absence of a goal PP, i.e. they do not necessarily encode a change of location, as shown in (9). On the other hand, in sentences such as (7), in which there is a goal denoting PP, they have unaccusative-like properties, and encode change of location (Levin and Rappaport Hovav 1995). It is therefore unsurprising that in English a predicate formed by a manner-of-motion verb and a goal PP has a causative counterpart (10). This is not possible in Spanish (see 11).

- (10) a. The general marched the soldiers to the camp.  
 b. John danced Mary across the room.  
 (11) a. \*El general marchó a los soldados al campamento.  
 b. \*Juan bailó a María al otro lado del salón.

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1. Although non-alternating unaccusatives are generally unacceptable in LCs, there are some instances of causative uses of these verbs. Carson Schütze has provided us with the following example (uttered by an air traffic controller):

(i) We can arrive two planes an hour.

Also some native speakers of Spanish are more willing to accept examples like (ii) than examples like (iii):

(ii) ??Si María no llega a la clase, yo la llevo.

“If Maria does not arrive to class, I make her arrive.”

(iii) \*Si María no se ríe, yo la río.

“If Maria does not laugh, I make her laugh.”

Verbs of manner-of-motion require a goal PP complement to be acceptable in LCs. In effect, although the English LCs in (12) are perhaps not as strongly unacceptable as their Spanish counterparts in (13), there is a clear contrast between (10) and (12)<sup>2</sup>.

- (12) a. ??The general marched the soldiers.  
 b. \*John danced Mary.  
 (13) a. \*El general marchó a los soldados.  
 b. \*Juan bailó a María.

The similarities and differences in the distribution of LCs in English and Spanish can be more clearly understood by separating the properties of the causative construction from the specific properties of verb classes. In the next section, we present such approach to the phenomenon.

## 2.2 Constructional and lexical specific properties of causatives

An important insight of construction grammar is that there are primitive grammatical constructions / schemas that are independent of the verb's lexical meaning (Jackendoff 1990, Goldberg 1995, Goldberg and Jackendoff 2002). Examples that illustrate this point are shown in (14) below (from Goldberg 1995). The unacceptability of the sentences in brackets shows that the objects *us* and *the napkin* are not the complements of *talk* and *sneeze*, respectively, but complements of the caused-motion construction (X CAUSE Y GO Path). In this construction, the object moves along a path (encoded by the PPs *into a stupor* and *off the table*). The meaning of this construction is made explicit by the paraphrases in (15) (from Zubizarreta and Oh 2004).

- (14) a. The professor talked us into a stupor. [cf. \*The professor talked us.]  
 b. He sneezed the napkin off the table. [cf. \* He sneezed the napkin.]  
 (15) a. The professor made us go into a stupor by (excessive) talking.  
 b. He got the napkin off the table by (excessive) sneezing.

The paraphrases in (15) reveal that the main verbs in these sentences provide information about the means by which the object moves along the path, namely they behave like modifiers of the construction. Along these lines, a second important insight of construction grammar has to do with the relationship between the verb meaning and the construction. A verb can either modify or instantiate a construction. The examples in (14) exemplify cases in which the verb modifies the construction. Verbs can also instantiate a construction if -in Goldberg's (1995) words- "the participant roles associated with the verb can be put in a one-to-one correspondence with the argument roles associated with the construction. In this case, the constructional meaning is entirely redundant with the verb's meaning and the verb merely adds information to the event designated by the construction". Cases of instantiation of the caused-motion construction are illustrated in (16). These examples show that the objects *the ball* and *the letter*, besides being arguments of the construction, are also arguments of the verbs *hand* and *send*, respectively, since their omission yields to unacceptability (cf. 17).

- (16) a. John handed the ball to the boy.  
 b. John sent the letter to Mary.  
 (17) a. John got the ball to the boy by handing \*(it to him).  
 b. John got the letter to Mary by sending \*(it to her).

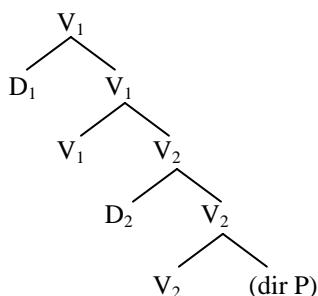
Zubizarreta and Oh (2004) propose a syntactic view of the constructional approach (for similar

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2. There is individual variation among native speakers of English in the acceptability of LCs with verbs of manner-of-motion with a goal PP (10). Although for most speakers these sentences are acceptable, others consider them marginally acceptable. However, sentences in (10) are preferred to those in (12). Some native speakers do not completely reject verbs of manner-of-motion without PP in LCs (12). They seem to be able to reconstruct a goal PP when interpreting these sentences. See section 4.3.2.

analyses, see Travis 2000, Hale and Keyser 2002, among others). English and Spanish LCs with unaccusatives of change of state or location (1-2), and English LCs with verbs of manner-of-motion accompanied by a goal PP (10) are cases of the causative construction<sup>3</sup>. A schematic structure of this construction is shown in (17). In this analysis, the causative interpretation (X cause Y to change state / location) arises from the relationship between higher and lower V, i.e. V<sub>1</sub> and V<sub>2</sub>, respectively. The structure V<sub>2</sub>, more precisely [D [V (dir P)]], encodes change of state when only V is present, and change of location when it includes a directional / goal preposition.

(17) The causative construction



English and Spanish are different with respect to verbs of manner-of-motion (10-11). The corresponding paraphrases in (18) below show that, similarly to the cases in (14), verbs of manner-of-motion behave like modifiers of the causative construction. The fact that these sentences without a goal PP (12) are unacceptable indicates that the objects *the soldiers* and *Mary* are not arguments of the verbs *march* and *dance*, respectively, but arguments of the construction. In these cases, the preposition (*to* and *across*, i.e. the heads of the goal PPs *to the camp* and *across the room*) licenses the causative construction since this lexical item encodes change of location, and the verb does not.

- (18) a. The general made the soldiers go to the camp by marching.  
 b. John made Mary go across the room by dancing.

English and Spanish LCs with manner-of-motion verbs are not different at the level of the construction, but as to lexical-specific properties of this verb class. In English, manner-of-motion verbs can modify the causative construction; in Spanish, they cannot<sup>4</sup>.

### 2.3 A summary

We summarize below the properties of English and Spanish LCs, along two dimensions: the general properties of the construction and specific properties of verb classes. We will refer to the former as *constructional properties* and to the latter as *lexical specific properties*.

#### General property of the causative construction:

(19) In English and Spanish, the causative construction (cf. 17) can be licensed iff the verb and/or the preposition encodes a change of state or location. (Unaccusatives that encode change therefore satisfy this requirement. Unergatives do not encode change; therefore they do not satisfy the general constructional specification.)

#### Specific properties of verb classes:

(20) In English and Spanish, a subset of change of state/location unaccusatives (i.e. non-alternating unaccusatives) fails to enter the causative alternation.

3. Following Gruber (1965), Jackendoff (1983), Goldberg (1995), among others, Zubizarreta and Oh (2004) considers that there is a parallelism between change of location and change of state, both representing change in different conceptual fields: one in the space field, and the other in the notional field.

4. This analysis is compatible with Talmy's (1985) proposal on crosslinguistic differences on conflation patterns. In English, but not in Spanish, the semantic primitive "manner" can conflate with "movement".

- (21) In English, a manner-of-motion verb can modify the causative construction in the context of a PP that encodes change of location. In Spanish, a manner-of-motion verb can never modify the causative construction.

In our study, we investigate how the aforementioned L1 properties constraint the interlanguage of L2 learners at different levels of proficiency.

### 3. Previous studies on L2 Lexical Causatives

In this section, we briefly review previous studies on the acquisition of LCs by L1 English/L2 Spanish and L1 Spanish/L2 English adult learners. Montrul conducted a series of studies in the L2 acquisition of the causative alternation by L1 English/L2 Spanish (Montrul 1999) and L1 Spanish/L2 English learners (Montrul 2001a) at the intermediate level of proficiency. Using a picture-based grammaticality judgment task, Montrul tested whether learners accepted LCs with the following verb classes: alternating unaccusatives (1a), non-alternating unaccusatives (5a) and unergatives (6a). The first verb class is acceptable in LC configuration in both the L1 and the L2, and the other verb classes are unacceptable. It was found that learners correctly accepted LCs with alternating unaccusatives, but to some degree they also overgeneralized causatives. They accepted LCs that are unacceptable in both the L1 and the L2.

Montrul claims that transfer is not the source of the overgeneralization of causatives because these structures are not acceptable in the L1. She proposes that these errors are motivated by the learners' lack of knowledge of the lexico-semantic features that determine which verb classes alternate in transitivity. Given their incomplete L2 knowledge, learners resort to a default transitive lexico-semantic template (*NP CAUSE NP BECOME verb*), provided by Universal Grammar, that they use irrespective of verb class. Crucial for Montrul's analysis is that the participants in her studies did not significantly prefer a specific verb class when overgeneralizing causatives.

In a subsequent study, also with L1 English/L2 Spanish and L1 Spanish/L2 English intermediate learners, Montrul (2001b) investigated the acquisition of LCs with verbs of manner-of-motion, which are acceptable in English (10), but unacceptable in Spanish (11). Interestingly, in this case, clear L1 transfer effects were found. L1 English speakers learning L2 Spanish overgeneralized causatives with verbs of manner-of-motion, whereas L1 Spanish learning L2 English undergeneralized causatives with them. Montrul (2001b) concluded that transfer applies in some cases but not in others. Transfer does not apply in the case of overgeneralized causatives with non-alternating unaccusatives and unergatives, but it does so with manner-of-motion verbs. The causative alternation, a more universal alternation, would be less likely to motivate transfer than alternations that are more L1 specific, such as English LCs with verbs of manner-of-motion. In brief, in Montrul's analysis, the overgeneralization of causatives in L2 English and L2 Spanish would have two sources depending on the verb class involved. With non-alternating unaccusatives and unergatives, access to Universal Grammar motivates the phenomenon. With verbs of manner-of-motion, the phenomenon is motivated by L1 transfer.

Cabrera and Zubizarreta (2003a), a partial replication of Montrul's (1999) study, investigated the overgeneralization of causatives with non-alternating unaccusatives and unergatives with L1 English learners of L2 Spanish at different levels of proficiency (beginner, intermediate, and advanced). We found that at the beginner and intermediate levels of proficiency, L2 learners overgeneralized causatives significantly more with non-alternating unaccusatives than with unergatives. The different treatment of these verb classes suggests that L2 learners are sensitive to lexico-semantic verb properties that are relevant to the causative alternation in the L1. Therefore, contrary to Montrul (1999, 2001a) proposal, lack of L2 grammatical knowledge does not fully explain learners' treatment of different verb classes. Cabrera and Zubizarreta (2003a) suggest that these findings are compatible with a transfer analysis, in which learners overgeneralize the properties of alternating unaccusatives to non-alternating ones.

Summarizing, Montrul studies on overgeneralization of causatives in L2 English and L2 Spanish (1999, 2001a,b) have shown somehow contradictory findings as to the role of L1 transfer in this phenomenon. Cabrera and Zubizarreta's (2003a) results suggest that L1 transfer can be the source of these errors. However, although in that study different levels of proficiency were taken into account,

not all the relevant verb classes were tested (LCs with verbs of manner-of-motion were not included).

Previous research findings point to the need of a more comprehensive study on the overgeneralization of causatives across different levels of proficiency, which simultaneously tests for LC structures in which English and Spanish are similar and those in which they are different. A study of this nature should elucidate what role the L1 plays in the L2 acquisition of LCs, if any, and at what level of proficiency. This is precisely the objective of the present study.

## 4. The present study

Our study is a partial replication/extension of Montrul (1999, 2001a,b) with two experimental groups: L1 English/L2 Spanish, and L1 Spanish/L2 English speakers, across different levels of proficiency. In order to investigate the role of the L1 in the L2 acquisition of LCs, we have tested structures in which English and Spanish have the same properties (cf. 19-20), and those in which these languages behave differently (cf. 21).

### 4.1 Hypothesis and predictions

The central hypothesis of the present study is that the properties of the L1 determine which verb classes are allowed in LCs in the interlanguage.

If only *constructional properties* (cf. 19) are transferred, we predict the following:

- (22) Both experimental groups should accept LCs significantly more with non-alternating unaccusatives (*arrive/llegar*) and manner-of-motion+PP (*dance/bailar*+PP) than with unergatives (*laugh/reír*) and manner-of-motion without PP (*dance/bailar*).

If only *lexical specific properties* (cf. 20-21) are transferred, we predict that:

- (23)a. Both experimental groups should reject LCs with non-alternating unaccusatives (*arrive/llegar*).  
 b. The L1 English/L2 Spanish group should accept LCs with verbs of manner-of-motion+PP (*bailar*+PP).  
 c. The L1 Spanish/L2 English group should reject LCs with verbs of manner-of-motion+PP (*dance*+PP).

If there is transfer of both types of properties simultaneously, the effects of the *lexical specific properties* override the effects of the *constructional properties*. Therefore, the prediction would be almost the same as (23) but additionally verbs that do not encode change (unergatives and manner without PP) should be rejected.

### 4.2 Experimental Design

#### 4.2.1 Participants

A total of 166 adults participated in the study. There were two experimental and two control groups. The L1 English/L2 Spanish experimental group consisted of 71 students in the Spanish Basic Language Program at the University of Southern California (USC) (mean age 19.20), tested in Los Angeles, California. The L1 Spanish/L2 English experimental group consisted of 60 students in the English Language Program at the Pontificia Universidad Católica del Perú (PUCP) (mean age 21.40), tested in Lima, Perú. The control groups consisted of 18 native speakers of Spanish students at PUCP (mean age 18.94), and of 17 native speakers of English students at USC (mean age 24.94).

The L2 proficiency level of the experimental groups was measured using a cloze test, including 3 paragraphs with a total of 75 blank spaces (1 blank space every 5 words), and corrected with the acceptable word criterion. Three significantly different proficiency levels (beginner, intermediate, and advanced) in terms of their score in the Cloze test were identified in each of the experimental groups.

In the L1 English/L2 Spanish there were 28 beginners, 27 intermediates and 16 advanced learners. In the L1 Spanish/L2 English, we had 19 beginners, 21 intermediates and 20 advanced learners.

#### 4.2.2 Materials

A verb translation task (VTT) and an acceptability judgment test (AJT) were used. A total of 24 verbs were tested in the VTT and in the AJT. In the VTT, subjects were asked to translate the verbs in Table 1 in order to assess the learner's knowledge of their idiosyncratic meaning, so that only the AJT responses corresponding to correctly translated verbs were used in computing results.

**Table 1:** Tested verbs in the VTT and in the AJT

Non-Alternating Unaccusatives (NAU)	Unergatives (E)	Manner (M)	Alternating Unaccusatives (AU)
aparecer / appear	ladrar / bark	bailar / dance	romper / break
llegar / arrive	acampar / camp	volar / fly	quemar / burn
venir / come	llorar / cry	saltar / jump	cerrar / close
entrar / enter	luchar / fight	marchar / march	cocer / cook
ir / go	reír / laugh	desfilear / parade	abrir / open
ocurrir / happen	fumar / smoke	correr / run	parar / stop

The purpose of the AJT, based on Montrul's (1999, 2001a,b) design, was to determine whether the subjects accepted LCs of the verbs in Table 1<sup>5</sup>. The verbs of manner-of-motion were tested first without PP, and later with a directional PP. A total of 30 test items and 15 filler sentences were used. A picture to ensure a causative interpretation accompanied each item<sup>6</sup>. Subjects were asked to rate the sentences focusing on grammaticality in the target language, according to a seven-point Likert scale, from -3 (completely unacceptable) to +3 (completely acceptable).

**Table 2:** Examples of tested sentences

NAU	*El padre <b>llegó</b> a la niña tarde a la escuela. / *The father <b>arrived</b> the girl at school late.
E	*Pedro <b>rió</b> a Juan. / *Peter <b>laughed</b> John.
M	*El general <b>marchó</b> a los soldados. / ??The general <b>marched</b> the soldiers.
M+PP	*El general <b>marchó</b> a los soldados <b>al campamento</b> . / The general <b>marched</b> the soldiers <b>to the camp</b> .
AU	Pedro <b>rompió</b> la ventana. / Peter <b>broke</b> the window.

### 4.3 Group results

#### 4.3.1 Verb classes across levels of proficiency

Figure 1 shows the acceptability means for all the verb classes in LCs for the L1 English/L2 Spanish experimental and control groups. One-way ANOVAs were used to compare the means for each verb class across levels of proficiency. The learners correctly accepted alternating unaccusatives, and there was no significant difference between them and the control group. As to unacceptable LCs in Spanish (with non-alternating unaccusatives, unergatives, manner-of-motion with and without PP), the means of acceptability were higher when the level of proficiency was lower. There was a significant

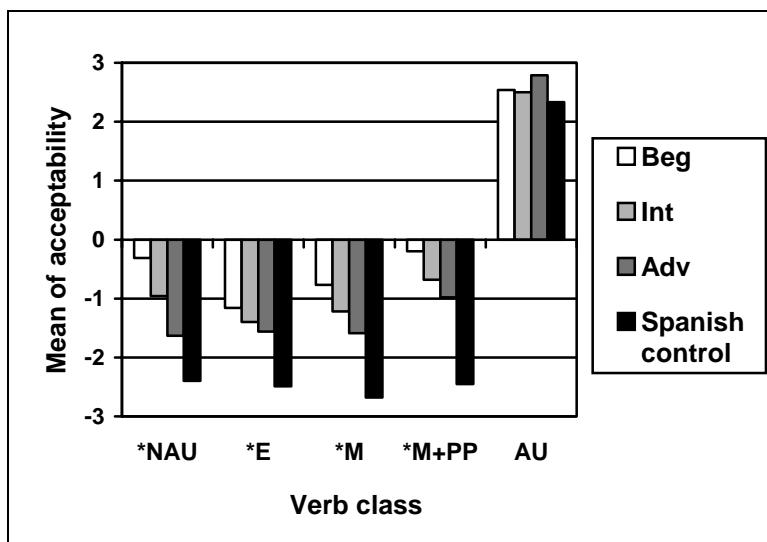
5. Verbs were tested in intransitive, lexical and periphrastic causative configuration. In this paper, we report the results on LCs only.

6. Thanks to Silvina Montrul for letting us use her testing materials in our pilot study. For the picture design of this study, we thank Pierre Canueil and Mabel Amaya de Beas.

difference between the learners' means of acceptability and the control group's for all of these verb classes ( $p < .05$ ). Even though the learner's means were on the negative side of the scale, they were significantly higher than the ones of the Spanish native speakers<sup>7</sup>.

Among the different levels of proficiency within the experimental group, we found that beginners rated non-alternating unaccusatives significantly higher than the advanced learners ( $p < .005$ ). No significant difference between levels of proficiency was found for unergatives and manner-of-motion(+PP). However, the learner's means for unergatives and manner-of-motion without PP were lower than the means for manner+PP.

Summarizing, although L1 English/L2 Spanish learners correctly accepted target-like LCs with alternating unaccusatives, they consistently had significantly higher means than the control group for non target-like LCs. The means of acceptability of non-target LCs were lower as proficiency increased.



**Figure 1**  
L1 English/L2 Spanish: LCs with all verb classes

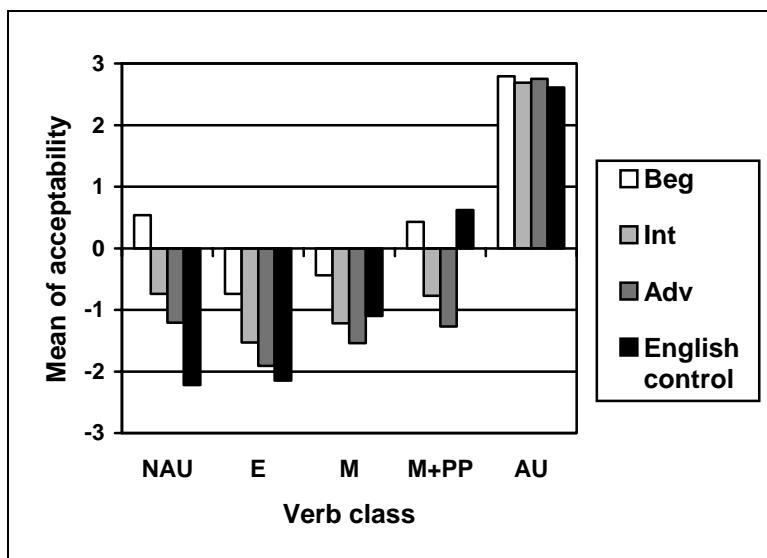
Figure 2 shows the L1 Spanish/L2 English experimental and control groups acceptability means for all verb classes. Using a One-Way ANOVA, we found no significant difference between learners and English speakers for alternating unaccusatives. As for manner-of-motion+PP, there was no significant difference between beginners and the control group. Intermediate and advanced learners' means were significantly lower than the controls' ( $p < .05$ ).

As for unacceptable LCs in English, we found that learners' means for non-alternating unaccusatives were significantly higher than the mean of the English native speakers (beginners:  $p < .0001$ ; intermediates and advanced learners:  $p < .05$ ). Beginners had the highest mean, which was significantly different from the one of the advanced learners ( $p < .0001$ ). For unergatives, the mean of the beginners was significantly higher than the mean of the advanced ( $p < .05$ ) and the control group ( $p < .0001$ ). Intermediate and advanced learners' means were not significantly different from the controls'. Learners correctly rejected manner-of-motion verbs without PP. However, we should note that, although not significantly different, the beginners' mean was higher than the one of the other levels and the control group. In fact, the L1 Spanish/L2 English group shows the same trend as the L1 English/L2 Spanish group, namely the means for non-alternating unaccusatives, unergatives, and manner-of-motion (with or without PP) decreased as proficiency increased.

Summarizing, L1 Spanish/L2 English learners correctly accepted target-like LCs with alternating

7. Many of the acceptability means for non-alternating unaccusatives, unergatives, and manner-of-motion (+PP) of the experimental groups have a value close to zero. This is the case because some learners rated these LCs positively, and others, negatively, which generated the value of the mean to be close to zero. Due to lack of space, we do not present the individual analysis in this paper (see Cabrera and Zubizarreta 2003b).

unaccusatives, and rejected non-target like ones with manner-of-motion verbs without PP. However, with respect to manner-of-motion with PP (acceptable in the L2 but not in the L1) only the beginners were not significantly different from the English native speakers. Finally, the experimental group seemed to treat non-alternating unaccusatives and unergatives differently. All the proficiency levels rejected significantly less non-alternating unaccusatives than the control group. Only the beginners rejected unergatives significantly less than the controls. In general, as it was the case for the L1 English/L2 Spanish group, the means for non-alternating unaccusatives, unergatives and manner(+PP) were higher as proficiency was lower.



**Figure 2**  
L1 Spanish/L2 English: LCs with all verb classes

#### 4.3.2 Comparing verb classes within levels of proficiency

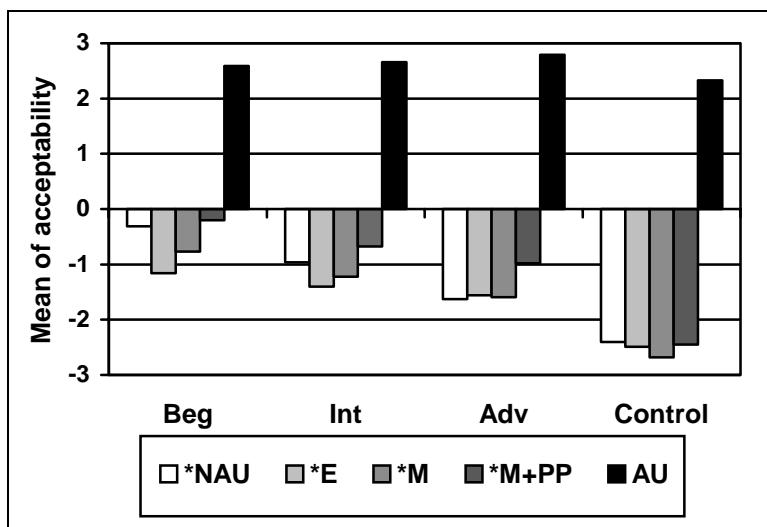
In order to determine whether learners prefer some verb classes, the different verb classes within each level were compared using paired-sample t-tests. Figure 3 shows the means for each verb class per proficiency level for the L1 English/L2 Spanish group. For the control group (Spanish native speakers), the mean of acceptability of alternating unaccusatives was significantly higher than the means for the rest of the verb classes ( $p < .0001$ ). There were no significant differences between the means of non-alternating unaccusatives, unergatives, and manner (+PP). All of them were equally rejected. These facts support our observations on the distribution of LCs in Spanish (section 2.1).

All the levels of proficiency had a significantly higher mean for alternating unaccusatives than the means for the other verb classes ( $p < .0001$ ), which shows that learners distinguish between acceptable and unacceptable sentences in the L2. Beginners had a significantly higher mean for non-alternating unaccusatives ( $p < .005$ ) and manner-of-motion+PP ( $p < .005$ ) than for unergatives. The means for the first two verb classes were also significantly higher than the mean for manner without PP ( $p < .05$ ). Means for non-alternating unaccusatives and manner-of-motion+PP were not significantly different. Unergatives and manner without PP were not significantly different either. Intermediates rated non-alternating unaccusatives ( $p < .05$ ) and manner-of-motion+PP ( $p < .005$ ) significantly higher than unergatives. There was a trend indicating that intermediates still prefer manner-of-motion+PP than without it ( $p = .06$ ). Non-alternating unaccusatives and manner-of-motion+PP were not significantly different.

Beginners and intermediates preferred verbs that encode change of state / location (non-alternating unaccusatives) or verbs that appear in the context of a PP encoding change of location (manner-of-motion+PP) to those that do not (unergatives and manner without PP). LCs with verbs encoding change, on the one hand, and those with verbs that do not, on the other, were treated similarly.

However, the preference for verbs that encode change is clearer in beginners than in intermediates, which seem to be more willing to reject unacceptable LCs.

Finally, advanced learners tended to reject all verb classes equally; however they significantly preferred manner-of-motion+PP to non-alternating unaccusatives ( $p < .05$ ) and to manner-of-motion without PP ( $p < .05$ ). In other words, they did not prefer verb classes encoding change in general, but only in the case of manner-of-motion with a goal PP, which is acceptable in English, their L1.

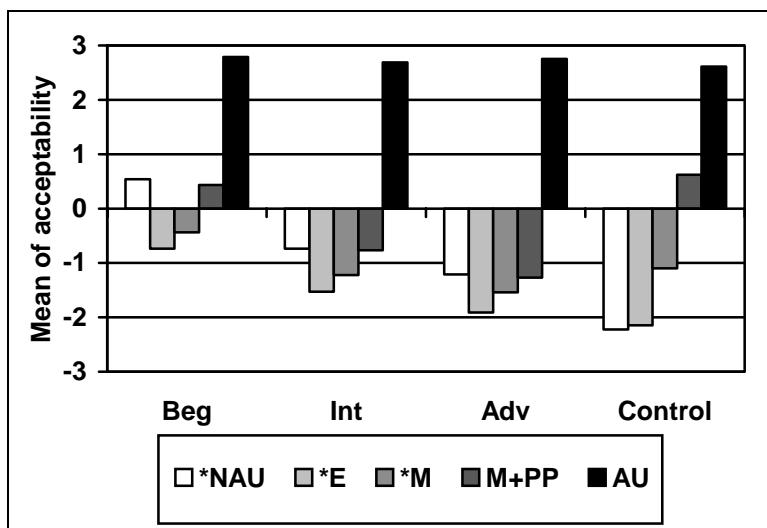


**Figure 3**

L1 English/L2 Spanish: LCs with all verb classes

Figure 4 shows the means for each verb class per proficiency level for the L1 English/L2 Spanish group. For the group of English native speakers, the mean of acceptability of alternating unaccusatives was significantly higher than the means for the rest of the verb classes ( $p < .0001$ ). Non-alternating unaccusatives and unergatives were equally rejected. The means of acceptability for manner with and without PP were significantly higher than those for non-alternating unaccusatives ( $p < .0001$ ) and unergatives (M+PP:  $p < .0001$ ; M:  $p < .005$ ). The mean of acceptability of manner-of-motion+PP was significantly higher than the mean for manner without PP ( $p < .0001$ ). These facts partially support our observations on the distribution of LCs in English (section 2.1). Manner-of-motion+PP is acceptable in LCs in English but there is variation across speakers, which generates a significantly lower mean than the one for alternating unaccusatives. As stated in note 3, there is also variation with respect to verbs of manner without PP, although there is a general tendency to reject them.

All levels of proficiency had a significantly higher mean for alternating unaccusatives than for the other verb classes ( $p < .0001$ ), which shows that they distinguish between L2 acceptable and unacceptable sentences in the L2. Beginners and intermediates significantly preferred (or rejected less) non-alternating unaccusatives ( $p < .005$ ,  $p < .01$ ) and manner-of-motion+PP ( $p < .01$ ,  $p < .01$ ) to unergatives. The means for the first two were also significantly higher than the mean for manner without PP (NAU:  $p < .005$ ,  $p < .05$ ; M+PP:  $p < .05$ ,  $p < .05$ ). Means for non-alternating unaccusatives and manner-of-motion+PP were not significantly different. Unergatives and manner without PP were not significantly different either. These learners behaved similarly to the beginners and intermediates in the L1 English/L2 Spanish group: both preferred verbs encoding change of state/location. Advanced learners tended to reject all verb classes; however, differently to the L1 English/L2 Spanish advanced learners, there was not a significant difference between non-alternating unaccusatives and manner-of-motion+PP.



**Figure 4**  
L1 Spanish/L2 English: LCs with all verb classes

### 4.3.3 Generalizations

The results presented in sections 4.3.1 and 4.3.2 lead us to the following generalizations:

- (24) a. Generalization 1:  
Both experimental groups behaved control-like with respect to alternating unaccusatives. This verb class was preferred to non-alternating unaccusatives, unergatives, and manner-of-motion (with and without PP).
- b. Generalization 2:  
The L1 English/L2 Spanish group did not behave control-like with respect to non-alternating unaccusatives, unergatives, and manner-of-motion(+PP). They rejected these verb classes but to a significantly lesser extent than the controls. In the L1 Spanish/L2 English, there was also a tendency to accept (or reject less) them, especially by the beginners.
- c. Generalization 3:  
Beginners and intermediates in both experimental groups preferred verbs encoding change (non-alternating unaccusatives and manner-of-motion+PP) to verbs that do not (unergatives and manner-of-motion without PP). The beginners treated in a similar fashion verbs encoding change. They treated similarly verbs that do not encode change.
- d. Generalization 4:  
The experimental groups were different at the advanced level. L1 English/L2 Spanish advanced learners rated manner-of-motion+PP significantly higher than non-alternating unaccusatives. L1 Spanish/L2 English learners rejected both equally.

In the next section, we present our interpretation and analysis of the data, and discuss whether the predictions (cf. 22-23) were borne out.

## 5. Analysis and discussion

The generalizations presented above partially confirmed our hypothesis and its corresponding predictions. Our central hypothesis was that L1 properties determine which verb classes appear in LCs in the interlanguage. If there is transfer of the *constructional properties* (cf. 19), both experimental groups were expected to accept non-alternating unaccusatives (*arrive/llegar*) and manner-of-motion+PP (*march/marchar*+PP) more than unergatives (*laugh/reír*) and manner-of-motion verbs without PP (*march/marchar*). This prediction was borne out for the beginner and intermediate levels of

proficiency of both experimental groups (cf. 24c), but not for the advanced group (cf. 24d).

On the other hand, if there is transfer of *lexical specific properties* (cf. 15-16), both experimental groups were expected to reject non-alternating unaccusatives (cf. 23a). However, the experimental groups were predicted to behave differently in that the L1 English/L2 Spanish group was expected to accept manner-of-motion+PP (*marchar*+PP) (cf. 23b), while the L1 Spanish/L2 English was expected to reject those verbs (*march*+PP) (cf. 23c). These predictions held only for the advanced level of proficiency (cf. 24d) in both experimental groups, but not for beginners and intermediates (cf. 24c). It was found that, when recovering from the overgeneralization of causatives with non-alternating unaccusatives and unergatives, the L1 English advanced group still showed some preference for verbs of manner-of-motion+PP, while the L1 Spanish advanced group undergeneralized causatives with them. As for non-alternating unaccusatives, advanced learners in both experimental groups rejected them, as predicted. However, the L1 English group rejected unaccusatives and unergatives equally, which indicates that these learners make use of *lexical specific properties*, but also of the constraint that the *constructional properties* impose on unergatives.

We put forth the proposal that overgeneralization (and undergeneralization) of causatives can be reduced to transfer of different L1 properties at different levels of proficiency. At an earlier stage of acquisition, the L2 learner makes use of L1 properties of the construction (cf. 19), namely, a causative meaning can be associated with a transitive construction iff it is licensed by a lexical item encoding change of state or location. English and Spanish are alike with respect to the general licensing of the construction. Therefore, L1 English/L2 Spanish learners, and L1 Spanish/ L2 English learners behave similarly at this stage. More precisely, both groups of L2 learners accept more LCs with verbs encoding change (non-alternating unaccusatives and manner-of-motion+PP), and reject to a higher extent the verbs that do not encode change (unergatives and verbs of manner-of-motion without a PP).

At a later stage of acquisition, the L2 learner makes use of constructional and lexical-specific properties of the verb, at the same time. As we mentioned in section 3.1, the lexical-specific properties preempt the constructional properties for non-alternating unaccusatives and manner-of-motion with a directional PP. Therefore, L1 English/L2 learners of Spanish and L1 Spanish/L2 learners of English will behave alike in some respects and differently in others. More precisely, both groups reject LCs with non-alternating unaccusatives and unergatives, but the L1 English group still incorrectly shows some preference for verbs of manner-of-motion+PP while the L1 Spanish learners incorrectly reject them.

Our data raises some issues about the L2 initial state of acquisition, and recoverability from errors at advanced proficiency. Contrary to the Full Transfer/Full Access hypothesis (Schwartz and Sprouse 1994, 1996), it seems that learners do not transfer the L1 in its entirety at earlier stages of acquisition, but that different properties are transferred as proficiency increases. As pointed out by Montrul (1997, 1999, 2001a), if the L1 in its entirety were the L2 initial state, errors such as the overgeneralization of causatives with non-alternating unaccusatives and unergatives should not exist at the beginner stage of acquisition. Our findings show that beginners are more ready to overgeneralize causatives.

As to recoverability from these errors, Montrul (2001b), following White (1991), proposed that undergeneralization errors should be more difficult to overcome than overgeneralizations, since in the former L2 learners rely only on positive evidence. The L1 Spanish/L2 English group in our study shows that, as proficiency increases, the learners make use of more L1 properties, which leads them to undergeneralize manner-of-motion+PP, instead of accepting these target-like structures. It can be argued that the advanced learners in our experimental groups did not have enough exposure to L2 input, i.e. that they are not advanced enough to recover from these errors. Further research is necessary to investigate whether learners of L2 English eventually recover from undergeneralization errors.

An argument that might be put forth against the transfer analysis of overgeneralized causatives is that the phenomenon also exists in L1 acquisition (Lord 1979, Bowerman 1982, Braine et al. 1990, among others). Both L1 and L2 overgeneralized causatives would be motivated by access to Universal Grammar principles. Nevertheless, Bowerman (1996) shows that, at least in English child language, there is no evidence of preference for a specific verb class in overgeneralization (unaccusatives, unergatives, or manner-of-motion). The preference for verb classes that encode change of state/location suggests that L2 learners' overgeneralized causatives are restricted by L1 properties.

## 6. Conclusion

This paper argues that the phenomenon of overgeneralization of causatives in L2 acquisition can be reduced to L1 transfer of different aspects of L1 knowledge. At earlier stages of L2 acquisition (beginner and intermediate proficiency), the constructional meaning of LCs seems to trigger the overgeneralization of causatives, in particular with verbs encoding change of state or location. However, at the advanced proficiency stage, when recovering from overgeneralization, L1 lexical specific constraints also seem to be at play.

This paper also demonstrates that research in L2 acquisition can provide with some insights not only on the interlanguage grammar, but also on the L1 grammar. The interlanguage data in our study shows that change of state/location is a relevant semantic factor in the characterization of the verb classes that underlie LCs in English and Spanish.

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