Control in L2 English and Spanish: More on grammar at the syntax-semantic interface

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Abstract: In this paper we investigate the acquisition of control in second language (L2) English and Spanish by adult native speakers of Spanish and English by means of a bidirectional experimental study which contrasts different control structures according to the type of controlled clause (complement vs. adjunct control structures) and the type of control (obligatory vs. non-obligatory control). Our results will show that our experimental subjects transfer their L1-knowledge when interpreting and producing control structures, and learn language-specific rules.

Keywords: control structures, obligatory and non-obligatory control, complement and adjunct control, Minimal Link Condition (MLC)

The term "control" refers to a relation of referential dependence that appears in complex structures that contain non-finite embedded clauses. The unexpressed subject (or controlled element) of the embedded clause typically corefers with an expressed or unexpressed constituent (or controller) of the matrix clause as shown in (1).

(1) a. *John*$_{i}$ refused *ec*$_{i}$ to clean the car again.
b. *Juan*$_{i}$ se negó a *ec*$_{i}$ limpiar el coche de nuevo.

The interpretive properties of the controlled element have been observed to be subject to syntactic and semantic constraints, which has given rise to an ongoing debate on the best account for control. Whereas authors such as Hornstein (1999) favour a syntactic account for most control phenomena and only admit the role of semantics in certain highly exceptional control phenomena, authors such as Culicover and Jackendoff (2001) maintain a bigger role for semantic factors across the board. This appears to be one of the central topics of the literature of control in theoretical linguistics, but we will not be addressing this issue here. Rather, our objective is to tentatively address two issues for a language acquisition perspective: the effect of the first language (L1) as well as the effect of L1 language-specific rules in the non-native (L2) acquisition of complex structures that show the control relationship (or control structures).

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1. Non-native acquisition of control structures

L2 acquisition from a Minimalist perspective involves learning the formal features of the target language, just like L1 acquisition. The difference is that it seldom results in native-like proficiency. In order to account for this difference, Liceras (2003) and other authors assume that UG is accessible to a certain extent through transfer of L1 knowledge. More specifically, since the universal principles of UG can always be accessed through the L1, they can be acquired by L2 learners similarly to L1 learners. Features[1] can also be accessed through the L1 by L2 learners as long as their distribution is the same in the source and target languages. Finally, language-specific rules must be learned in relation with given lexical items by L1 and L2 learners alike.

Therefore, it is the parametrized distribution of features that distinguishes L2 from L1 acquisition. Unlike the subject of finite clauses, which may be null in Spanish but is obligatorily overt in English, no such parametric differences have been observed in the literature for the subject of non-finite clauses. Certain properties observed by Hornstein (1999) in English control structures also appear in Spanish control structures, such as the agrammaticality of non-local antecedents in so-called obligatory control (OC) structures and their grammaticality in so-called non-obligatory control (NOC) structures, as shown in (2) as opposed to (3).

(2) a. John's *friend*$_i$ wants *ec*$_i$ to shave. // **John*$_i$'s friends wants *ec*$_i$ to shave.

b. El *amigo*$_i$ de Juan *ec*$_i$ quiere afeitarse. // *El amigo de *Juan*$_i$ *ec*$_i$ quiere afeitarse.

(3) a. Mary$_i$ said that *ec*$_{arb}$ smoking was not allowed in the building.

b. María$_i$ dijo que *ec*$_{arb}$ fumar estaba prohibido en todo el edificio.

[1]In acquisition from a Minimalist perspective we speak of the parametrized distribution of relevant features instead of parameter settings.

As to the interpretive properties of the controlled element, they have been argued to follow a syntactic constraint known as Minimal Distance Principle (MDP) (Rosenbaum 1968) when there are several possible antecedents as shown in (4): the controller is the NP closest to the infinitival complement in terms of number of nodes crossed.

(4) a. Mary$_i$ told *John*$_j$ *ec*$_j$ to clean the car again.
b. María$_i$ obligó a *Juan*$_j$ *ec*$_j$ a limpiar el coche.

Hornstein (1999) observes that this principle does not apply to special cases such as control into adjuncts, as shown in (5).

(5) a. *John*$_i$ heard Mary$_j$ [before *ec*$_{i/*j}$ entering the room]].
b. *Juan*$_i$ oyó a María$_j$ [antes de *ec*$_{i/*j}$ entrar en la habitación]].

In order to solve this problem, Hornstein (1999) proposes the Minimal Link Condition (MLC), which states that movement is possible only within a local domain. Manzini and Roussou (2000) assume a definition of MLC in scopal and Last Resort terms, according to which a feature F attracts all and only the features F_A that are in its scope.[2] In addition, control into adjuncts is analysed as a by-product of parasitic gap-like patterns of predicate attraction subject to the Connectedness condition.[3] As shown in the examples above, we have observed

[2]Hornstein's (1999) and Manzini and Roussou's (2000) analyze OC (examples (2) and (4) as a type of movement. For Hornstein (1999), it is a type of NP-movement where two theta-positions are related; for Manzini and Roussou (2000), a type of derivation in which a DP attracts two (or more) different predicates.

[3]Manzini and Roussou (2000) adopt a modified version of Attract where the integrity of the attractor and the attractee are preserved and the MLC applies: "*g* attracts *a* only if there is no *b* closer to *g* that to *a*, such as *g* attracts *b*" (Manzini and Roussou 2000: 412). This condition takes care of what Cinque (1991) calls weak islands (such as wh-islands), and it covers control in complements. Nevertheless, another condition on movement is needed to account for strong islands (such as adjunct islands) and for control in adjuncts. Manzini and Roussou (2000) adopt Kayne's *Connectedness condition* and apply it to Attract: 1) Let *b* attract *a*. Then *b* together with *a* and the g-projections of *a* must form a connected subtree. 2) *g* is a g-projection of *a* if it is a projection of *a*, or a projection of some *d* such that a g-projection of *a* is a complement of *d*. (Manzini and Roussou 2000: 413)

that the controlled element in English and Spanish control structures appears to show identical interpretive properties.

On this basis, we claim in our learnability proposal that L2 learners of English and Spanish can transfer the distribution of features for control structures from their Spanish or English L1. Language-specific rules for control structures would be which verbs give rise to this type of structures in English as opposed to Spanish and vice versa. The fact that both languages share the same parametrized distribution of features will allow us to study the effect of language-specific rules in L1 English or Spanish and the possible effect of semantic and pragmatic considerations without interference from different syntactic constraints and properties.

2. The experiment

2.1 Hypotheses

We designed a bidirectional experiment that focuses on two aspects of control: the interpretation of complement and adjunct control structures[4] and the production of OC and NOC structures in L2 English and Spanish. With regard to the interpretation of control structures, we hypothesize that our L2 learners will show object control in complements as shown in (6).[5] Following Landau (2000), we expect to find partial control (i.e. subject and object control at the same time) in certain cases for pragmatic reasons.

(6) a. The chairman told the *secretary*$_i$ to take$_i$ notes.

b. Amelia mandó a *Marisa*$_i$ a Correos a recoger$_i$ las cartas.

[4]From a syntactic point of view, control structures are not only classified according to type of control (OC vs. NOC), but also according to type of controlled clause, that is, whether it is a complement phrase as in (i) or an adjunct phrase as in (ii). As we saw in the previous section (please refer to examples (4) and (5)), the controller is typically the object of the matrix clause in the former if there is more than one possible antecedent. In the latter, the controller is typically the subject of the matrix clause.

(i) John ordered *Mary*$_i$ [*ec*$_i$ to clean the car] // María le mandó a *Juan*$_i$ [*ec*$_i$ limpiar el coche].

(ii) *John*$_i$ kissed Mary [*ec*$_i$ before leaving the room] // *Juan*$_i$ besó a María [antes de *ec*$_i$ salir de la habitación].

[5]Also due to transfer of L1 knowledge, we expect our adult learners to differ from children L1 learners, who according to the literature typically acquire native-like control into complements (i.e. object control) before acquiring native-like control into adjuncts (i.e. subject control).

They will show subject control in adjuncts as shown in (7). We do not expect them to show partial control.

(7) a. *Bill*$_i$ thanked John after returning$_i$ from the trip.
b. *Guillermo*$_i$ dio las gracias a José después de volver$_i$ del viaje.

With regard to production, we hypothesize that our L2 learners will already be aware of the syntactic and interpretational differences and therefore will not differ significantly from the controls. Any problems will be due to lexical factors.

2.2 Experimental design

Our experiment had an English version for the adult native speakers of Spanish and a Spanish version for the adult native speakers of English. The experimental groups were composed of ten L2 learners of English and ten L2 learners of Spanish. The control groups were composed of five English monolingual native speakers and five Spanish native speakers with a low or low-intermediate level of English.

The experiment consisted of two parts: a truth-value judgment (TVJ) task to study the interpretation of complement and adjunct control structures, and an elicited production task to study the production of OC and NOC structures. Additionally, we included some Raising items with semi-copulative verbs and constructions to see if they would pattern with OC structures, since Hornstein (1999) analyses them similarly to OC structures. Both experimental groups took a cloze test prior to testing in order to determine their language proficiency. After the results of the experiments were quantified, we did an analysis of variance to measure the effect of the L1 and an item analysis to study the effect of L1 language-specific rules.

2.3 Results and discussion

With regard to the TVJ task, the results of the analysis of variance show a significant difference between experimental and control groups with English complement control structures ($F > 5.718$, $P > 0.0326$). In other words, the L2

English group performed significantly worse than the control group. It appears then that L1 knowledge is not helping the L2 English group in the interpretation of complements. A possible reason is that they rely on morphological markers (e.g. case marking of NPs[6]) that are present in Spanish but not in English.

In contrast, there are no significant differences with Spanish complement control structures. It seems then that the L2 Spanish group is simply transferring its L1 knowledge. Since they are not always aware of morphological or structural factors (e.g. special constructions such as those containing psych verbs[7]), they have more problems and obtain worse results overall than the L2 English group (75.8% vs. 82.5%).

The analysis of variance shows no significant differences between experimental and control groups with adjunct control structures. It appears that in this case L1 knowledge is helping both experimental groups. As opposed to complement control structures, there was almost no difference between the results of the L2 English and Spanish experimental groups (66.9% vs. 65.2%).[8] Interestingly, the item analysis revealed that the interpretation of the adjunct

[6]Datives and [+human] accusatives are obligatorily marked with the preposition "a" in Spanish: La profesora animó a los alumnos a aprovechar el tiempo // Julián le recomendó a Begoña ir al médico. Another language-specific difference is that in English there are three semantic types of verbs that can give rise to complement control structures with an intervening object: ORDER-type, WANT-type and PROMISE-type verbs. In contrast, in Spanish there are only two semantic types that give rise to this type of control structures: ORDER-type and PSYCH-type verbs. Compounded with the fact that complex structures with finite embedded clauses with the verb in the subjunctive are the most common option in Spanish, it could also explain why L2 learners of English cannot transfer their L1 knowledge with English complement control structures.

[7]Take for instance the following item: "*Hay cena mañana en casa de Ana y Álvaro. Ana ha invitado a todos sus amigos. Muy ofendido, Álvaro le reprocha no haber invitado a sus amigos*" ("Tomorrow there will be a dinner party at Ana and Álvaro's house. Ana has invited all her friends. Very offended, Álvaro reproaches her for not inviting his friends"). In this construction, both the context and the locality constraints should lead to the interpretation that the object of the matrix clause (i.e. Ana) is the controller of "*no haber invitado*". Surprisingly, the L2 Spanish group chose the subject (i.e. Álvaro) as the controller in 70% of their answers. We observed a couple of language-specific difficulties posed by this item. Firstly, it contained a psych-type verb without a dative-marked object. In fact, we found that the interpretation was predominantly object control in items with psych-type verbs that included dative-marked objects. In addition, the possessive "sus" is ambiguous with respect to "his" because although it is marked for number, it is not marked for gender (i.e. "sus amigos" could either refer to "Álvaro's friends" or "Ana's friends").

[8]These results could be interpreted as an indication that the interpretation of adjuncts in English and Spanish is more similar than the interpretation of complements. They could also be attributed to the fact that temporal adjuncts with "before" // "*antes de*" and "after" // "*después de*" show no parametric differences (in fact, we were able to literally translate the English adjunct control structures into Spanish).

control structures was partial control for both the experimental and control groups in over 60% of the items. It seems then that the interpretation of adjuncts does not adjust to theoretical predictions as well as the interpretation of complements.

With regard to the elicited production task, the analysis of variance shows that the L2 English and Spanish groups follow the trend of the control groups and obtain better results with OC and Raising structures than with NOC structures (66.7 % and 81.6% respectively), although the L2 English group shows slightly better results with OC structures (79.9%) compared to Raising structures (73.4%), and the L2 Spanish group shows slighty better results with Raising structures (93.2%) compared to OC structures (89.9%). Both experimental groups patterned with the controls and there were no significant differences, except with English Raising structures ($F > 9.766$; $P > .0080$). We expected this result, since semi-copulative verbs license many different types of clauses (i.e. finite, non-finite, adverbial) compared to verbs that give rise to OC and NOC structures. This difference was eliminated through a subsequent test that restricted the number of available grammatical answers ($F > 3.650$; $P > 0.0784$). There were no significant differences with Spanish raising structures, which could be related to the fact that Spanish has syntactical indicators that restrict the number of choices available.[9]
Finally, the item analysis revealed that there were two items which had no equivalents in Spanish and were responsible for many of of the difficulties encountered by the L2 English group: “it is believed” and “to be happy to”. It seems that the learner must incorporate these items and the constructions they license through memorization instead of transfer of L1 knowledge.

[9]For instance, the complementizer “*que*”. In principle, the semi-copulative verb “*parecer*” (“seem”) can combine with a non-finite embedded clause (Parece estar más contenta), a finite embedded clause (parece que está más contenta) and an adverbial or nothing (Begoña parece algo (somewhat) más contenta / Begoña parece Ø más contenta). If the complementizer “que” is present, the only possibility is a finite embedded clause. In contrast, the English equivalent does not take the complementizer “that” (except the impersonal construction “it seems”). Therefore, there is always the choice between a non-finite clause (she seems to be happier now), an adverbial (she seems much happier now) or nothing (she seems Ø happier now).

3. Conclusions

In summary, our hypotheses were confirmed with regard to the interpretation of complement control structures (i.e. object and partial control), but not with regard to the interpretation of adjunct control structures because both our experimental and control groups showed a preference for partial control and not for only subject control as predicted. The interaction between pragmatic and syntactic considerations described in Landau (2000) was found in certain complement control items.[10] We also found that other factors such as context could affect interpretation. For instance, the bias for partial control was much stronger in the Spanish item "*Lola está obligando a Marta a cocinar nuevas recetas*" ("Lola is forcing Marta to cook new recipes") than in the English item "Martha expects her daughter to learn how to cook", since the respective contexts suggested that Martha already knew how to cook, and that Lola and Marta both had to cook new recipes. As to adjunct control, we found no clear correlation between the position of the adjunct (i.e. whether the adjunct phrase appeared at the beginning or the end of the sentence) and interpretation. Basically we found that the interaction between pragmatic and syntactic considerations described in Landau (2000) also applied in many of our adjunct control items, as well as contextual factors.[11]

With regard to the production of OC and NOC structures, our hypotheses were also confirmed. As predicted, there were no significant differences between experimental and control groups, and the difficulties encountered by the

[10]For example, in "George decided that the meeting would be tomorrow. He also asked the members of the committee to meet at six // Jorge decidió que la reunión sería mañana. Además, le pidió a los miembros del comité reunirse a las seis de la tarde" and "The tour guide is getting nervous because her tour is getting behind schedule. She would prefer her group to hurry up from now on", where the subject of the matrix clause can be semantically included in the meaning of the object (i.e. the committee, the group).

[11]For example, in English item "Sarah and Vivian couldn't decide whether to eat first or study first. Finally, Sarah told Vivian to order pizza before doing homework" and its Spanish equivalent "*Sandra y Bea estaban indecisas; no sabían si comer primero o estudiar primero. Al final, Sandra le dijo a Bea que pidiera una pizza antes de hacer los deberes*" our experimental and control subjects interpreted that both the subject and the object of the matrix clause were going to do homework. More research is needed in determining the importance of syntactic and semantic factors in the interpretation of control structures, particularly in the case of adjuncts.

experimental groups seem to be due to lexical reasons because they occur with certain items.[12]

As to the effect of the L1, the difficulties with certain items seem to be an indication of the need to learn language-specific rules and the overall non-significant differences between experimental and control groups seem to suggest transfer of the L1 distribution of features to the L2 interlanguage. However, our results could also be due to language proficiency, that is, sufficient exposure to input since many of our subjects had almost native-like competence. Replicating these results with a greater number of subjects at different levels of language proficiency would allow us to confirm transfer of L1 knowledge in the interpretation and production of control structures.

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[12] We also found that OC and Raising structures patterned together compared with NOC structures. This could be due to reasons that are not central to our research. In addition, we do not believe this constitutes evidence in favour of or against any of the current syntactic analyses of control structures.

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