THE ACQUISITION OF DOUBLE *QUE* QUESTIONS IN HERITAGE AND L2 SPANISH

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1.   Introduction

The acquisition of linguistic properties not present in the learners' L1 or minority language is challenging for adult L2 learners, heritage speakers and bilinguals in general. Some researchers have postulated initial L1 transfer effects with a possible convergence at advanced levels (e.g., Schwartz & Sprouse, 1996; White, 1985). Others have suggested permanent impairment reasons due to maturational effects (e.g., Hawkins & Chan, 1997; Tsimpli & Roussou, 1991) or selective developmental instability at the syntax-pragmatics interface (e.g., Müller & Hulk, 2001; Sorace, 2005; Tsimpli & Sorace, 2006). More recently, however, researchers have documented acquisition deficits and transfer effects at the syntax proper (e.g., Bohnacker, 2007; Cuza, 2009; Pérez-Leroux, Cuza & Thomas, to appear), regardless of the type of interface phenomena (e.g., Montrul & Ionin, to appear).

This study investigates this issue further. Specifically, we examine and compare the extent to which heritage and L2 learners of Spanish have difficulty with the complete acquisition of double-QUE questions (hence forward DQQ structures) at advanced levels of bilingual proficiency. DQQ structures are embedded *wh*-questions, introduced by verbs of saying, that use the complementizer *que* "that" followed by a *wh*-word ($V_{saying}+C_{que}+WH$). The use of DQQ structures in Spanish is crucial to differentiate embedded questions from statements that are introduced by non-ask/wonder verbs of saying (i.e. *decir* "to say," *gritar* "to yell") (e.g., Demonte & Fernández-Soriano, 2009; Plann, 1982; Rivero, 1980; Suñer, 1991). In English, in contrast, the distinction between an embedded question and statement is marked by the verb type, an ask/wonder verb (i.e. "to ask") and a non-ask/wonder verb respectively. This is represented in (1) and (2) below:

DQQ structure
(1)   a.   María le dijo a Juan [$_{CP2}$ que [$_{CP1}$adónde fue José]].
       b.   Mary asked John [(*$_{CP2}$that) $_{CP1}$where Joseph went].

Statement
(2)   a.   María le dijo a Juan [$_{CP1}$ adónde fue José]
       b.   Mary told John [$_{CP1}$where Joseph went]

In Spanish, verbs of saying like *decir* "to tell" can select both a question and a statement as sentential complements (1a and 2a respectively). What distinguishes these two sentences is the use of the complementizer *que* "that" in (1a). The insertion of *que* resolves the potential semantic ambiguity and is obligatory for the question interpretation. English on the other hand disallows this particular structure and distinguishes between questions and statements by the verb type, as represented in (1b) and (2b) above. Given these parametric differences, we expect L2 learners and heritage speakers of Spanish to show difficulties in the acquisition of these properties due to transfer from English syntactic and semantic rules and limited/variable input of the relevant structure.

The study is organized as follows. Section 2 presents a syntactic analysis of DQQ structures in Spanish and the equivalent options in English. Section 3 addresses previous research on the L2 acquisition of CP related structures in Spanish, followed by the research questions and hypotheses of the study. Section 4 outlines the study. The results are presented in Section 5 followed by the discussions and conclusions in Section 6.

2.   Double-*que* questions in Spanish

2.1.   A syntactic analysis

Suñer (1991, 1993) proposes that embedded questions in English have an underlying structure of one CP. However, Spanish DQQ structures require two CPs in order to account for the *que* + *wh*-element word order. Suñer argues that all dialects of Spanish have this construction. An example from both English and Spanish is represented by (3) and (4) respectively:

(3)   Embedded Question: ENG   (4)   Embedded Question: SPAN
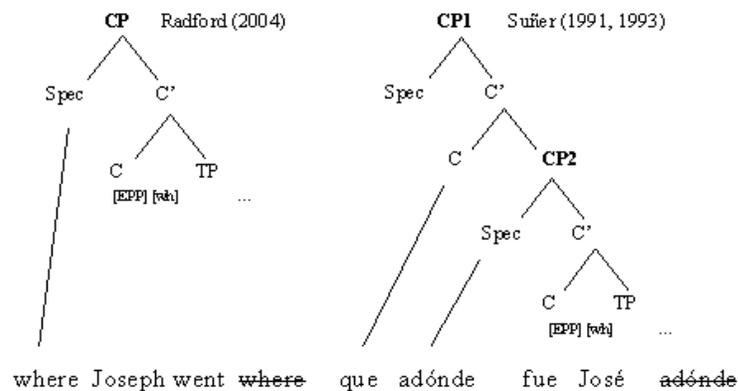
The [head, CP] of English has two features: an *Extended Projection Principle* feature*,* labeled from here on out as [EPP], and a *wh* feature labeled as [wh] (Radford 2004). In (3), the *wh*-word *where* matches the [wh], and the [EPP] motivates the *wh*-word to rise to [Spec, CP]. We extend this analysis to Spanish, and specifically apply it to Suñer's analysis for DQQ structures. This is shown in (4), where the *wh*-word *adónde* "to where" rises from a TP internal position to the [Spec, CP2] for the same reasons that were mentioned for English.

Rizzi (1997) provides an alternative analysis for DQQ structures. In his *split CP hypothesis* (discourse hypothesis), Rizzi proposes that the CP has a number of functional phrases: ForceP (upper bound), FiniteP (lower bound), TopicP (topic expressions), and FocusP (focus expressions, *wh*-elements). Demonte and Fernández-Soriano (2009) adopt this analysis for their investigation on DQQ structures. They conclude that the complementizer *que* "that" merges in the ForceP and the *wh*-element *adónde* "to where" rises to the focus position. This analysis avoids the need to posit a second CP, which from a purely theoretical point of view is economic and favorable. However, we believe that English embedded questions and Spanish DQQ structures do not have the same underlying structure and that overcoming this is one of the challenges faced by adult L2 learners and heritage speakers. Furthermore, we argue that Demonte and Fernández-Soriano's (2009) analysis cannot completely account for DQQ constructions. That is, it doesn't predict that a *wh*-element and a focused expression can coexist. This is represented in (5) below:

(5)   Juan le dijo a Susana que A JUANA qué le pasó.
         "John asked Susana (*that) TO JUANA what happened"

John is having a conversation with Susana about someone (let's say Rosa) when, all of the sudden, John asks about Juana. *A JUANA* "TO JUANA" is the focused expression because John is literally changing the subject (from Rosa to Juana) by asking what happened to her. *Qué* "what" is the *wh*-word. This example provides evidence that the *wh*-element cannot rise to the FocusP because this spot is taken by the focused expression. Rizzi (2001) considers a similar conflict in Italian and proposes a new landing position for the *wh*-element, the WH phrase. This phrase would be just to the right of the FocusP, thus making the *split* CP compatible with the complementizer, focused expression, and *wh*-element word order. This is represented in (6) below:

(6)   [ForceP [*que* [TopicP [FocusP *A JUANA* [WHP *qué* […[FiniteP...

Because Demonte and Fernández-Soriano (2009) do not incorporate the WH phrase into their analysis of DQQ structures, they cannot account for sentences like (5). Furthermore, we believe that a recursive CP rather than a *split CP* analysis better accounts for the acquisition challenges faced by our bilingual participants. The *split CP* analysis does not predict that one of the challenges of acquiring DQQ structures is that the learner must acquire a Spanish two CP

structure that is unavailable in English. For the purpose of this study we are following Suñer's (1991, 1993) recursive CP analysis.

3.   Previous L2 acquisition research

3.1.   The vulnerable C domain

The acquisition of complementizer phrase (CP) related-structures are agued to be challenging for L2 learners (e.g., Platzack, 2001). Platzack (2001) argues that high functional projections (CP, IP) are more vulnerable to developmental instability and acquire late. In contrast, lower projections (VP, IP) are argued to be acquired effortless from early on. Along this line of research, Sorace and colleagues have postulated the interface hypothesis (e.g., Sorace, 2005; Tsimpli & Sorace, 2006). The authors propose that developmental instability affects mostly the syntax-pragmatic interface level. The syntax proper or syntax-semantics interface structures are argued to remain unproblematic. Some researchers have contested the selective nature of interface vulnerability claims and documented no direct association between acquisition difficulties or success and interface related phenomena (e.g., Bohnacker, 2007; Ivanov, 2009; Montrul & Ionin, to appear; Pérez-Leroux, Cuza & Thomas, to appear; Rothman, 2008).

Regarding the acquisition of CP related properties in Spanish specifically, researchers have found significant difficulties among adult L2 learners and US born heritage speakers (e.g., Isabelli, 2004; Liceras, 1989). For instance, Liceras (1989) examined the L2 acquisition of three syntactic properties related to the *pro-drop* parameter: null subject, subject-verb inversion and *that*-trace effects. While the L2 learners showed no difficulties with the acquisition of null subjects in Spanish, they showed persistent deficits in the complete acquisition of subject-verb inversion and the *that*-trace filter. Liceras argues that inversion and *that*-trace effects are more difficult to acquire because of their syntactic complexity. Similarly, Isabelli (2004) found significant difficulties in the acquisition of the *that*-trace filter but full acquisition of null subjects and subject-verb inversion among Spanish-English bilinguals. More recently, Cuza (2009) examined the acquisition and loss of subject-verb inversion among Spanish heritage speakers and long-term immigrants in the US. Results from an acceptability task and a written production task showed persistent difficulty with target inversion, crucially with embedded *wh*-questions.

3.2.   Research questions and hypothesis

Do heritage language and L2 learners of Spanish acquire native-like knowledge of double-*que* questions in due course? If not, what exactly causes the deficit despite high levels of bilingual proficiency? Based on the structural differences between the two languages and previous research, we hypothesize that heritage speakers and L2 learners will show significant difficulties with the target mapping between syntactic choice (*double que* or no *que*) and specific meaning

(question vs. statement). Specifically, we expect them to show lack of sensitivity to the use of DQQ structures, supported by low levels of production and acceptability of indirect questions with no double *que*. We predict structural/syntactic transfer from English (e.g., Pérez-Leroux et al., to appear; Yip & Matthews, 2009) and insufficient and variable input of the structures in question (e.g., Liceras, 1996; Sánchez, 2002; Yuan, 1997) to prevent the bilingual speakers to recover from transfer effects. This will lead to an unsetting of the dominant language options and consequent overgeneralization of the English word order pattern into Spanish. We predict structural and semantic transfer to occur regardless of bilingual dominance or type of interface structure.

4. The Study

4.1. Participants

Forty-two participants participated in the study (n=42): 15 heritage speakers, 12 L2 learners and 15 monolingual speakers (control group). The heritage speakers' group consisted of university educated Spanish heritage speakers born and raised in the United States, except one. The mean age at time of testing was 22 years old. There were 8 intermediate learners (mean proficiency score, 35/50) and 7 advanced learners (mean proficiency score, 43/50).[1] The L2 learners group included 12 advanced L2 learners of Spanish (mean score, 43/50). Their mean age at time of testing was 26 years old. The control group consisted of 14 monolingual Spanish speakers from Cuba and 1 from Colombia (mean proficiency score, 44/50).

4.2. Methods

Data elicitation included an oral sentence completion task, an acceptability judgment task and a preference task. The sentence completion task was administered orally using powerpoint. It examined whether L2 and HL learners were able to produce DQQ structures introduced by non-ask/wonder verbs of saying (*decir* "to tell" and *gritar* "to yell"). The participants had to complete a sentence based on the information in the preamble, as shown below:

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[1] The proficiency test consisted of a cloze passage from a version of the *Diploma de Español como Lengua Extranjera* (DELE) and a multiple choice vocabulary part from an MLA placement test (Montrul & Slabakova, 2003).

(7) *Rosa le contó a Juan adónde fue de compras y Juan le dijo: ¿Cuándo fuiste?*
"Rose told John where she went shopping, and John asked her: ¿When did you go?"

Juan le dijo a Rosa… *que cuándo fue de compras*
"John asked Rose… *when did she go shopping*"

The *wh*-words targeted were *cuándo* ("when"), *quién* ("who"), *adónde* ("where") and *dónde* ("where"). There was a total of 12 test items plus 11 distracters. The preambles and the prompt were read to each participant individually by the researcher who used a continuation rise while formulating the prompt. The responses were digitally recorded.

The AJT was a paper and pencil task. We tested three types of verbs: *decir* ("to tell"), *gritar* ("to yell") and *contestar* ("to answer"). The participants were instructed to read the preamble, read the sentence that followed and indicate if the sentence was *odd*, *slightly odd*, *I don't know*, *more or less fine* or *fine*. If they considered the sentence to be odd or slightly odd, they were asked to say why:

(8) *Diego le contó a Fernando con quien salió anoche y Fernando le dijo: ¿Adónde fueron?*
"Diego told Fernando with whom he went out last night and Fernando asked him: ¿Where did you go?"

Fernando le dijo a Diego que adónde fueron
"Fernando asked Diego where they went."

1 (odd)   2 (slightly odd)   3 (I don't know)   4 (more or less fine) 5 (fine)

Justify if odd or slightly odd:_____

In (8), the expected answer was 4 or 5. In this task, "odd" and "slightly odd" responses were assigned a score of 1 and 2 respectively and "more or less fine" or "fine" responses were assigned a score of 4 and 5 respectively. An "I don't know" response was given a score of 3.

The preference task examined the interpretation of DQQ structures. The participants were asked to read the preamble and choose one of the two sentences provided, as shown below:

(9)   *Sandra le contó a Juan cuánto pagó por el carro y Juan le dijo: ¿A quién le pagaste tanto dinero?*
"Sandra told John how much she paid for the car and John asked her: To whom did you pay so much money?"

(a) ____   Juan le dijo a Sandra a quién le pagó tanto dinero.
              "John told Sandra to whom she paid so much Money"

(b) _X__   Juan le dijo a Sandra que a quién le pagó tanto dinero.
              "John asked Sandra who she paid so much money.

In (9), the expected answer was (9b). If the participant chose the sentence with the double *que* construction, a score of 1 point was awarded. If the participants chose the sentence without the *que*, a score of 0 was awarded.

5.   Results

5.1.   Sentence Completion Task

Results from the sentence completion task show low levels of production of double *que* constructions by both bilingual groups, as predicted. The heritage speakers and the L2 learners performed similarly, with less than 30% accuracy. The monolingual speakers, in contrast, performed at a 63% range. These results are represented in Figure 1 below:

Figure 1. Sentence Completion Task. Proportion of double *que* structures realized.
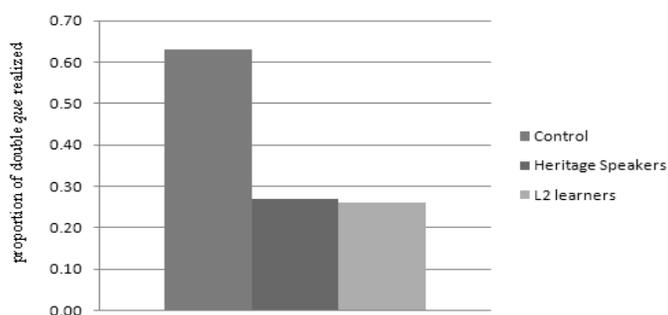

The proportions of DQQ structures realized were transformed to arcsine values before performing the parametrical tests. An ANOVA analysis showed significant differences between groups (F(2, 39) = 3.93, $p<.03$). A Tukey HSD post-hoc test testing the differences between groups showed significant differences between the heritage speakers and the control ($p = .05$) and the L2 learners and the control ($p =.05$), confirming what we expected. Individual

results within groups also confirmed our expectations. Most of the HL and L2 learners either did not produce any DQQ structure or produced only very few of them. Only 4/15 (27%) of the HL learners and 4/12 (33%) of the L2 learners showed high level of production of double *que* compared to 9/15 (60%) of the control participants. This was despite their high level of bilingual proficiency.[2]

5.2.   Acceptability Judgment Task

As in the oral elicitation task, the bilingual speakers showed lower results than their monolingual peers while judging indirect questions without *que*, especially the HL learners. Regarding the questions with *que*, the HL learners showed no difficulties and accepted them at high levels, just like they accepted the ungrammatical sentences. Surprisingly, the L2 learners rejected the grammatical sentences even more than the ungrammatical sentences. These results are shown in Figure 2 below:

Figure 2. Acceptability Judgment Task. Mean scores for the acceptability of the *option with que* and *without que* per group.
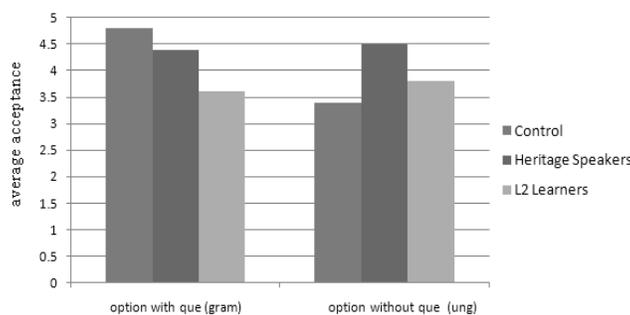
Results from an ANOVA analysis showed significant differences between groups with the *option without que* condition (ungrammatical) ($F_{(2, 39)}$ = 3.40, $p<.04$). A Tukey HSD post-hoc test results showed significant differences between the heritage speakers and the control ($p<.04$), as expected. However, there were no significant differences between the L2 learners and the controls ($p =.61$). Results from the option *with que condition* also showed significant differences between groups $F_{(2,39)}$ = 4.95, $p<.01$). However, in contrast with the results of the ungrammatical condition, post-hoc results showed significant differences only between the L2 learners and the controls ($p<.01$). Individual results show that 93% (14/15) of the heritage speakers and 67% (8/12) of the L2 learners accepted the sentences without *que* (ungrammatical condition), in contrast to 47% (7/15) of the monolingual speakers. We considered as 'accepted' speakers those participants who accepted

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[2]   A high level of production of double *que* questions meant more than 50% of the total number of *wh*-questions realized.

6 or more out of the 8 ungrammatical items. Although the L2 learners showed a lower level of acceptance of ungrammatical items than the HL learners, 42% of them rejected the grammatical items. This indicates a divergent representation. A paired-samples t-test analysis showed no significant differences between the acceptability of grammatical and ungrammatical items among the L2 learners (p = .716) and the HL learners (p=.837), in contrast to the controls (p<.001). Most bilingual speakers treated both types of constructions similarly, despite their high level of bilingual proficiency.

5.3. Preference Task

Results from the preference task showed a higher level of preference for the option without *que* among the L2 learners. The heritage speakers, in contrast, showed more preference for the option with *que*. These results are represented in Figure 3 below:

Figure 3. Preference Task. Mean scores of preference for the *option with que* and the *option without que* per group
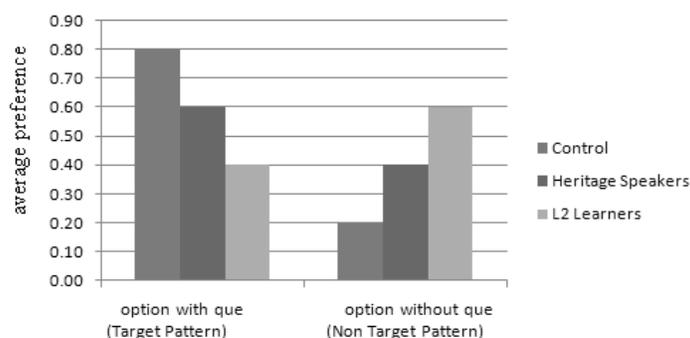
The average scores were transformed to arcsine values before conducting the parametrical tests. Results for an ANOVA analysis on the option without *que* condition showed significant differences per group ($F(2, 39) = 5.08$, p<.01). A Tukey LSD post-hoc test showed significant difficulties only between L2 learners and controls (p<.008) but no significant differences between the heritage speakers and the controls (p= .188). The results also showed significant differences with the *option with que* condition ($F(2, 39) = 4.85$, p<.01). As in the ungrammatical conditions, Tukey LSD post-hoc results showed significant differences only between the L2 learners and the controls (p<.01). There were no significant differences between the heritage speakers and the control participants with either the ungrammatical or the grammatical conditions.

In contrast with the AJT and the oral elicitation task, 10/15 (67%) heritage speakers showed high preference for the option with *que¸* compared to 6/12 L2 learners (50%) and 13/15 (90%) controls.[3] It is possible that the ten heritage speakers who showed preference for the option with *que* condition have developed some sensitivity to double *que* constructions. Six of them were advanced speakers, three were high intermediate (mean score 37-38/50), and one was low intermediate (mean score, 30/50). Three of the advanced speakers and one of the intermediate learners also showed a high level of production of double *que* structures in the production task. However, only 1/15 participants showed a high level of performance across the three tasks.

6.   Discussion and conclusions

Back to our initial question of whether heritage speakers and L2 learners acquire native-like knowledge of double-*que* questions in due course, the answer is no. As predicted, overall results indicate significant difficulties in the production and interpretation of double-*que* questions by both bilingual groups, compared to the controls. In the elicited production task, their proportion of double-*que* questions realized was significantly low, regardless of their level of dominance in Spanish. Even some of the most advanced L2 learners and heritage speakers did not produce a single double-*que*. Similar low performance was found in the acceptability task among the heritage speakers. They accepted grammatical and ungrammatical sentences almost equally which indicates no sensitivity for the use of the double *que*, as predicted. In this task, however, the L2 learners were not significantly different from the controls in their acceptability of ungrammatical sentences. However, they rejected the grammatical items significantly more than the control participants. This shows no sensitivity to DQQ structures, confirming what we expected. In contrast to the two previous tasks, the preference task showed significant difficulties among the L2 learners but not among the HL learners. 10 HL learners preferred the option with *que* which indicates partial sensitivity. However, this partial sensitivity was triggered only when the two structures were presented together. This suggests that even if the structures are acquired among these ten heritage speakers, transfer effects from English prevail preventing them from having a target linguistic representation across all tasks.

We would like to propose two possibilities to account for the learners' difficulties: (1) structural/semantic transfer from English and (2) insufficient and variable input of the structures in question.   We propose that the surface overlap existing between the two languages makes this structure a potential locus for structural transfer (Hulk & Müller, 2000; Yip & Matthews, 2009). English allows only one option (1CP) for both statements and questions. This option overlaps with one of the two available options in Spanish, the 1CP and not the

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[3] Participants who preferred 10 double *que* sentences out of 18 were considered as high "preference" subjects.

2CP (see sentences (1) and (2) from section 1). With non-ask/wonder verbs in Spanish, the 2CP option is required to form questions and the 1CP option is required for statements. We argue that English dominant bilinguals transfer the 1CP option from English (obligatory for both questions and statements) into Spanish and fail to recognize the change in semantic value introduced by the double *que*, thus interpreting Spanish statements as questions. Moreover, they are not even considering 2CP structures for Spanish.

The insensitivity to this change may be conditioned by the input. That is, it might be determined by the fact that the use and exposure to double *que*-questions in a minority language setting are not sufficient enough to trigger complete specification and recovery. These structures are not very common in day-to-day input in Spanish and even less common in language classrooms. The possible role of input is corroborated by the fact that more than half of the heritage speakers appeared to be sensitive to these structures in the preference task. This was not the case for the L2 learners. We speculate that the advantage of the heritage speakers stems from their higher exposure and use of Spanish in a natural-setting from birth (family patterns, trips abroad), a pattern of linguistic exposure not available to the L2 learners. In addition to insufficient specific data, the input is also variable. The use of double *que* structures in Spanish with verbs of saying is not categorical, as shown by the results of the control group. Moreover, there is another option for indirect questions in Spanish with the ask/wonder verb of saying *preguntar* ("to ask"). This option does not require the use of a double *que*, adding more variability and "noise" to the input and consequent burden to the acquisition process.

To conclude, this exploratory study suggests that the complete acquisition of double-*que* questions in the near-native grammar of L2 learners and heritage speakers of Spanish is not obtained. We have suggested that structural transfer from English remains in the absence of enough positive evidence in the input data to unset dominant language options. This position easily accounts for the presence of partial deficits in the grammar of L2 learners and heritage speakers despite high levels of bilingual proficiency or type of interface phenomena.

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