Verb movement in Spanish L2 acquisition

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ABSTRACT
The present paper reports the results of a study investigating the acquisition of verb movement in L2 Spanish. Our initial hypothesis was that there is not necessarily any consistency in terms of the acquisition of the three properties associated with this parameter, i.e., the acquisition of one property does not imply the acquisition of the others. For our purposes, we look at the acquisition of three surface-level syntactic properties, which are determined by [-raise] setting of V-movement in Spanish. The statistical analysis gives evidence that L2 learners of Spanish have moved from the [-raise] value of English to the [+raise] value of Spanish since they are able to place the verb in the right position. However, the inflection remains absent to some degree. Therefore, we suggest that in Second Language Acquisition what happens is a problem with mapping (Prévost and White, 2000).

1 INTRODUCTION
Different issues have been investigated taking into consideration the implications of implicit or explicit input in the parameter resetting process, alongside issues related to transfer and the different mechanisms involved in the acquisition process. Special attention has been given to the analysis of the acquisition of different parameters (e.g., V-movement) which involve a cluster of properties and the value of the triggering data. This paper deals with the role played by Universal Grammar in L2 syntax acquisition; in particular, the aspect that will be addressed is the acquisition of V-movement by English native speakers of L2 Spanish with different levels in the target language. That is, this paper will explore the different ways in which UG may become available to L2 learners, without excluding the possibility that it may not be available at all.

1.1 V-movement in SLA
In this section, our task will be to look at the arguments that researchers have put forward in order to explain whether L2 learners do or do not have access to the V-movement properties in the context of Second Language Acquisition. We start, however, from the assumption that UG is thought to be present in L2 acquisition, although its presence may occur in various ways. UG is available to the adult in the form of transfer of elements from the L1; the L2 learners initially opt for the L1 value and then go through a re-setting process towards the L2 value.
Previous work on SLA has started from the following hypothesis: where an initially adopted value of a parameter setting turns out to be incorrect for the language which is being learned, then this value must be reset. The re-setting of a given parameter is triggered by exposure to linguistic evidence. This requires the existence of a linguistic theory which must make language learnable on the basis of positive evidence or negative evidence. Within this context, White (1990) sought to investigate whether explicit instruction about one syntactic property (question formation) in the parameter cluster generalises to another property (adverb placement). She concluded that only subjects who received instruction about adverbial placement knew that the placement of certain adverbs between lexical verbs and object noun phrases was ungrammatical in English. These results led White (1990) to conclude that instruction about one particular syntactic property involved in V-movement does not generalise to the rest: on the one hand, her pre-test study showed that learners of a language whose L2 V-movement differs from their L1 value assume L1 value in their L2 language grammar; on the other hand, learners who received specific instruction on one aspect (i.e., adverbial placement) did not show that this knowledge had generalised to another parametrically related property (i.e., question formation). However, the learner acceptance of the grammatical items with adverbs appearing between the subjects and lexical verbs, an order which is ungrammatical in their L1, indicates that L2 learners had began the resetting process of V-movement.

In a further study, White (1992a) then compared the V-movement settings of francophone ESL learners with English native speakers in order to investigate whether these learners distinguished between ‘short movement’ (i.e., movement from the head of the VP to the head of the AGrP) and ‘long movement’ (i.e., movement from the head of the VP to the head of the AGrP to the head of the TP). She tested L2 knowledge on subject-lexical verb placement in question formation, negative particle placement and adverb placement in English. White claimed that “...positive input from the L2 was apparently sufficient to trigger a resetting of the parameter [and] consequently, long-verb movement was impossible for these learners” (White 1992a: 285). In this study, although learners rejected subject-lexical verb inversion in question formation and post-verbal negative particle placement, they accepted adverb placement between lexical verbs and object noun phrases. Therefore, White stated that short movement is an option for these L2 learners.

In another study, Hawkins, Towell, and Bazergui (1993) have analysed the acquisition of the functional category AGrP by English native speakers learning French as L2. Two different groups (i.e., intermediate and advanced) of L2 learners (75 and 29) took part in this study. The control
group was composed of 37 French native speakers. Hawkins et al. aimed to describe the acquisition of verb movement in French. That is, they aimed to look at the different levels of success achieved by this group of learners with respect to the placement of negatives, floating quantifiers, adverbs of frequency and time. The levels of success achieved by the L2 learners led them to conclude that UG is not available to adult L2 learners. They describe the acquisition of the category AGrP using a 124-item grammaticality judgement task. Some of the items were included in context. The subjects had to judge the sentences on a 5-point scale of acceptability and mark the part of the sentence which they considered unacceptable. They found a significant difference between these two groups of learners suggesting that their data reflect a "... set of stages of development which the L1 English learners pass through in the acquisition of French clause structure" (Hawkins et al. 1993: 207). These findings corroborated White's findings since in both cases the initial stage is characterised by assuming the L1 parameter value and then the surface-level syntactic properties of the L2.

More recently, Mandell (1999) claims that L2 learners of Spanish reset the verb movement from their [-raise] value to the [+raise] value of the target language which would reflect "... the way that the learners read or write sentences with these same properties" (Mandell 1999: 85). Furthermore, there was no significant difference between intermediate and advanced students who scored highly in relation to subject-lexical verb inversion; this was not the case for the placement of the adverbial. His findings are supported by the results of a grammaticality judgement test and a dehydrated sentences test done by 91 Spanish learners at different levels: i.e., 48 beginner, 24 intermediate and 19 advanced learners of Spanish. Both tasks included the three properties of V-movement in Spanish.

1.2 Conclusions
After an examination of L2 studies in the previous section, it is clear that there is substantial evidence that instruction has little power to modify the acquisitional sequences. In particular, the general claim of these studies is that explicit instruction does not help L2 learners to reset UG parameters at all. That is to say, there is no evidence of the presence of V-movement properties which could be seen in the long term in the acquisitional process. Furthermore, L2 learners with different backgrounds learning different languages (e.g., English, French and so on) do not acquire the V-movement properties as a cluster, even though learners have received explicit instruction. This general claim may lead to the assumption that there may be an implicational scale in the acquisition of the different properties involved in V-movement. However, there is a general consensus amongst the studies that there is a clear parameter resetting process either from [+raise] to ["
raise] or vice-versa. Having said that, we aim to account for the parameter re-setting process in relation to V-movement in the present study.

2 OUR STUDY
The present cross-sectional study\(^1\) is motivated by the general discussion of the parameter resetting process by L2 learners in general and V-movement in particular: either [+raise] or [-raise].

2.1 V-movement in Spanish and English
Following Pollock (1989), the properties involved in V-movement (negative particle placement, subject pronominal-lexical verb inversion in question formation, adverbial placement between lexical verbs and object NPs and the placement of floating quantifiers modifying subject NPs) are the result of the differences based on the strength of the AGrP. That is to say, Pollock claims that V-movement is parametric, the value of the parameter in a language being determined by the strength or weakness of Agr. In French, Agr is strong and therefore the lexical verb, having moved from the head of the VP to the head of the AGrP, is still able to control the theta role of the complements of the VP. By contrast, in English, Agr is weak and, therefore, the lexical verb remains in the head position of the VP so that there is not a violation of the Theta Criterion (Chomsky, 1981). Thus we can hypothesize that in languages similar to French, that is, languages with strong AGrP, V-movement is possible (e.g., Spanish); whereas, in languages similar to English, in which AGrP is weak, V-movement is not possible. In a similar fashion, Suñer (1994) claims that Spanish behaves like the French language since the head of the VP moves to the head of the TP corresponding to the V-movement, that is, [+raise]. In particular, this movement determines the following structures: subject-inversion in yes/no question formation, subject-lexical verb inversion in questions with fronted thematic wh-phrases and adverbial placement between the object noun phrases and the lexical verbs.

\[
\begin{align*}
(1) & \text{ ¿Quiere Pedro pan?} \\
   & \text{Want-3PS Pedro bread?} \\
   & \text{Does Pedro want bread?}
\end{align*}
\]

In (1) the V raises to the head of the TP and then to the head of the CP, and the subject Pedro remains in its base-generated position, that is, in the Spec of the TP. In contrast, in English subject-lexical verb inversion is not acceptable as illustrated in any case. Regarding the type of inversion which appears with fronted thematic or argument wh-phrases, Torrego (1984)

\(^{1}\) This study is a replication of Mandell's study (1999).
assumes that the subject-verb inversion is obligatory in both matrix and embedded clauses as happens in the following examples (Torrego, 1984: 104):

(2) ¿Qué quiere Marta?
   What want-3PS Marta?
   What does Marta want?

(3) No sabía qué querían esos dos.
   not I-knew what want-PAS those two.
   ‘I did not know what those two wanted’.

Torrego (1984: 106) claimed that this obligatory movement to what she called ‘Verb-Preposing (V-Preposing)’ rules it and that subject-verb inversion is required whenever the wh-phrase is an argument assigned a theta role. The third property included in V-movement in Spanish is the placement of the adverbial of manner and time. Zagona (1988) suggested that adverbials are adjoined to VP. Therefore, the movement of the V to the head of the TP allows the adverbial to appear between the lexical verb and its object NP as illustrated in (4-5):

(4) Bebió rápidamente el café.
    he/she-drink rapidly the coffee.
    ‘He/she rapidly drank the coffee’.

(5) Me mandaron ayer los resultados.
    Me they-sent yesterday the results.
    ‘They sent me the results yesterday’.

The appearance of these two adverbials (that is, rápidamente and ayer) between the lexical verbs and their object noun phrases as in the sentences above shows that V has moved from the head of the VP to the head of the TP. This movement leaves the adverbial in its base-generated position in the Spec of the VP. In contrast, in English, these two adverbials - rapidly and yesterday - cannot appear between the lexical verb and the object NP.

In conclusion, these three surface-level syntactic structures show that the V moves out of the VP in Spanish: subject-lexical verb inversion in yes/no question formation, subject-lexical verb inversion with fronted thematic wh-phrases and adverbial between the lexical verbs and object noun phrases. By way of contrast, in English the verb does not move out of the VP. Therefore, subject-lexical verb inversion is impossible in both yes/no questions and with fronted thematic wh-phrases. Moreover, the adverbial cannot intervene between the lexical verbs and their object noun phrases. Thus, V-movement is parametric (Pollock, 1989), which illustrates the distribution of the previous three surface-level syntactic properties among
different languages. Ultimately, the parametric values are linked with the fact that some languages have strong AGR as in Spanish whereas others have weak AGR as in English.

2.2 Research questions under investigation
Recently, it has been suggested that the relationship between verbal inflection and word order is a problem for L2 learners. L2 learners may have problems with mapping, as has been put forward by Prévost and White (2000). Lardiere (1998) also points out that L2 learners may become highly proficient in their L2 knowledge of word order, although they make a lot of mistakes in verb agreement. So then, bearing in mind the differences mentioned above between Spanish and English language, the research questions under investigation in this paper are as follows: does the acquisition of the three properties occur at the same time, i.e., do L2 learners acquire these properties as a whole? if so, what determines their acquisition?

2.3 Participants
The 56 students who took part in the study were English undergraduate students in their first year at the university who were doing Spanish as part of their degrees. The participants were students from the University of Plymouth, but with different levels in Spanish as L2. One group of low-level students (i.e., beginners) in Spanish: 27 English native speakers and 13 French native speakers took part. A second group of intermediate-level students (post A level): 12 English native speakers and 4 French native speakers. Also there is a control group composed of native speakers of Spanish (8) whose results are used as a baseline.

For the purpose of this paper we have decided not to include the French native speakers due to their low number. The low number of the participants in total remains one limitation of the study. The division between learners corresponds to the entry requirements of the university. However, once at the university, the learners had received the same instruction in Spanish, i.e., meaning-focus method based on a functional approach. The amount of exposure, however, to the target language was different for both groups of learners: whereas beginners had received 14 hours by the time the study was carried out, post A level students had been exposed to the target language for 2 years at least according to the students’ questionnaires. The researcher was also part of the teaching team in both cases.

2.4 Description of the tasks and of the statistical analysis
Following Mandell’s study (1999), we opted to have two tests: one grammaticality judgement test and one dehydrated sentence test. We believe
that a grammaticality judgement test (henceforth, GJ) is a proper measure for studying L2 competence. Furthermore, using this kind of measure we are able to analyse whether the L2 language system is complete or not at any stage (Gass 1995: 305).

Students had to decide firstly whether the sentences presented were possible or impossible and secondly to indicate the problematic constituent element. We used a two-point scale (i.e., impossible/possible). One example of one type of the grammaticality judgement item is shown in sentence (6):

(6) Elena repasa cuidadosamente los detalles. Impossible Possible
    Elena revise-3PS carefully the details.
    'Elena carefully revises the details'

The Dehydrated sentence test (henceforth, DHT) is a test composed of a series of constituents separated by slashes as illustrated in sentence (7):

(7) Pedro / correr / regularmente / tres millas.
    Pedro / to run / regularly / three miles.

The DHT allowed us to investigate on the one hand whether or not there is a transfer from their L1 into their L2; and on the other hand, since the V-movement is due to the strength or weakness of AGrP, whether L2 learners are aware of the strong features of the target language. Students had to construct the sentence with the presented constituent order: if the learners opted to construct a sentence with different word order, we would argue that L2 learners have not reset the parameter value [+raise] in a manner corresponding to Spanish. If the learners did not change the constituent order proposed for wh-phrase this would prove that there was a transfer from their L1 into their L2, since they still operate with the [-raise] value.

The dehydrated sentence test consisted of 50 sentences and the grammaticality judgement test contained 50 items to ascertain whether the learners know these properties. There were 10 items per property included in the V-movement parameter. In both tests there were also 20 distractor items (10 grammatical and another 10 ungrammatical) making a total of 50 items per test. In both tasks, items were presented at random. Students were allowed to ask about vocabulary problems, although we checked the vocabulary with the instructors and gave the students a vocabulary list to study before the test.

Regarding the scoring procedure, the relevant items on both tests were scored on a binary scale, i.e., either ‘1’ or ‘0’. On the grammaticality judgement test, ‘1’ was given to the correct students’ judgement which corresponds to the Spanish [+raise] value parameter and ‘0’ to the incorrect students’ judgement which represents the English [-raise] value parameter.
In the same fashion, for the two types of grammatical item (i.e., adverbial placement and subject-lexical verb inversion in yes/no questions) on the dehydrated sentence test, the production of a sentence following the order provided was scored ‘1’ and ‘0’ for a written sentence in a completely different order than the one given. Furthermore, in scoring the ungrammatical items (that is, the ones in which a thematic \textit{wh}-phrase is fronting in the absence of subject-lexical verb inversion), ‘1’ was given to those sentences in which the given order was changed and ‘0’ to the sentences written without changing the given order.

2.5 Results and discussion

The results of the two tests are presented below in terms of means and standard deviations in order to compare the different groups of learners with respect to the three syntactic properties. The mean and the standard deviation scores of each of the three syntactic properties on the grammaticality judgement test, separated according to learner level, are summarised in Table 1.

\begin{table}[h]
\centering
\begin{tabular}{|l|cc|cc|cc|}
\hline
 & ADVERB (FEATURE 1) & & YES/NO QUESTIONS (FEATURE 2) & & WH-QUESTIONS (FEATURE 3) & \\
 & MEAN & STD. DEV & MEAN & STD. DEV & MEAN & STD. DEV \\
\hline
BEGINNER (27) & 7.48 & 1.87 & 6.74 & 2.19 & 3.86 & 2.49 \\
INTERMEDIATE (12) & 7.08 & 1.68 & 5.17 & 1.90 & 4.17 & 3.56 \\
NATIVE (8) & 10.00 & 0.00 & 7.88 & 2.36 & 10.00 & 0.00 \\
TOTAL (47) & 7.81 & 1.91 & 6.53 & 2.29 & 4.98 & 3.44 \\
\hline
\end{tabular}
\caption{Summary table of mean and standard deviation scores on grammaticality judgement test for syntactic property according to level of the learners.}
\end{table}

Table 2 displays the mean and standard deviation scores for each of the three syntactic properties on the dehydrated sentence test according to the level of learners.
Table 2: Summary table of mean and standard deviation scores on dehydrated sentence test for syntactic property according to level of the learners.

<table>
<thead>
<tr>
<th></th>
<th>ADVERB (FEATURE 1)</th>
<th>YES/NO QUESTIONS (FEATURE 2)</th>
<th>WH-QUESTIONS (FEATURE 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MEAN</td>
<td>STD. DEV</td>
<td>MEAN</td>
</tr>
<tr>
<td>BEGINNER (27)</td>
<td>5.93</td>
<td>3.11</td>
<td>2.89</td>
</tr>
<tr>
<td>INTERMEDIATE (12)</td>
<td>3.58</td>
<td>3.45</td>
<td>1.83</td>
</tr>
<tr>
<td>NATIVE (8)</td>
<td>9.00</td>
<td>1.77</td>
<td>7.25</td>
</tr>
<tr>
<td>TOTAL (47)</td>
<td>5.86</td>
<td>3.45</td>
<td>3.36</td>
</tr>
</tbody>
</table>

A mixed-design (3x2x3) Analysis of Variance was performed on the data, with Group (Beginners/Intermediate/Native Speakers) as the Between-Groups factor and Test (Grammaticality Judgement/Dehydrated Sentences) and Grammatical Feature (adverbial placement/yes-no question formation/wh-question formation) as Within-Groups factors. Main effects were found of Group (p<0.001), Test (p<0.01) and Feature (p<0.01). There was a significant two-way interaction between Test and Feature (p<0.001) and a significant three-way interaction between Group, Test and Feature (p<0.01).

Overall non-native speakers performed better on Feature 1 and 3 than on Feature 2. Post hoc tests indicated that performance was significantly better on both Feature 1 (p<0.001) and on Feature 3 (p<0.01) than on Feature 2, but Features 1 and 3 did not differ significantly. Native speakers performed better overall than either the Beginner or Intermediate groups (as would be expected) and post hoc tests indicated that there was a significant difference between the native speakers and both the other groups (p<0.001), but that the other two groups did not differ significantly from one another. Furthermore, participants performed better overall on the Grammaticality Judgement test than on the Dehydrated Sentence test (P<0.01).

As noted above, there was a significant two-way interaction between Test and Feature. Participants performed better on the GJ than on DHT for Features 1 and 2, but this was reversed for Feature 3 with participants performing better on DHT. All these differences were significant (p<0.001).

In order to investigate further the three-way interaction between Group, Test and Feature, separate two-way analyses were carried out on the data from each of the three separate groups. The same basic pattern, of better
performance on GJ with Features 1 and 2, and better performance on DHT with Feature 3, holds for both Beginner and Intermediate groups. However, the Native Speaker group, while still performing better on Feature 3 on DHT, did not show the much lower performance on this Feature on GJ which the other two groups showed. The Beginners showed a main effect of Test which was very close to significance (p<0.051), but no main effect of Feature, although there was a significant interaction between Test and Feature (p<0.01). The Intermediate group showed significant effects of both Test (p<0.05) and Feature (p<0.001) and a significant interaction between the two (p<0.001). The native speakers showed a significant effect of Feature (p<0.05), but no significant effect of Test, and no interaction between the two.

L2 learners of Spanish were shown to have acquired the adverb placement and the wh-phrase movement at the surface level, two of the three properties within V-movement. However, in order to meet the different criteria for the acquisition of the V-movement properties, learners also had to show evidence of inverted subject-lexical yes/no questions; however that was not the case according to the data. Thus, we state that the verb-raising may be optional, since subject-lexical verb inversion is absent for yes/no questions, although it is present for the adverbial placement and wh-question formation. Furthermore, the data suggest that the verb raising occurs before the acquisition of the subject-lexical verb agreement.

According to our analysis, the Intermediate group did not outperform the Beginners group despite the latter group having been exposed to the target language for under 14 hours by the time the study was carried out; whereas the Intermediate group had been exposed to the target language for two years at least. However, it is worth mentioning that they behaved differently since the Intermediate group proved to be aware of the fact that Spanish possesses strong phi-features which rule verb-raising. An initial approach to the analysis of the corrections made by Beginners reveals that they did not produce marks of agreement at all, rather they used the infinitival forms of the verb as happens in English. In the case of the Intermediate learners, although they are not always successful in making the correct agreement between the verb and the subject, there were clear attempts at doing so. Nevertheless, we state that the subject-verb agreement does not seem to be productive at their acquisition stage.

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2 However, a correction scores analysis would be beyond the scope of the present paper.
2.6 General remarks

We would like to suggest that there is a dissociation between word order and verbal inflection in the interlanguage of L2 Spanish learners (Lardiere, 1998). Following on from that, we claim that L2 learners of Spanish have adopted as their initial state some version of their mother tongue. We state that this acquisition stage of all the learners with regard to the V-movement parameter is represented by the presence of functional categories which just act as place-holders. The L2 Spanish learners do not show enough evidence of knowing that Spanish possesses strong AGR which rules the lexical verb movement and consequently these three surface properties (i.e., adverbial placement, yes/no question formation and wh-question). Therefore, we claim that these tentative results are in accordance with Lardiere’s claims (1998): their incomplete acquisition of the V-movement is a consequence of having acquired only the maximal projections in their L2, but not the phi-features which specify the functional categories. There is evidence that L2 learners of Spanish transfer the bare VP from their L1 language; however, while still at the bare VP stage, they adopt the V-movement parameter according to the Spanish value (that is, [+raise]). We therefore assume that the head of the functional projection, TP, provides a position for verbs to raise as in Spanish, while the agreement features have not been fully acquired or not acquired at all; that is to say, its projection does not appear to be specified for any features (i.e., person and number).

These assumptions are indeed supported by the evidence that non-native speakers of L2 Spanish start off with three independent properties which are ruled by the fact that Spanish allows [+raise]. At this point, it is important to notice the need for a longitudinal study which may or may not corroborate these insights, since we would expect that once the Spanish agreement features are acquired, the verb-raising and its related surface properties would appear in the L2 interlanguage owing to the checking agreement features (Chomsky, 1995). We claim that what the learners of Spanish have to learn then is the spell-out of the functional heads. In a further study, it would be important to consider what determines the triggers for the acquisition of this functional category.

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