ORIGINAL

Heritage, Second-Language and Native Speakers' Intuitions on Deictic Verbs in Spanish: Beyond the Linguist's Intuitions

Daniel Chui* ◉

Department of Spanish & Portuguese, University of California, Santa Barbara, USA {dchui@umail.ucsb.edu}

ABSTRACT

Previous analyses of the Spanish deictic verbs *venir* 'to come', *ir* 'to go', *traer* 'to bring' and *llevar* 'to take' have drawn upon Fillmore's (1975) series of lectures on deixis in noting that speakers of Spanish forbid the use of the verbs *venir* and *traer* to express movement towards the hearer. Under this egocentric view (Beinhauer, 1940; Ibañez, 1983), the Spanish verbs *venir* and *traer* can only be used to describe movement towards the speaker's location. Little experimental research has been done, however, to confirm the extent to which heritage and second language (L2) speakers of the language conform to this pattern. The present study gathered data on the deictic preferences of bilingual, heritage speakers of Spanish and English (HS) and compared this data with that of L2 and monolingual native speakers of Spanish (NS). 74 participants, consisting of 12 NS, 34 HS, and 29 L2 speakers, assessed the grammaticality of 20 stimulus items that contained prescriptively correct and incorrect usages of the deictic verbs *venir, traer, llevar* and *ir*. Both HS and L2 speakers made significantly more errors than NS when the direction expressed in the stimulus was oriented towards the hearer, suggesting both groups may benefit from instruction on this topic.

KEYWORDS: LINGUISTIC RESEARCH, SEMANTICS, SPANISH, LANGUAGE BEHAVIOUR

1 INTRODUCTION

Previous works on deictic verbs in Spanish (Gathercole, 1978; Lewandowski, 2007; Vann, 1998; Verde, 2014) have examined the verbs *venir, traer, ir,* and *llevar* through the framework established for English *come, bring, go*, and *take* by Fillmore in his Santa Cruz Lectures on Deixis (1971). Gathercole (1978, pp. 62-63) explores the appropriateness conditions for the felicitous use of the deictic verbs in Spanish by examining NS intuitions in a fill-in-the-blank task. Lewandowski (2007) provide a comparison between deictic verbs in Spanish, English, German and Polish, drawing upon Fillmore (1971) and Ricca (1993).

Early studies on the deictic verbs in English have focused on childrens' use of these verbs (Clark & Garnica, 1974; Macrae, 1976; Richards, 1976). Clark and Garnica (1974) performed a production experiment on children (5; 6-9; 5) and found that *come* and *go* are generally acquired prior to *bring* and *take*; additionally, they posited that *go* is acquired through four successive stages in which children adopt more elaborate strategies in each successive stage. Richard (1976) used a production experiment with 4-to-7 year-olds and confirmed Clark and Garnica's (1974) observation that *come* and *go* are acquired prior to *bring* and *take*; however, Richards (1976) found that children acquired the deictic verbs at a younger age than indicated by Clark and Garnica (1974). Finally, Macrae (1976) gathered spontaneous speech samples from seven two-year-olds and analysed their usage of *come* and *go*. The author found that young children tend to focus on the contours of movement as opposed to the goal or endpoint of these movements, illustrating a disconnect between the goal-oriented experimental design of experiments like Clark and Garnica (1974) and the cognitive biases of young children.

In the Spanish case, authors have aimed to contrast the English *come* or *bring* verbs with their Spanish equivalents, *venir* and *traer*. These studies have generally regarded the verbal-deictic preferences of Spanish as categorically different from English with regards to the ability of the speaker to utilize the *come* or *bring* verbs to describe motion towards the hearer ("I'm coming over right now"). Nonetheless, Vann's (1998) work on the Spanish spoken by bilingual speakers of Catalan and Spanish shows that the deictic system of one language is not always impervious to the influence of competing deictic systems from another language. He found that bilingual speakers of Catalan and Spanish showed novel usages of Spanish motion verbs due to "crosslinguistic pragmatic transfer" (Vann, 1998; 263). Whereas an expression like *ya vengo* 'I'm coming!' would generally be considered ungrammatical in standard Spanish (Gathercole, 1978), which favors *ya voy* 'I'm going' for movement towards the hearer, Vann showed that innovative usages like *ya vengo* are present in the speech of some speakers of Catalan, and that this usage increased with relative exposure to Catalan (263). Vann's results suggest that speakers from areas of bilingual contact—as is the case in California—may use the deictic motion verbs in ways that differ from speakers in monolingual areas.

1.1 Fillmore's Appropriateness Conditions for Deictic Verbs in English

Fillmore (1971, p. 52) presents the concept of appropriateness conditions for the usage of the deictic verbs *come* and *go* in English. These appropriateness conditions can best be understood via the manner in which they express dimensions of person, space, and time. With regards to person, Fillmore focuses primarily on movements involving either a speaker, the person who creates an utterance, or a hearer who hears or

---

*To whom correspondence should be addressed:

Phelps Hall 4206, Mesa Rd, University of California Santa Barbara
Santa Barbara, CA 93106-4150

receives the utterance. Space refers to the goal of the motion of speaker or addressee. Finally, time is divided into coding and reference time. Within the analysis of deictic motion verbs, coding time is the time in which the communication act is taking place. Therefore, when speaking of motion between speaker and hearer at coding time, the respective source and goal of the motion is anchored to where the interlocutors are in the moment of their interaction. When a speaker calls their friend (hearer) and says that he is "coming over", the relevant locations captured by coding time are the respective locations of the speaker and his friend at the time of the phone call. Importantly, a speaker may refer to their location at coding time even when discussing a future or past movement. For example, when one says "My grandmother came here yesterday", the "here" is the place of the speaker at the coding time. In contrast to coding time, Fillmore defines reference time as the period of time that is the "temporal focus" (1971, p. 52) for the event or action described in the utterance, when the locations relevant for the motion are different than the locations of the interlocutors at the time of the utterance. Reference time with the deictic verbs is employed when the speaker makes reference to a location that neither speaker or hearer are in at coding time, but that presumably either speaker or hearer could have been or could be at a past or future moment (see Table 2 for an example).

Fillmore's appropriateness conditions for English *come* and *go* are summarized in Lewandowski (2008, p. 5), reproduced in the table below with additional examples.

Table 1. Fillmore's Appropriateness Conditions: *Come/Go* in English

Goal of movement	Verb	Example
Speaker's location at coding time	come	*Come/go* to my house now*
Speaker's location at reference time	come/go	*When I was in France, my parents came/went to see me* (speaker not in France at the time of utterance).
Hearer's location at coding time	come/go	*I am coming over to your place.* *I am going over to your place.*
Hearer's location at reference time	come/go	*When you were in France, did your parents come/go see you?*
Other goal	go	*I am going/[coming*] to the airport to pick up my brother*

Of relevance to the present study is the degree to which the English verbs *bring* and *take* are analogous to *come* and *go* respectively. Fillmore affirms: "In general, 'bring' and 'take' have the same possibilities as 'come' and 'go' with respect to their destinations, but 'bring' at least in many dialects, is subject to fewer conditions than 'come'" (Fillmore, 1971: 59). Fillmore proposes that in some dialects, *bring* may have lost its deictic content and now possesses the "same syntactic nature as 'deliver'" (59); if this is true for the English spoken by young people in California, then one may expect that L2 and HS would have greater difficulty employing *llevar* than its non-causative equivalent, *ir*.

1.2 Contrastive Analysis of Deictic Verbs in English & Spanish

The present study will focus on the prototypical cases involving the use of the venitive verbs (*venir, traer*) and the itive verbs (*ir, llevar*) involving movement either towards the speaker or towards the hearer. Previous authors have suggested that the

venir-traer and *ir-llevar* pairs are analogous, with respect to their verbal-deictic behavior. Shum, Conde and Diaz (1989, p. 51 [present author's translation]) state: "With respect to verbal deixis, the direction corresponding to the action was taken into account, that is, whether this direction was oriented towards the speaker (*venir, traer*) or away from the speaker (*ir* and *llevar*)." This conceptual pairing is put to the test in the present experiment.

The present study adopts the framework of Lewandowski's (2007) analysis of deictic verbs in Spanish and English. These authors apply Fillmore's (1975) appropriateness conditions to Spanish, making suggestions for acceptable and unacceptable cases. The present study utilizes sentences which refer to movement either at coding or reference time, either towards the speaker or hearer. Table 2 provides a summary of the expected acceptability of sentences under the different conditions tested in the present experiment.

Table 2. *Venir/Ir* in Spanish

Goal of movement	Verb	Example	Contextual assumptions of example sentences
Speaker's location at coding time	come	*Ven/ve* a mi casa ahora* *Come/go* to my house now*	Speaker is at his home at time of utterance
Speaker's location at reference time	come/go	*Cuando estaba en Francia, mis padres vinieron/fueron a visitarme* *When I was in France, my parents came/went to visit me*	Speaker not in France at the time of utterance
Hearer's location at coding time	go	**Vengo/Voy a tu casa* *I'm coming/going over to your house*	Speaker is not at hearer's location at time of utterance
Hearer's location at reference time	go	*Cuando estabas en Paris, ¿vinieron*/fueron tus padres a visitarte?* *When you were in Paris, did your parents come/go see you?*	Speaker not in France at time of utterance

Table 2, based on Lewandowski (2007, p. 21), summarizes the expected possibilities for movement during coding and reference time in Spanish. Movement during both coding and reference time in Spanish differ from the English case in that Spanish does not permit the use of the venitive verbs to express movement towards the hearer's location. This is expected to be the primary area of difference that will emerge between NS, HS, and L2 speakers. The present study will seek to experimentally determine the degree to which native, heritage, and L2 speakers of Spanish actually adhere to the apparently strict deictic norms that have been discussed in the literature. It is predicted that monolingual speakers of Spanish will forbid the use of *traer* and *venir* when the movement is directed towards the hearer, that L2 speakers will favor the venitive verbs for movement directed towards the hearer due to transfer from English, and that HS will show intermediate results.

The study additionally aims to shed light upon the grammatical preferences of native, heritage, and L2 speakers

with respect to their usage of the venitive verbs *traer* and *venir* during reference time. Lewandowski (2007, p. 23) have argued that when referring to a movement during reference time that is directed towards a location associated with the speaker, either the venitive or the itive verbs may be used. The choice of *venir* or *ir* in this case depends on whether the speaker is referring to their location at coding time (the time the enunciation is produced) or their location at the time referenced (Paris or France in our examples). Lewandowski (2007) explains: "When *venir* is chosen, the speaker relates the motion event from the perspective of the reference time"; conversely, when *ir* is chosen, the use of this verb "anchors the event in the spatial relations of the coding time" (p. 23). The author goes on to suggest that Spanish speakers will permit both *ir* or *venir* to express movement towards the speaker at reference time, while only permitting *ir* when expressing movement towards the hearer at reference time. To date, these affirmations have not been verified experimentally. The present study therefore seeks to fill this gap.

1.3 Motivation for Study and Research Questions

The deictic verbs *venir* and *ir* in Spanish have been studied extensively from varying theoretical perspectives, including Lewandowski's (2007) and Ibañez' (1988) doctoral work on the spatial delimitation of the origo across diverse communicative situations. However, these studies have largely been based upon linguists' intuitions and devoid of experimental data. Therefore, the present study addresses this shortcoming by employing a more statistically rigorous experimental methodology that is analysed with general mixed effects models.

A growing body of literature suggests that heritage speakers differ in measurable ways from native and L2 speakers of the same language. Montrul (2010a) provides a concise literature review of recent publications on heritage language acquisition. She defines heritage speakers as "child and adult members of a linguistic minority who grew up exposed to their home language and the majority language" (p. 4). Heritage speakers vary in their level of proficiency in the home language, from those who approach the native-speaker level in their proficiency (Montrul 2006), to the more common case of superior fluency in the majority language. Montrul (2010a) cites various studies that suggest that heritage speakers are outperformed by native speakers in a variety of grammatical measures. Montrul (2010a) notes that heritage speakers of Spanish perform worse than their monolingual counterparts in gender marking (Montrul, Foote, & Perpiñán 2008), the subjunctive mood (Silva-Corvalán, 1994), usage of the dative preposition "a" (Montrul & Bowles, 2009), and differential object marking (Montrul, 2010b). Silva-Corvalán (1991, 1994) has shown that HS suffer considerable L1 attrition, in part caused by the contact situation between their L1 and the majority language, English. The present study therefore seeks to confirm the extent to which the deictic systems of heritage speakers of Spanish may differ from those of L2 and native speakers of Spanish.

If HS adhere to the verbal deictic patterns described by Gathercole (1978) and Lewandowski (2007), then we expect them to reject the use of the deictic verbs *venir* and *traer* when the direction of the movement is oriented towards the hearer. If, on the other hand, HS are influenced by the more permissive system of English, we expect them to accept the use of the deictic verbs *venir* and *traer* to express a movement towards the hearer.

The analysis of the L2 results will also shed light on the verbal-deictic preferences of L2 speakers who have taken at least two years of Spanish at the university level. While Chui (in press) has previously shown that first-year L2 learners of Spanish whose native language is English strongly apply the verbal-deictic preferences of English to the verbs *venir* and *traer*, no study has to date examined L2 speakers who have completed at least two years of university Spanish.

The following research questions are proposed:

Do heritage and L2 speakers of Spanish commit more errors than native speakers in their assessment of the grammaticality of deictic verbs oriented towards the hearer?

To what extent do *traer-venir* and *llevar-ir* pattern together?

Is the theoretical separation of movement towards speaker vs. movement towards hearer justified by experimental data?

2 MATERIAL AND METHODS

2.1 Participants and groups

75 subjects participated in the study, consisting of 34 HS, 12 NS, and 29 Advanced L2 speakers. The upper-division Spanish courses at the University of California, Santa Barbara demand a high level of fluency from its speakers. As such, L2 speakers taking this class were required to have studied Spanish at the university for at least two years, or had equivalent studies. The heritage speakers consisted entirely of early bilingual HS (Spanish spoken at home, onset of English exposure prior to 7 years of age); these HS were participating in similar upper-division Spanish courses as the advanced L2 learners.

Deictic verbs were not covered in the class. Students participated voluntarily and received no compensation for their participation. The native speakers consisted of graduate students in the Spanish & Portuguese Department at UC Santa Barbara and other confederates of the researcher.

In order to place the test subjects within different groups, all participants completed a modified version of Montrul's (2012) Bilingual Background Questionnaire for Spanish/English speakers immediately after completing the study. Participants provided information on age of acquisition of English and Spanish, predominant languages spoken at home, language use throughout elementary, middle and high school, overall comfort speaking English and Spanish (scale of 1-5), dominant language, age, gender, and country of birth. In general, the most relevant criteria used to select between HS, NS and L2 speakers were age of first acquisition of English and Spanish, overall comfort speaking English and Spanish, country of birth, and primary language of the parents.

The L2 speaker group consisted primarily of speakers who were born in the United States. The heritage group consisted primarily of speakers whose parents were from Mexico. The NS group consisted of three native speakers from Colombia, five from Spain (none speak Catalan), and one each from Mexico, Honduras, Argentina, and Peru.

2.2 Instrument and procedures

An experiment was conducted which gathered acceptability judgments for sentences containing deictic verbs in Spanish. Participants were provided with nine separate scenarios (two were fillers), each consisting of four sentences. Of the 36 sentences on the test, 20 were stimulus items and 16 were fillers. Each of the scenarios represented dialogues between two interlocutors. The scenarios were each accompanied by written descriptions of the scenario and relevant locations related to each scenario (for example: "You are at your house outside town. You call up your friend, who lives in the center of the city."). Subjects were urged to visualize themselves as participants in the communicative event. After reading the description of the scenario, participants judged sentences such as "¿Debo traer* algo?/Should I bring something?", which were coded for relevant characteristics such as verb type, direction of movement, and time of speaking (coding vs. reference). Table 2 above summarizes the type of stimuli that were produced (see also Appendix I). Seven randomized versions of the test were produced, in which the order of presentation of each scenario varied. Sections 2.3 describes the statistical analysis and the independent variables considered in the experiment.

2.2.1 The predictor EXPECT

The variable EXPECT states whether a given stimulus would be considered grammatically acceptable (A) or unacceptable (U) by a native speaker of Spanish, based upon the criteria established in Lewandowski (2007). For example, a stimulus like "¿Debo traer* algo?" would be considered unacceptable within a dialogue that makes it clear that the destination of the movement is the location of the hearer at coding time. Alternatively, we would expect that a movement towards the speaker at coding time would be acceptable with the verbs *venir* or *traer* ("¿Puedes traer unas cervezas?/Could you bring some beers?"). Ultimately, this variable was removed during stepwise model selection, as including the variable resulted in problems of multicollinearity. The column EXPECT was compared with the answers of participants to form the dependent variable, CORRECT.

2.2.2 The predictor GROUP

This was our most important independent variable, containing three factor levels: HERITAVE, NATIVE, and SECOND. After determining group membership, various predictor variables collected from the language background questionnaire were subjected to model selection. These variables were DOM (dominant language), COMFENG (comfort speaking English 1-5), COMFSPAN (comfort speaking Spanish 1-5), AGE, and SEX. These variables were ultimately eliminated during model selection and are not shown below.

2.2.3 The predictor TYPE

Each stimulus was coded for the type of deictic verb it contained. This predictor contained four factor levels: IR, LLEVAR, TRAER, and VENIR. No stimulus item contained more than one deictic usage of any of the verbs above.

2.2.4 The predictor DIRECTION

Each stimulus was coded for the implied direction of movement expressed by the deictic verb it contained. This predictor contained two factor levels: SPEAKER and HEARER. All stimulus items were designed so as to be clearly categorizable as a movement either towards the person speaking or towards the addressee (hearer).

2.2.5 The predictor TIME

Each stimulus was also coded for whether the movement was related to CODING or REFERENCE time, captured as factor levels of the predictor TIME. Two of seven scenarios were coded for reference time. In these scenarios, the interlocutors either discussed a previous year's trip to Paris or a future planned trip to Mexico. In these reference cases, a description of the setting of the conversation indicated that the conversation takes place in person, in a location unrelated to the place being mentioned. It is predicted that native speakers of Spanish will accept cases of both the itive (*ir-llevar*) and venitive (*venir-traer*) verbs to express movement towards the speaker's location at reference time.

2.2.6 The predictor PNO

Each participant was associated with a participant number. This participant number was treated as a random effect, thus generating an individual slope and intercept for each student. The purpose of this random effect was to account for differences attributable to each individual who participated in the study.

2.2.7 The predictor SCENARIO

Since nine separate scenarios were used in this experiment, a random effect for SCENARIO was included to account for differences attributable to each of the seven scenarios.

2.2.8 The dependent variable CORRECT

For each stimulus, a response was considered CORRECT if the participant either accepted an acceptable stimulus or rejected an unacceptable stimulus. A response was considered INCORRECT if they rejected an acceptable stimulus or accepted an unacceptable stimulus. The predictor EXPECTED formed the basis of comparison between the actual answers and the predicted responses.

Participants were asked to circle any portion of the stimuli that they felt were unacceptable. When a student marked a response as unacceptable, the researcher coded the source of the error. Ultimately, those items that were marked unacceptable for reasons other than the deictic verb were considered acceptable concerning the deictic verb. For example, many heritage speakers rejected "Vengo* a eso de las cinco/I will come around five o'clock", referring to a movement towards the hearer at coding time. However, of those who rejected this sentence, some actually circled the colloquial expression "a eso de" without circling *vengo*. We took this to mean that *vengo* was not problematic within the sentence.

2.3 Statistical Analysis

Given the binomial dependent variable CORRECT, the study employed binary logistic regression in a generalized linear mixed model (GLMM). Using R Program, a maximal model, containing all of the independent variables and various pairwise interactions, was created and then subjected to model selection based on likelihood ratios. The purpose of model selection was to determine a model whose independent variables and their 2-way interactions best allowed us to predict the second alphabetical level of our dependent variable: namely CORRECT: incorrect. In other words, our model tried to predict

what factors would contribute to speakers making the wrong choice.

An initial exploration of the data, prior to beginning model selection, suggested that examining every pairwise interaction of the independent variables would likely be problematic for the model. This exploration allowed us to view which data cells were underpopulated (<10), which would in turn contribute to problems of rank deficiency within the model. In this way, the initial model contained most, but not all pairwise interactions between the non-random effects. For example, a frequency table of TYPE, TIME, and CORRECT showed three underpopulated cells. It also revealed that the study lacked a stimulus item using the verb *llevar* at reference time, an issue that must be addressed by future studies.

3   RESULTS

3.1   Overall

A mixed effects logistic regression showed that there is a highly significant moderately strong correlation between the independent variables and their pairwise interactions and the dependent variable CORRECT: Log-likelihood ratio $\chi 2$ = -630.7, residual df = 1472. Conditional R2 calculated for the final generalized linear mixed model is .57. This value can be interpreted as the variance explained by both the fixed and random factors within the model. The minimal adequate model had good classificatory power: C = .88. A comparison between residual deviance and residual degrees of freedom showed no evidence of overdispersion (p>.05). A check for multicollinearity returned no values with variance inflation factor (VIF) exceeding 5. Finally, the minimal adequate model made correct predictions for 83% of the observed data. Table 3 below provides an overview of the minimum adequate model.

Table 3. Minimal Adequate Model

Predictor	b	p
Intercept	-0,88	<.0001
TYPE_irllevar_vs_traervenir	3,33	<.0001
TYPE_ir_vs_llevar	2,02	<.0001
TIME_coding	-0,95	<.0001
GROUP_nather_vs_sec:TYPE_irllevar_vs_traervenir	-4,27	<.0001
GROUP_nather_vs_sec:DIRECTION_hearer	-2,38	<.0001
GROUP_her_vs_nat:DIRECTION_hearer	1,05	0,034
TYPE_irllevar_vs_traervenir:DIRECTION_hearer	-11,08	<.0001
TYPE_traer_vs_venir:DIRECTION_hearer	-1,22	0,002
TYPE_ir_vs_llevar:DIRECTION_hearer	-1,39	0,082
GROUP_nather_vs_sec:TIME_coding	-1,48	0,0018

The representation of the main effects and interactions above are the product of the specific contrasts set by the researcher prior to model selection. Orthogonal contrasts were applied to GROUP and TYPE, which told the GLMM to look at specific relationships between the factor levels of these predictor variables. For the other variables, treatment contrasts were employed (though alphabetical re-leveling was done for TIME and DIRECTION). These contrasts allow the easy comparison of specific factor levels against others. For example, one set of orthogonal contrasts allowed us to compare HS and NS (conflated) against L2 speakers; another set of contrasts allowed us to compare only HS to NS. The following section will discuss

the significant main effects and interactions that formed our minimal adequate model.

3.2   Significant Main Effects

As mentioned above, the orthogonal contrasts used with GROUP and TYPE make a direct interpretation of the coefficient b and its odds ratios (eb) difficult. Nevertheless, these orthogonal contrasts tell us that important differences between the different factor level groupings strongly influence the two-way interactions. In the following discussion, R Program chooses the second alphabetical level of the dependent variable CORRECT, which is INCORRECT. Therefore, the final model shows all significant main effects and two-way interactions and the graphics demonstrate how these variables contribute to the predicted probability of generating a prescriptively incorrect response. In other words, the model predicts which variables contribute to choosing the wrong answer.

- TYPE_irllevar_vs_traervenir (p<.001) suggests that the verbs *ir* and *llevar* pattern differently than the verbs *traer* and *venir*, providing experimental justification for Shum et al.'s (1989) conceptual grouping of *venir-traer* when compared to *ir-llevar*.

- TYPE_ir_vs_llevar (<.0001) contrasts with the above main effect, which notes that *ir* and *llevar* pattern together when compared to *traer* and *venir*. However, the TYPE_ir_vs_llevar main effect suggests that absent comparison with the *traer-venir* pair, *ir* behaved differently than *llevar* overall.

- TIME_coding (p<.001) has an odds ratio of 0.38, suggesting that the main effect of changing from TIME_reference to TIME_coding reduces the probability of generating an incorrect response. All else being equal, all groups performed worse during reference time than during coding time. The interpretation of this result provides an interesting caveat to Lewandowski's (2007, p. 23) observation that in the context of movement towards the speaker at reference time, "*venir* is usually employed, though *ir* is also allowed." The results in the present experiment suggest that is not the case that both the venitive and itive verbs are always acceptable choices in cases like "When I lived in Paris, my family came/went to visit me"; rather, it is possible that once speakers adopt a perspective, either anchoring themselves at coding time or at reference time, the other option becomes unacceptable (Fillmore, 1975, p. 67). Future research could investigate the extent to which speakers of Spanish prefer adopting the deictic center associated with the coding time or the reference time, when the sentence involves a reference time. The preference to use the venitive verb, noted by Lewandowski (2007), may suggest that speakers prefer to displace their origo to the location associated with the reference time, rather than using their present location at coding time.
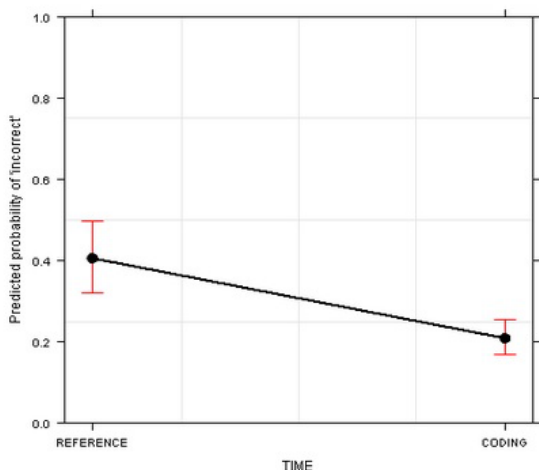
Figure 1. Main Effect TIME

3.3   Significant 2-Way Interactions

3.3.1   Interaction GROUP:TYPE

GROUP_nather_vs_sec:TYPE_irllevar_vs_traervenir (p<.001) shows that NS and HS (conflated) patterned differently than L2 speakers with respect to their correctness in assessing the itive and venitive verbs. The effect plot above shows that, controlling for the other predictors, L2 speakers commit more errors across the board than NS and HS, and that L2 speakers are especially likely to commit errors when assessing the verb *llevar*. The poor performance of L2 speakers across the board illustrate that deictic verbs remain a problem for even advanced L2 speakers of Spanish. Recall that the L2 speakers were students in a Hispanic Linguistics course, and other upper-division Spanish courses, taught entirely in Spanish. The poor performance regarding the verb *llevar* shows that this verb may not form part of the productive repertoire of L2 speakers who have received at least two years of instruction.

Figura 2. Interaction GROUP:TYPE
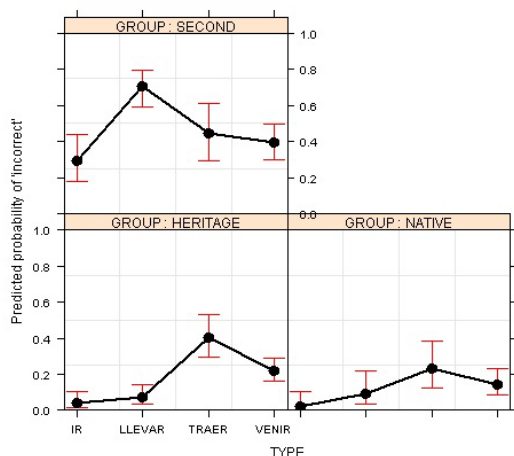
3.3.2   Interaction GROUP:DIRECTION

GROUP_nather_vs_sec:DIRECTION_hearer (p<.001) showed that controlling for other predictors, L2 speakers performed worse than NS and HS (conflated) when DIRECTION= hearer.

This result provides strong evidence that L2 speakers of Spanish transfer their verbal-deictic preferences from English to Spanish. They were more likely to accept the verbs *venir* and *traer* when the destination of the movement was the hearer's location (whether at coding or reference time), resulting in a higher incidence of incorrect answers.

GROUP_her_vs_nat:DIRECTION_hearer (p=.034) showed that controlling for other predictors, HS performed more poorly than NS when DIRECTION=hearer. This result is clearly evidenced in Figure 3, which showed that NS and HS performed comparably well when DIRECTION=speaker, but that HS made more mistakes than NS when the direction was oriented toward the hearer's location. While HS outperformed L2 speakers of Spanish, they also performed significantly worse than NS. This result suggests that, if the goal of pedagogical intervention is to teach the prescriptive use of the venitive verbs *traer* and *llevar* in Spanish, HS may stand to benefit from such interventions.

Figure 3. Interaction GROUP:DIRECTION
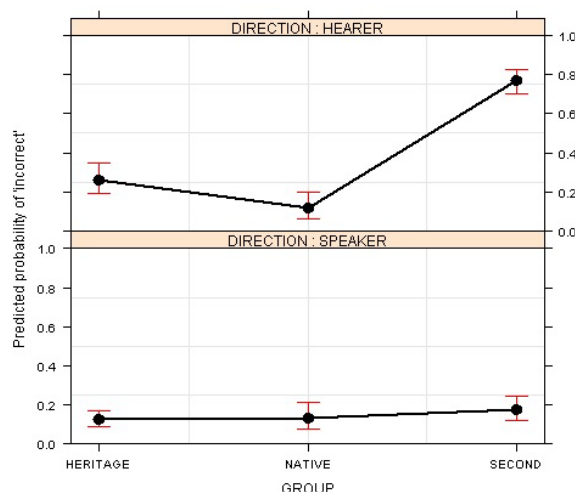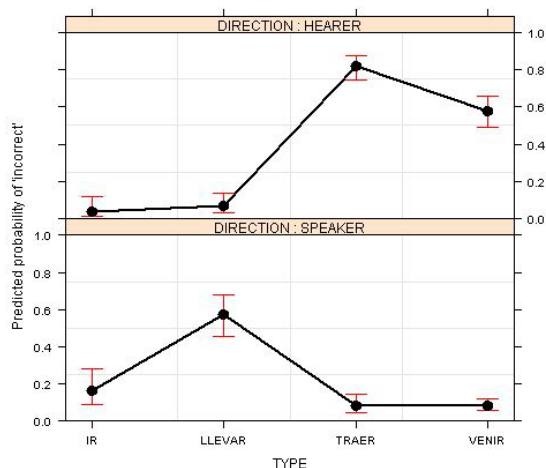

3.3.3   Interaction TYPE:DIRECTION

TYPE_irllevar_vs_traervenir:DIRECTION_hearer (p<.001) suggest that, all else being equal, a significant difference arises between the conflated levels *ir* and *llevar* and the conflated levels *traer* and *venir* when DIRECTION = hearer. This result provides additional evidence that *ir-llevar* and *traer-venir* are conceptually motivated pairings.

TYPE_traer_vs_venir:DIRECTION_hearer (p=.0018) shows that when DIRECTION = hearer, there was a tendency for participants (across groups) to commit more errors with *traer* than with *venir*. This result is rather unexpected and may merit further investigation: why would speakers incorrectly accept *traer* more often than *venir*? One possibility that may explain this tendency among the heritage and second-language speakers is the continual spread of the *bring* verb in English into contexts that were traditionally expressed by *take*. Hockett (1990, p. 243) describes the phenomenon: "The description of the innovating pattern is now trivially simple: *come* and *go* are used for motion exactly in the traditional way, but the distinction is lost for conveyance, *bring* being used in all circumstances". By the "traditional way", Hockett refers to the tendencies described by Fillmore (1975). *Come* is preferred when movement is towards speaker or addressee, *go* is preferred when movement is towards a location where neither speaker nor addressee are at coding or will be/were at reference time. Hockett argues that where take

was traditionally used to in situations in which *go* would be used, such as "Go to the library and take your brother", speakers who employ the innovative pattern would actually prefer "Go to the library and bring your brother" (Hockett 1990, p. 242). If Hockett (1990) is right, and if California is a region where take has lost ground to *bring*, then it would be unsurprising if NS and L2 speakers from this area are more receptive to the verb *traer*; if in their dominant English they rarely use *take* to express conveyance of objects, one might expect that the *bring* equivalent in Spanish would look ever more attractive. This would also help to explain the poor performance of L2 speakers with the verb *llevar* (see Figure 2).

Figura 4. Interaction TYPE:DIRECTION

4 DISCUSSION

The first research question asked whether NS and L2 speakers of Spanish commit more errors than NS when judging the grammaticality of deictic verbs oriented towards the hearer. The GROUP:DIRECTION interaction clearly demonstrates that—when DIRECTION = hearer—HS perform more poorly than NS (p=.035) and L2 speakers perform much worse than the conflated group of HS and NS (p<.001). HS appear to possess a verbal deictic system that is intermediate between NS and L2 speakers, as originally posited, though they pattern more strongly with the former than the latter. To the researcher's knowledge, this is the first study to examine heritage speakers' use of deictic verbs in Spanish. The fact that HS differed significantly from NS when movement was oriented towards the hearer suggests a degree of pragmatic transfer from English, that may be a possible target for pedagogical intervention.

The second research question examined the extent to which *traer-venir* and *llevar-ir* pattern together. This question is justified, given the general dearth of research on the verbs *traer* and *llevar* (see Verde, 2014, for *bring-take* in the English of Miami bilinguals). The study found both main effects (TYPE) and two-way interactions (GROUP:TYPE, TYPE:DIRECTION) that showed that *traer* and *venir* behave similarly when conflated as compared to *llevar* and *ir* when conflated. At the same time, the interaction TYPE_traer_vs_venir:DIRECTION_hearer showed that a general tendency existed that participants across groups were more likely to accept prescriptively incorrect sentences containing *traer* than *venir*. Thus, *traer* and *venir* are similar in

the extent that they are compared to *llevar* and *ir* across both main effects and two-way interactions, but a difference arises when DIRECTION = hearer which suggests that *traer* is a more acceptable candidate for deictic displacement towards the hearer than *venir*.

Finally, the third research question asked whether the theoretical separation of movement towards speaker vs. movement towards hearer was justified. The two-way interactions GROUP:DIRECTION and TYPE:DIRECTION showed that the direction of the movement was important, and that speakers tended to make fewer mistakes when movement was directed towards the speaker.

5 CONCLUSIONS AND PEDAGOGICAL IMPLICATIONS

The results of this study confirm the pattern established in Gathercole (1978) and Lewandowski (2007), in which native speakers of Spanish forbid the use of the venitive verbs (*venir-traer*) when referring to movement towards the hearer. Heritage speakers appear to possess an intermediate system in which the venitive verbs *venir* and *traer* may be used to express movement towards the hearer in a way that is not permissible to monolingual speakers. This finding contributes to a growing body of literature exploring convergence and divergence of heritage language speakers from monolingual norms (Bullock & Toribio, 2004; Montrul, 2010).

Moreover, the study is (to the author's knowledge) the first to examine the verbal-deictic preferences of L2 learners of Spanish who have received at least two years of Spanish. This study has provided evidence of a lacuna in the students' knowledge of deictic verbs in Spanish, indicating that exposure to two years of Spanish courses alone may be insufficient to teach the verbs' novel behaviour. When considering the results of the heritage speakers, it becomes clear that even a lifetime of exposure to the Spanish of fluent monolingual speakers may lack the salience to counteract the verbal-deictic preferences of English. Therefore, explicit instruction of the deictic verbs, both for heritage speakers of Spanish and advanced L2 learners is advisable.

Chui (in press) has previously demonstrated that both meaning-based output instruction (Farley, 2001) and processing instruction (VanPatten, 1996, 2002) were successful in helping students who had taken one year of university Spanish to interpret the direction of movement associated with particular deictic verbs in Spanish. However, the same study showed that improvement on output-oriented tasks using the same instructional techniques failed to produce significance (p=.06). This result suggested that first-year students of Spanish, though able to interpret the movement direction of deictic verbs, may have not been developmentally ready to produce these verbs according to NS standards. Future studies may therefore aim to apply Chui's methodology towards speaker groups that may better benefit from explicit instruction under both Processing Instruction and Meaning-Based Output Instruction. The L2 and HS speakers in the present study—despite taking part in an upper-division course requiring the fluency to process complex linguistic terminology in Spanish—appear to consistently apply English deictic norms to their Spanish, privileging the venitive verbs *ir* and *traer* in contexts that were significantly different than the NS results.

In addition to applying the knowledge of this verbal-deictic lacuna towards the creation of pedagogical interventions, future

replications of the present study should address the following concerns:

Include more native speakers, especially from Mexico, the country whose Spanish most influences the Spanish of HS in California.

Contrast the results of monolingual, native speakers of Spanish living in Mexico with those of native speakers of Spanish who have lived an extensive period of time in the United States. It is necessary to determine whether HS are innovative in their use of deictic verbs compared to their parents, or whether their parents already show innovation compared to monolingual NS living in their home countries.

Elicit production of deictic verbs in addition to grammaticality judgments.

Ultimately, the study demonstrates that verbal deixis is a topic that can today be examined with a fresh lens through more discerning methodological applications, such as the mixed-effects general linear model employed in the present experiment. With these new methods, linguists can move beyond linguist intuition and anecdotal evidence in order to draw more rigorous conclusions.

REFERENCES

Beinhauer, W. (1940). Ortsgefühl und sprachlicher Ausdruck im Spanischen', *Romanische Forschungen*, *54*, 329-334.

Bullock, B. E., & Toribio, A. J. (2004). Introduction: Convergence as an emergent property in bilingual speech. In *Bilingualism: Language and Cognition* (pp. 91-93). Cambridge: Cambridge University Press. doi:10.1017/S1366728904001506

Fillmore, C. J. (1975). *Lectures on Deixis*. Bloomington: Indiana University Linguistics Club.

Chui, D. (in press). Claro que vengo* a tu fiesta: teaching the deictic verbs *ir/venir* and *llevar/traer* to English L1 speakers. *Revista de Filología y Lingüística de la Universidad de Costa Rica*, *41*(2).

Clark, E. V., & Garnica, O. K. (1974). Is he coming or going? On the acquisition of deictic verbs. *Journal of Verbal Learning and Verbal Behavior*, *13*(5), 559-572. doi:10.1016/S0022-5371(74)80009-5

Farley, A. P. (2001). The effects of processing instruction and meaning-based output instruction. *Spanish Applied Linguistics*, *5*(1), 57-94.

Gathercole, V. C. (1978). Towards a universal for deictic verbs of motion. *Kansas Working Papers in* Linguistics, *3*, 72-88.

Hockett, C. F. (1990). Bring, Take, Come, and Go. *Journal of English Linguistics*, *23*(1-2), 239-244. doi:10.1177/007542429002300119

Ibañez, J. E. (1983). *Estudio de la deixis espacial en los verbos españoles ir y venir: con especial consideración del contraste en los verbos de movimiento del francés y del alemán* (Doctoral dissertation). Universität von Hamburg, Hamburg.

Lewandowski, W. (2007). *Toward a comparative analysis of coming and going verbs in Spanish, German, and Polish* (Master's thesis). Universitat Autònoma de Barcelona, Barcelona.

Lewandowski, W. (2008). Los verbos itivos y ventivos en castellano y alemán: una propuesta de principios jerarquizados. In A. Moreno, L. Campillos & A. Valverde (Eds.), *Actas del VIII congreso de Lingüística General* (p. 1122-1123). Retrieved from: http://www.lllf.uam.es/clg8/actas/ActasCLG8.pdf

Macrae, A. J. (1976). Movement and location in the acquisition of deictic verbs. *Journal of Child Language*, *3*(2), 191-204. doi:10.1017/S0305000900001446

Montrul, S. (2010a). How similar are L2 learners and heritage speakers? Spanish clitics and word order. *Applied Psycholinguistics*, *31*, 167–207. doi:10.1017/S014271640999021X

Montrul, S. (2010b). Dominant language transfer in adult second language learners and heritage speakers. *Second Language Research*, *26*(3), 293-327. doi:10.1177/0267658310365768

Montrul, S., & Bowles, M. (2009). Back to basics: Incomplete knowledge of Differential Object Marking in Spanish heritage speakers. *Bilingualism: Language and Cognition*, *12*, 363–383. doi:10.1017/S1366728909990071

Montrul, S., Foote, R., & Perpiñán, S. (2008a). Gender agreement in adult second language learners and Spanish heritage speakers: The effects of age and con-

text of acquisition. *Language Learning*, *58*, 503–553. doi:10.1111/j.1467-9922.2008.00449.x

Ricca, D. (1993). *I verbi deittici di movimento in Europa: una ricerca interlinguistica*. Firenze: La Nuova Italia.

Richards, M. M. (1976). Come and go reconsidered: Children's use of deictic verbs in contrived situations. *Journal of Verbal Learning and Verbal Behavior*, *15*(6), 655-665. doi:10.1016/0022-5371(76)90058-X

Shum, G., Conde, A., & Diaz, C. (1989). ¿Cómo se adquieren y usan los términos deícticos en lengua española? Un estudio longitudinal. *Infancia y Aprendizaje*, *12*(48), 45-64. doi:10.1080/02103702.1989.10822248

Silva-Corvalán, C. (1991). 11 Spanish language attrition in a contact situation with English. *First language attrition*, 151. doi:10.1017/CBO9780511620720.011

Silva-Corvalán, C. (1994). Language Contact and Change: Spanish in Los Angeles. New York: *Oxford University Press*.

Vann, R. E. (1998). Aspects of Spanish deictic expressions in Barcelona: A quantitative examination. *Language Variation and Change*, *10*(3), 263-288. doi:10.1017/S0954394500001332

VanPatten, B. (1996). Input processing and grammar instruction in second language acquisition. Norwood: Ablex.

VanPatten, B. (2002). Processing instruction: An update. *Language learning, 52*(4), 755-803. doi:10.1111/1467-9922.00203

Verde, E. (2014). *Investigating Miami English-Spanish Bilinguals' Treatment of English Deictic Verbs of Motion* (Master's thesis). Florida International University, Florida. Retrieved from Florida International University Database http://digitalcommons.fiu.edu/etd/1229/

APPENDIX

Appendix A: Test Items

Instructions:

Step 1: Write your name and Perm No. only on the post-it attached to the front page of your packet. This post-it will be removed and discarded after instructor has ensured thorough completion of the experiment and credit has been assigned.

Step 2: You will be presented with various scenarios below. Each scenario represents a dialogue of approximately four sentences. Read over each scenario carefully. Please attempt to visualize each scenario and imagine yourself as the 'I' (or maybe the 'tú') in the scenario, prior to answering. Indicate whether you consider the sentences in each scenario to be grammatically acceptable or unacceptable. Place an [x] in the corresponding box.

Please do not take into consideration what you believe the experimenter would like to read – doing so would jeopardize the whole experiment.

Do not change your answers or spend too long on any sentence: this is colloquial Spanish and your judgement should be somewhat spontaneous. If for any reason you cannot decide, just place a question mark in the box. Spelling and punctuation should not be considered.

IMPORTANT: If you mark a response as unacceptable, please circle the portion of the sentence that you felt made the sentence unacceptable.

Remember to circle the portion of sentences that don't sound acceptable to you!

SCENARIO EXAMPLE (Participants are very familiar with the geographic locations in these scenarios)**:** You are at home in Isla Vista. You call up your friend who happens to be at Woodstock's Pizza.

QNO	Who is speaking	Sentences to rate	Gram. acceptable	Gram. unacceptable
9	tú	¿Ya cenastes? Estoy muerto de hambre.		
10	amigo	No. Estoy en Woodstocks. ¿Quieres que te lleve algo?		
11	tú	Sí, llévame una pizza de peperoni.		
12	amigo	Bien. Vengo a tu casa en 20 minutos.		

Appendix B: Bilingual background questionnaire for Spanish/English speakers

(This information will be kept confidential)

Participant number: _____

Age: _____

Gender: _____

I. Personal Data

Country of birth:

_____

1. If you were not born in the U.S., during what ages did you live in your country of origin? _____

2. If you were not born in the U.S., how long have you lived in the U.S. for? _____

****

II. Family History

3. Where are your parents/caregivers from?

Mother: _____ Father: _____

4. What languages do your parents/caregivers speak?

Mother: _____ Father: _____

****

III. Your Linguistic History. Age 0-5

5. At what age did you first begin to learn English? _____

6. At what age did you first begin to learn Spanish? _____

7a. Did you begin to speak Spanish before age 5? (circle one)

Yes   No

7b. Did you begin to speak English before age 5? (circle one)

Yes   No

8. What languages did you <u>hear</u> in your home between the ages of birth-5 years? (circle all those that apply)

Spanish   English   Mixed
Other (specify) _____

****

IV. Elementary School

9. How often did you use Spanish between the ages 6-10?

always   often   seldom   never

10. Who did you speak Spanish with?

mother/father   siblings   friends   others   N/A

11. Did you have Spanish-speaking friends at school?

Yes   No

12. What language did you speak with your Spanish-speaking friends in elementary school?

Spanish   English   Mixed   Both   N/A

****

V. Middle School

13. How often did you use Spanish between the ages 11-13?

always   often   seldom   never

14. Who did you speak Spanish with?

mother/father   siblings   friends   others   N/A

15. Did you have Spanish-speaking friends in middle school?

Yes   No   N/A

16. What language did you speak with your Spanish-speaking friends in middle school?

Spanish   English   Mixed   Both   N/A

****

VI. High School

17. How often did you use Spanish between the ages 13-17?

always   often   seldom   never

18. Who did you speak Spanish with?

mother/father   siblings   friends   others   N/A

19. What language did you speak with your Spanish-speaking friends in high school?

Spanish   English   Mixed   Both   N/A

****

VII. Your linguistic proficiency now

20. Rate your current overall speaking ability in ENGLISH

      1 = understand but cannot speak
      2 = understand and can speak with great difficulty
      3 = understand and speak but with some difficulty
      4 = understand and speak comfortably, with little difficulty
      5 = understand and speak fluently like a native speaker

21. Rate your current overall speaking ability in SPANISH

      1 = understand but cannot speak
      2 = understand and can speak with great difficulty
      3 = understand and speak but with some difficulty
      4 = understand and speak comfortably, with little difficulty
      5 = understand and speak fluently like a native speaker

22. On a scale from 1 to 5, rate your abilities in English and in Spanish
  (1 =poor; 2= needs work; 3=good; 4= very good; 5= native speaker command)

English   Reading =   Speaking=
          Listening=   Writing=

Spanish   Reading =   Speaking=
          Listening=   Writing=

23. In general which language do you consider yourself dominant in? (circle one)

      English   Spanish
      Equally comfortable in both

24. Do you feel Spanish is your native language or like a second language?

      Native language   second language

25. Do you feel English is your native language or like a second language?

      Native language   second language

26. Rate how comfortable you feel speaking English in the following environments (0-5):

A.   Work/academic _____

B.   A family gathering _____

C.   Among friends _____

27. Rate how comfortable you feel speaking English in the following environments (0-5):

A.   Work/academic _____

B.   A family gathering _____

C.   Among friends_____