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Dominant language transfer in adult second language learners and heritage speakers

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Abstract

The effects of language transfer have been amply documented in second language (L2) acquisition and, to a lesser extent, in the language contact/loss literature (Cook, 2003). In both cases, the stronger and often dominant language encroaches into the structure of the less dominant language in systematic ways. But are transfer effects in these two situations comparable: is first language (L1) influence in adult L2 learners similar to L2 influence in the L1 of early bilinguals? The current study addresses this question by investigating knowledge of Spanish clitics, clitic left dislocations, and differential object marking (DOM) in 72 L2 learners and 67 Spanish heritage speakers. The contact language, English, is assumed to not instantiate these syntactic properties. Results of an oral production task and a written acceptability judgment task indicated overall advantages for the heritage speakers in some areas, but similar effects of transfer from English in the two groups. Transfer effects were less pronounced with core aspects of grammar (syntax proper in the case of clitics) than with aspects of grammar that lie at the interfaces of syntax and semantics/pragmatics, as in the case of clitic left dislocations and DOM. These findings have implications for current views on the vulnerability of certain linguistic interfaces in language development (Sorace, 2004; Serratrice et al., 2004; Tsimpli and Sorace, 2006; White, 2009) and for theories that stress the role of age in L2 acquisition and permanent transfer effects.

Keywords

clitics, dislocations, differential object marking, heritage speakers, Spanish, dominant language

1 Introduction

The effects of the native language on the acquisition of a second language in different levels of linguistic analysis (phonology, morphology, syntax, semantics, lexicon) have been extensively documented in the second language (L2) acquisition literature over the years in both

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generative and non-generative models (Odlin, 1989; White, 1989; Gass and Selinker, 1992; Schwartz and Sprouse 1996; Jarvis, 1998). Research on bilingualism and language contact (both at the social and psycholinguistic level) also suggests that the L2 can encroach into the structure of the native language in systematic ways (see contributions in Cook, 2003; for language contact at the psycholinguistic level, see also Pavlenko and Jarvis, 2002).

At the same time, whether the transfer effects in these two situations are comparable is an open question. Consider heritage speakers, one of the populations discussed in this article. Heritage speakers acquire the family language naturalistically since birth, like first language (L1) learners. The majority language (the L2) is acquired either simultaneously with the family language (simultaneous bilingualism) or soon thereafter (sequential bilingualism or child L2 acquisition). Unlike in monolingual acquisition, input in the family language is variable, at least in quantity, since these children are exposed to the language in a restricted number of contexts.[1] The age at which the majority language (L2) is introduced in the home (pre-school or school-age) depends on the specific family composition (whether the two parents or only one speaks the family language, whether there are siblings in the family and the order of siblings, whether other members of the extended family live with the nuclear family, etc.), the linguistic and educational background of the members of the family, time of immigration, and other sociolinguistic circumstances, such as how many hours a day they spend at home or work, which languages they speak at home, and with whom.[2]

In the USA, heritage language children are typically schooled in English, and education in the family language is not widely available to all of these children. Because most immigrant families feel strong pressure to assimilate to the mainstream culture, they gradually begin to use the heritage language less at home. It is in this second generation when language shift in the home typically occurs. Reduced input and use of the family language eventually affects the children's command of the language in a range of linguistic functions. Because the input is different from the input most monolingual children are exposed to (i.e. less abundant and less rich), these bilingual children end up acquiring a different, perhaps reduced or abbreviated, grammar from that of monolinguals.[3] Furthermore, without adequate academic support of the heritage language during the school years, many heritage speakers miss the chance to acquire academic literacy in the heritage language and complex syntactic structures that come along with later language development.[4] By the time these children reach adolescence and young adulthood, their heritage language resembles an L2, in the sense that it has a grammatical basis but has not reached the full ultimate attainment of an L1 acquired in childhood.

Although heritage speakers form a very heterogeneous group even within a language, in general, many adult heritage speakers may possess good speaking and listening abilities, large vocabulary, native-like levels of pronunciation and fluency, and familiarity with the cultural norms of the language and culture. What is less clear and open to investigation is the nature of heritage speakers' grammatical competence, or which specific aspects of their syntax and morphology are fully acquired and which ones remain underdeveloped due to incomplete acquisition or attrition during childhood. Accordingly, it is possible to find speakers of different proficiency levels in the family language, ranging from overhearers or passive bilinguals (Au et al., 2002) to fully fluent and native-like in the heritage language (e.g. some advanced heritage speakers in Montrul et al., 2008a).

Recent studies of adult second-generation Spanish and Russian heritage speakers have documented incomplete acquisition or non-target-like mastery of inflectional morphology and syntax, including gender agreement in nouns (Montrul et al., 2008a; Polinsky, 2008), tense, aspect and mood (Silva-Corvalán, 1994; Montrul 2002, 2007; Pereltsvaig, 2005; Polinsky, 2006), case markers (Song et al., 1997) and null subject pronouns (Silva-Corvalán, 1994; Montrul, 2004, 2006; Polinsky, 2006). However, just as fossilization in adult L2 acquisition does not affect linguistic competence globally, incomplete L1 acquisition in heritage speakers is also selective and localized. That is, some areas of grammatical knowledge appear to be more vulnerable to non-convergence than others, and a likely reason, but by no means the only one, may be dominant language transfer.

In this study, I address whether L1 influence in adult L2 learners (late bilinguals) is similar to L2 influence in heritage speakers whose L1 is the weaker language (early bilinguals). Although the answer to this question has much bearing on our understanding of the role of age on language development (compare Bley-Vroman, 1990; Schwartz and Sprouse, 1996; White, 2003), the particular issue I address in this article is whether transfer is equally pronounced in different domains (e.g. morphological, semantic, syntactic, pragmatic) across the populations of early and late bilinguals. Recent research in L2 acquisition and in bilingualism more generally (including L1 attrition) indicates that the syntax–pragmatics interface (Hulk and Müller, 2000; Sorace, 2000; Serratrice et al., 2004; Tsimpli et al., 2004) is more vulnerable and prone to non-convergence, indeterminacy or optionality than syntax proper or the syntax–semantics interface (Tsimpli and Sorace 2006; Sorace and Serratrice, 2009), for example. This is the Interface Vulnerability Hypothesis. And whether vulnerability is primarily limited to the syntax–discourse interface, as Sorace and colleagues proposed, or also affects internal interfaces (syntax–semantics, morphology–syntax, morphology–semantics, etc.) in L2 acquisition is also a question currently being addressed (Slabakova, 2008; White, 2009).

The purpose of this article is to contribute to our understanding of these questions through an empirical investigation of both syntactic and semantic/pragmatic knowledge in L2 learners of Spanish and Spanish heritage speakers. Montrul et al. (2008b) tested the same participants whose results are being reported in this article on knowledge of *wh*-movement (an area of syntax proper) in Spanish, and failed to find potential transfer effects from English in complementizer expression and *that-t* effect, probably because English also has *wh*-movement like Spanish. The present study examines these same participants' knowledge of Spanish constructions that have no equivalent in English: clitics, clitic left dislocations, and differential object marking (DOM), the overt morphological marking of animate direct objects. Clitic placement involves both syntactic knowledge (clitics are placed different with finite verbs, non-finite verbs, and in restructuring modal + infinitive contexts) and knowledge that lies at the interface between syntax and pragmatics (clitic left dislocation, a discourse-related phenomenon). On the other hand, the properties of Spanish DOM lie entirely at several interfaces: morphology, syntax, semantics, pragmatics and discourse (see Torrego, 1998; Aissen, 2003; Leonetti, 2004; Laca, 2006). The results provide novel evidence that the vulnerability of the syntax–semantics/pragmatics interface to transfer also holds in the case of incomplete acquisition in heritage speakers, thus bridging the gap between studies of childhood bilingualism and adult L2 acquisition.

II Object expression in Spanish

1 Clitic

Spanish is a language that has weak pronouns or clitics, such as *me*, *te*, *lo*, *la*, *le*, etc., which differ in case: accusative is used for direct objects and dative for indirect objects and other semantically-determined arguments of the verb. Clitics have several syntactic properties that set them apart from strong pronouns (Kayne, 1975; Strozer, 1976; Cardinaletti and Starke, 1999), but a main characteristic is that they must attach to a host, which in Spanish is the verb. Clitic doubling – the co-occurrence of a DP and the clitic – is optional, although much preferred in some varieties, with dative clitics and indirect objects, as shown in (1). Clitic doubling with accusative clitics and direct objects shown in (2) is grammatical in some Spanish varieties only, like Argentine Spanish, but not in others.

(1) (Le) di un regalo a Patricia.
her gave a present to Patricia / her gave a present to her
'I gave a present to Patricia.'

(2) Florencia la vio a mi abuela.
Florencia her saw DOM my grandmother
'Florencia saw my grandmother/her.'

Spanish clitic placement is regulated by the finiteness of the verb. When the verb is finite, the clitic pronoun precedes it, as in (3a), but when the verb is an infinitive or other non-finite form, the clitic must follow it, as in (4a). The opposite word orders with finite (3b) and non-finite verbs (4b) are ungrammatical in Spanish.

(3) a. Juan lo mira todos los días.
b. * Juan mira lo todos los días.
'Juan watches it everyday.'

(4) a. Ana canta la canción sin entenderla bien.
b. * Ana canta la canción sin la entender bien.
'Ana sings that song without understanding it well.'

In restructuring contexts – a sequence of a (modal) finite verb and an infinitive as in (5) – object clitics can stay low after the infinitive (5a) or climb up before the conjugated verb (5b). Unlike in French or Brazilian Portuguese, languages that also have object clitic pronouns, the clitic in Spanish cannot appear in between the finite verb and the infinitive, as shown in (5c).

(5) a. Olga puede comprarlo.
b. Olga lo puede comprar.
c. * Olga puede lo comprar.
'Olga can buy it.'

On standard analyses of Romance clitics within generative grammar, clitics are considered functional categories instantiating case, referentiality, and agreement (Uriagereka, 1995; Sportiche, 1996). Although there has been a standing debate as to whether clitics are base-generated in object position or not, this debate is not relevant for the present article. According to Uriagereka's proposal Romance accusative clitics raise from AgrOP to a functional projection FP, located in the lower CP (left periphery), to check referential features. (Movement to F is determined by morphophonological and prosodic considerations, and to license an associated *pro*.). For Sportiche (1996), accusative and dative clitics in Romance head their own projections but, unlike Uriegereka's proposal, movement is within each projection, not to the left periphery. The position of clitics with respect to the finiteness of the verb in Spanish and other Romance varieties is also related to the strength of Agreement features on finite and non-finite verbs (Kayne, 1991).[5]

2 Topicalization

Although Spanish is a predominantly S–V–O language (6a, 7a), it shows more word order flexibility than English. Example (6b) shows that Spanish can also topicalize an object by bringing the object to the front of the verb, as in clitic left dislocation constructions (CLLD). In these constructions, clitic doubling with both accusative and dative clitics is obligatory in all dialects of Spanish, as in (6b, 6c) and (7b, 7c).[6]

(6) a. Juan tiene las carpetas en la oficina. (S–V–O)
'Juan has the folders in the office.'

b. *Las carpetas tiene Juan en la oficina. (O–V–S)
the folders has Juan in the office

c. Las carpetas <u>las</u> tiene Juan en la oficina. (O–cl–V–S)
the folders <u>them</u> has Juan in the office
'Juan has the folders in the office.'

(7) a. El mesero (les) sirvió la cena a esas dos mujeres. (S–V–DO–IO)
'The waiter served dinner to those two women.'

b. *A esas dos mujeres sirvió el mesero la cena. (IO–V–S–DO)
to those two women served the waiter dinner

c. A esas dos mujeres <u>les</u> sirvió el mesero la cena. (IO–cl–V–S–DO)
to those two women <u>them</u> served the waiter dinner
'The waiter served dinner to those two women.'

While English allows topicalizations or contrastive left dislocations – such as *The folders, I left in the office*, or *Water, I love to drink* – a difference between Spanish and English is that the presence of clitics in Spanish is obligatory, when the meaning of the direct object is not contrastive and the direct object has a specific reference, as in (6b, 6c). With contrastive and non-specific direct objects, the construction is ungrammatical with the clitic: **Agua, me gusta tomarla* 'Water I like to drink' (Contreras, 1978), but these constructions are not the focus of this study.

In clitic left dislocations the topicalized element is moved to the left periphery of the clause, to a functional projection in the Complementizer Phrase (CP), TopP if we assume Rizzi (1997). The left-displaced topic is linked to an open position lower in the clause (the object position). In Spanish that open position is filled overtly by a resumptive clitic, when the topicalized element is specific.[7]

Following the basic tenets of Chomsky's (1995) version of the Minimalist Program, parameters are in the functional lexicon. Under this view, languages differ in the inventory of functional categories (with their associated formal features and feature values). Without going into more specific details of the available syntactic analyses for clitics and dislocations in the interest of brevity, the crucial assumption for this investigation is that there is an important difference between Spanish and English, because English lacks clitic projections and CLLDs.

3 Differential object marking (DOM)

Another property of Spanish object expression – quite widespread in other languages of the world (see Bossong, 1991) but absent in English – is the marking of some direct objects morphologically but not others. Differential object marking or DOM overtly marks arguments that are semantically or pragmatically more salient/prominent in the animacy and definiteness scales than their non-overtly marked counterparts. Spanish marks animate and specific direct objects, both noun phrases and strong pronouns, with the preposition *a*, as shown in (8).

(8) a. *Ayer vi María. animate, specific
yesterday I-saw Maria
b. Ayer vi a María.
yesterday I-saw DOM Maria
'I saw Maria yesterday.'

With indefinite human NPs, DOM is optional depending on the meaning. Spanish DOM can distinguish between a specific and a non-specific reading of animate objects, as in (9a) and (9b).

(9) a. Busco a una secretaria. specific
I-look-for DOM a secretary
b. Busco una secretaria. non-specific
I-look-for a secretary
'I am looking for a secretary.'

Inanimate objects are not typically marked in Spanish, as examples in (10) show.[8]

(10) a. Ayer vi esa/una película. inanimate (specific or non-specific)
yesterday I-saw that/a movie
b. *Ayer vi *a* esa/una película.
yesterday I-saw DOM that/a movie
'I saw a/that movie yesterday.'

The exact semantic, syntactic and pragmatic conditions regulating when accusative objects should be marked with the preposition *a* are quite complex (Torrego, 1998; Leonetti, 2004; Laca, 2006). According to Torrego (1998), definiteness, specificity, aspect, agentivity and affectedness – in addition to other pragmatic notions like topicality – determine when objects are marked in Spanish.[9] Current formal analyses (Torrego, 1998; Lidz, 2006; Rodríguez-Mondoñedo, 2007) maintain that DOM objects raise above the *vP* and posit additional structure for these constructions. Hence, DOM objects are structurally more complex than regular, unmarked direct objects. Torrego (1998), for example, analyses the preposition *a* in these cases as an instance of marked accusative case encoded in a functional category specific to Spanish, and different from the functional category for accusative clitics. Although unmarked objects may be assumed to receive accusative case in the canonical direct object position, DOM objects raise overtly outside the verb phrase. Once the object is raised, its case feature is licensed in a position higher than the canonical position where unmarked objects receive case.

Torrego (1998) also claims that Spanish DOM shares structural and semantic properties with the English double object construction, as in *John gave Mary a present*.[10] In both constructions, there is overt movement of the object to a higher position, and the common trigger for movement in the two structures appears to be animacy. In the double object construction, the intended possessor is typically animate. Animacy, for example, would explain the difference in acceptability between *John sent Martha flowers* vs. **John sent the desk flowers*.[11] Other common characteristics of the English double object construction and Spanish DOM are the event structure of the verb and the thematic role of the subject. In both cases, the predicates are causatives and the subject bears the role of agent-causer.[12] Finally, the objects of the double object construction and of DOM are semantically 'affected'. In conclusion, animate and specific direct objects in Spanish are semantically and syntactically more complex than unmarked objects and than English animate, specific objects. However, a key difference between the two languages is that in addition to being marked overtly with a preposition, Spanish DOM objects occur with transitive predicates (only one object), whereas English double object constructions involve ditransitive predicates, with two objects.

If heritage speakers were exposed to Spanish since early childhood, the functional categories and associated formal features for clitics and DOM should have been selected early on. (Animate objects are quite frequent in children's discourse and stories, assuming heritage speakers were exposed to and used a substantial amount of Spanish in early childhood.) For an English-speaking learner of Spanish, by contrast, learning object expression in Spanish involves building the specific functional categories for dative and accusative clitics and, assuming Torrego's (1998) proposal, realizing that the existing functional structure already available for double objects in English accommodates the additional functional structure for Spanish DOM but only with transitive predicates. While learners do not have to build an extra functional category, they do have to realize that the semantics of double objects and Spanish DOM overlap, they do not match exactly, and they have to realize that they must mark the object with inherent case, the preposition *a*.

This learning scenario raises several questions. First, whether early bilinguals reared under reduced input conditions can fail to fully develop or actually lose early

selected functional categories. Second, whether L2 learners who are late bilinguals can acquire functional projections that are not instantiated in their L1 grammars. And, third, if the grammars of early and late bilinguals are different from the grammars of native speakers in these respects, are these differences related to transfer from English, the common stronger language in these two populations? Before addressing these questions and formulating specific hypotheses, I review previous work in this area.

III Acquisition of objects and clitics in Spanish

Clitic pronouns are early acquired in normally developing Spanish monolingual children, since by age two children already produce object clitics (López Ornat, 1994; Domínguez, 2003). Typical errors are clitic/object omission (Fujino and Sano, 2002) and gender agreement errors with accusative clitics (Domínguez, 2003). Yet, two-year-old children hardly ever make clitic placement errors with finite and non-finite verbs (Torrens and Wexler, 1996). Object fronting and clitic left dislocations emerge soon afterwards, before or around age three, when the Complementizer Phrase (CP) projection is in place (Grinstead, 2004). At this time, children also seem to know about the presence of obligatory clitics in clitic left dislocations (Grinstead, 2004).

The only study of DOM in monolingual acquisition I am aware of is Rodríguez-Mondoñedo (2008). Rodríguez-Mondoñedo examined the spontaneous oral production of 4 children (ages ranged from 0;11–3;00) from the CHILDES database and found almost errorless performance. The children produced *a*-marking with animate and specific direct objects with 98.8% accuracy, and knew that inanimate objects are unmarked.

If the acquisition of object expression cases is not very problematic in monolingual acquisition, the situation is somewhat different in L2 acquisition. In addition to being very frequent in naturalistic spoken and written Spanish, clitics and their placement is subject to explicit teaching and practice in L2 classrooms and, despite some initial difficulties with these pronouns, advanced L2 learners are eventually successful (Duffield and White, 1999). However, L2 learners whose L1 is French, a language that also has clitics, frequently make clitic placement errors, especially at very beginning stages where L1 transfer tends to be stronger (Bruhn-Garavito and Montrul, 1996). Placement errors have also been observed in English-speaking learners of Spanish, but this cannot be due to transfer from English unless learners assume that clitics are full pronouns and behave like English object pronouns (Liceras, 1985; Bruhn-Garavito and Montrul, 1996; Duffield and White, 1999).

Constituent permutations involving clitics are more problematic than clitic placement with respect to the verb for L2 learners. Sentences like (11), with a sentence initial clitic and a postverbal subject, for example, cause significant difficulty to instructed beginner/intermediate English-speaking learners, according to VanPatten and Cadierno (1993).

(11) Lo besa la mujer.
him kisses the woman
'The woman kisses him.'

In sentences like (11), learners confuse the accusative clitic *lo* with the nominative pronoun *él*, for example, and incorrectly interpret the sentence to mean *He kisses the woman*, since they also do not know at this stage of their interlanguage development that animate objects must be preceded by the preposition *a* (*El besa a la mujer*). Two studies documenting high rates of *a*-omission with animate specific objects (DOM) in English-speaking learners of Spanish are Farley and McCollam (2004) and Montrul and Bowles (2009). Finally, several studies have also documented persistent difficulty with clitic left dislocations, including studies of near-native speakers (Liceras et al., 1992; Camacho, 1999; Valenzuela, 2006). Valenzuela's investigation of CLLDs, for example, concluded that adult English-speaking L2 learners of Spanish exhibited fossilization at the syntax–discourse interface: they were unable to acquire the specificity constraints distinguishing between contrastive topicalizations and clitic left dislocations in Spanish.

There is research evidence suggesting that some of these structures may also be problematic in heritage language acquisition, although clitics do not seem to be a problem. Silva-Corvalán (1994) found that despite evidence of attrition in several grammatical areas, second and third generation Spanish heritage speakers were very accurate with their production of accusative and dative clitics, omitting clitics only 2.7%. Montrul's (2004) study of object expression in intermediate and advanced Spanish heritage speakers confirmed similar robust command of clitics. However, these same participants in Montrul's study produced close to 22% omission of DOM with animate specific direct objects in an oral production task, a finding that was recently replicated by Montrul and Bowles (2010) with two other independent experiments and a different methodology. Finally, Zapata et al. (2005) tested a group of Spanish heritage speakers on their knowledge of alternative word orders in Spanish as a function of discourse. Among other things, they tested production of clitics in clitic left dislocation structures in two written sentence completion tasks, and found that the heritage speakers did not produce many clitic left dislocation constructions. Zapata et al. (2005) concluded that their results were indicative of transfer and grammatical convergence with English due to the erosion of pragmatic features of Spanish (Müller and Hulk, 2001; Serratrice et al., 2004; Sorace, 2004; Tsimpli et al., 2004; Tsimpli and Sorace, 2006).[13]

To summarize, the acquisition of object expression is largely unproblematic for L1 acquiring children since they reach target-like performance at age 3;00 with clitic placement, topicalizations and DOM. L2 learners whose L1 is English have initial difficulties with clitics, DOM and topicalizations, but seem to acquire native-like command of clitic placement. Native-like convergence on DOM and clitic left dislocations is, apparently, less likely. And for heritage speakers, clitics are early acquired and robustly retained, while DOM is not.

IV The study

1 Research questions and hypotheses

The available empirical evidence on knowledge of clitics and object expression in Spanish suggests that both L2 learners and heritage speakers have initial and persistent

difficulties with different aspects of object expression. However, none of these studies have looked at these two groups utilizing the same tasks to assess whether the nature of the difficulties in this particular grammatical area are quantitatively and qualitatively similar for the two groups, or how these two groups differ from adult Spanish speakers assumed to have complete and stable knowledge of the language. These questions are important to understand the potential effects of transfer from the dominant language in learners who acquired the weaker language before and after puberty, as well as whether the effects of transfer are more pronounced with some areas of linguistic knowledge than with others. Although L2 learners and heritage speakers differ in age of acquisition of Spanish (early in heritage speakers and late in L2 learners), I will assume that both groups have access to Universal Grammar. L2 learners are able to acquire functional categories not instantiated in their L1 (Schwartz and Sprouse, 1996; White, 2003), as already established by previous research on clitics (White, 1996; Duffield and White, 1999). Hence, L2 learners and heritage speakers are expected to have comparable knowledge of clitics, clitic left dislocations, and DOM in Spanish.

However, basic knowledge of these structures does not imply that transfer from English is likely to correlate with patterns of incomplete acquisition. The main question addressed in this study relates to the specific effects of transfer from English to Spanish in these two populations: Is L1 influence in adult L2 learners similar to L2 influence in the L1 of heritage speakers? Also, does transfer affect all linguistic domains to the same extent in the two populations? In order to address these questions we need to consider both the complexity of the structures in question and the degree of structural similarity or overlapping between Spanish and English.

Spanish has clitic pronouns; English does not. In terms of clause architecture, object clitics and their placement in simple sentences involve the lower functional field; however, for Uriagereka (1995) clitics check referential features in a functional projection FP, in the lower CP.

Both Spanish and English have topicalizations. However, the two languages differ: while English and Spanish have contrastive topicalizations (which are prosodically marked), Spanish also has clitic left dislocations. Clitic left dislocations have neutral prosody and involve movement of the object to the higher functional field, TopP (Rizzi, 1997), subject to specific semantic and discourse conditions. Torrego's (1998) analysis of DOM engages an additional functional projection for object marking within the *v*P, where inherent (semantically-based) case is checked. Although Torrego likens Spanish DOM to the structure of double objects in English, there are also clear semantic and morphological differences between double objects and DOM objects in the two languages: DOM applies to transitive not ditransitive verbs in Spanish and is morphologically marked, unlike in English. At least in L2 acquisition, it is typically easier in L2 acquisition to acquire an entirely new property than to acquire something for which there is a close counterpart in the L1 (see Montrul and Yoon, 2009). Therefore, building new categories for clitics may be easier than learning topicalizations or DOM.

In addition to crosslinguistic differences, the three constructions discussed also differ with respect to the levels of linguistic structure they engage. Although clitics have referential properties, their distribution in simple sentences is strictly syntactic and likely to be acquired more easily than CLLDs and DOM, which are regulated by semantic and

pragmatic properties. In addition, CLLD and DOM are also syntactically more complex than simple sentences with clitics, although in different ways. CLLD involve movement to the left periphery; DOM engages an additional functional projection within the *v*P and is morphologically marked. Therefore, if transfer is selective in these two cases, both heritage speakers and L2 learners should have more robust control of clitics and clitic placement in simple sentences, an aspect regulated by syntax and for which there is no equivalent in English, than of clitic left dislocations and of DOM. Not only do the latter engage the syntax–discourse and syntax–semantics interfaces, but they also exist in English in a different way.

2 Participants

The data reported in this article is part of a larger study comparing L2 learners and heritage speakers on different grammatical areas of Spanish (vocabulary, phonology, syntax, morphology).[14] A total of 72 L2 learners of Spanish, 67 Spanish heritage speakers and 22 monolingually raised native speakers of Spanish participated in the larger study.[15] They all completed a linguistic background questionnaire and a short Spanish proficiency test. The L2 learners were all native speakers of English, were raised in English-speaking families, and had started acquiring Spanish as a foreign language around or after puberty (age range 12–25). At the time of the data collection, they were enrolled in Spanish language classes at the University of Illinois, Urbana-Champaign. Some of the most advanced learners in this group were graduate students and Spanish language instructors with very high (near-native) command of Spanish.

Because heritage language learners form a heterogeneous group, efforts were made to control for several factors to reduce as much as possible potential variability within this group. In order to be included in the experiment, the heritage speakers had to be from Mexican descent because this is the largest represented Spanish-speaking group in the Champaign-Urbana campus. Furthermore, all heritage speakers had to be born and schooled in the USA, and had to have been exposed to English before the age of 5 (preschool). Heritage speakers who might have immigrated in childhood and may have received schooling in their country of origin were specifically excluded. Many studies have shown that bilingual individuals with this profile have more native-like command of their heritage language than simultaneous or near simultaneous bilinguals, who in turn are more similar to L2 learners (see chapters in Kondo-Brown, 2006; Montrul, 2008). Like the L2 learners, all heritage speakers were graduate and undergraduate students at the same major public research university in the USA and were either taking or had taken Spanish language classes. Like some of the advanced L2 learners, four of the heritage speakers in the advanced group were also graduate students and teaching assistants of Spanish in the same department. Most of the other heritage speakers were enrolled in the same classes as the L2 learners, and had some degree of academic literacy in Spanish. Half of the heritage speakers reported that Spanish was their native language, 35% reported English, and the remaining 8% reported both languages. As for language used at home in childhood, 56% reported use of both Spanish and English, and 44% reported only Spanish.

The monolingually raised Spanish native speakers formed the control or comparison group and consisted of native speakers from Spain, Argentina and Mexico. Half of the participants in this group were tested abroad in their countries of origin whereas the rest were tested in the USA (length of residence ranging from 6 to 24 months). Speakers of these regional varieties were tested because these dialects are representative of the Spanish spoken by the instructors who teach many of the language courses at the institution where the testing took place, and both L2 learners and heritage speakers are exposed to these varieties in the classrooms.[16] Although there are some dialectal differences with clitics (*leismo* and *laismo* in Spain, accusative clitic doubling in Argentina) these were controlled for in the tasks. As we will see, all native speakers performed at ceiling both in the proficiency measures and in the experimental tasks, and there were no differences between speakers of different regional varieties (Argentina, Spain, Mexico), or differences between native speakers tested in the USA vs. those tested abroad. The mean age for this group was 29.82 (range 21–57).

The likelihood of finding differences between L2 learners and heritage speakers depends on proficiency level (Montrul, 2004, 2005). Advanced L2 learners and heritage speakers have been found not to differ from each other, whereas important advantages for heritage speakers over L2 learners have been found at low and intermediate proficiency levels (Au et al., 2002, 2008; Montrul, 2005). Therefore, it is crucial to control for proficiency as much as possible. All participants, including the native speaker controls, took a short written Spanish proficiency test; this comprised the vocabulary part of an MLA (Modern Language Assessment) test and the cloze part of a DELE (Diplomas de Español como Lengua Extrajera) test (as also reported in Montrul et al., 2008a, 2008b). This was the same test that was used in several other studies of L2 learners and heritage speakers (Montrul, 2002, 2004). The maximum number of points on this test was 50. All the native speakers scored above 90% (scores range 45–50). Reliability statistics, computed using Cronbach's alpha, were high (r = .84) for the heritage speakers and the L2 learners.

According to a one-way ANOVA the differences between the control group and the two bilingual groups was significant ($F(2,161) = 4.3$, $p = 0.03$). There were no differences between the L2 learners and the heritage speakers (Tukey HSD test, $p = .45$). For the analysis of the three experimental tasks that follow, the L2 learners and heritage speakers were classified into three groups: advanced (scores range 40–50), intermediate (scores range 30–39), and low proficiency (scores range 15–29). See Table 1.[17]

3 Task

Two main tasks were used to probe into knowledge of clitics and other aspects of object expression in Spanish. The first task was an oral narrative task to elicit use of clitics in semi-spontaneous production and is based on the transcriptions available from 21 native speakers, 59 heritage speakers and 68 L2 learners. The second task was an acceptability judgment task and was completed by the entire pool of participants (22 native speakers, 67 heritage speakers and 72 L2 learners). The oral task is appropriate to elicit use of clitics in simple sentences and DOM, which are very frequent in spoken Spanish. The

Table 1. Experimental groups: Descriptive statistics for the variables age at testing, age of first exposure to Spanish and proficiency scores

Groups	*n*	Age at testing		Age exposure to Spanish		Proficiency groups	Scores (max = 50)	
		M	range				M	sd
Control	22	29.82	21–57	birth			48.5	(1)
Heritage speakers	69	21.57	18–30	birth		32 advanced	44.7	(2.8)
						26 intermediate	34.57	(2.7)
						13 low	22.8	(4.9)
						overall	36.8	(8.1)
L2 learners	72	22.7	18–31	13.56	12–25	25 advanced	45.8	(2.3)
						25 intermediate	34.2	(2.5)
						22 low	23.2	(3.1)
						overall	35.3	(9.2)

acceptability judgment task was used to test knowledge of possible and impossible sentences with clitics and DOM, and also included sentences with clitic left dislocations, which practically did not occur in the production task.

a. Oral narrative task. The elicitation instrument was the same narrative used in Montrul's (2004) study of object expression in Spanish heritage speakers. This narrative successfully elicits a variety of verbs, objects and pronouns. Participants sat with a research assistant in a quiet room and were told that they would see 14 color pictures narrating a famous children's story presented in a PowerPoint presentation. They were instructed to describe, with as much detail as possible, the story of *Little Red Riding Hood* in the past tense. The narratives for each participant were recorded and later transcribed by four research assistants.

b. Results. All transitive verbs produced were counted for each participant. Then, the rate of dative and accusative clitics and object NPs were calculated for each participant. Clitics were classified by verbal context: with finite, non-finite and restructuring (modal/auxiliary + non-finite) verbal forms. Finally, animate and inanimate direct object were analysed for the presence/absence of differential object marking. Clitic left dislocations were practically non-existent in the data, except for two tokens produced by a native speaker and one advanced heritage speaker. Raw counts for each participant were converted to percentages and submitted to statistical analysis. Table 2 shows the percentage distribution of clitics and NPs in transitive verbs by group. If there is transfer from English in L2 learners and heritage speakers, we expect to find higher productions of strong pronouns than of clitics in object positions.

A factorial ANOVA with repeated measures comparing type of object (clitic vs. NP) by group showed a significant main effect for object (more NP objects were produced than clitics ($F(1,147) = 139.8$, $p < 0.01$), and an object by group interaction ($F(6,147) = 21.2$,

Table 2. Oral Narrative Task: Count and mean percentage production of object clitics and NPs by group and proficiency level

Proficiency	*n*	Verbs (count)	Object Clitics			Object NPs		
			Count	M	(SD)	Count	M	(SD)
Control	21	362	190	52.5	(13.7)	172	47.5	(13.7)
Heritage speakers:								
All	59	861	404	46.9	(21.0)	457	53.1	(21.0)
Advanced	25	370	188	50.8	(13.7)	182	49.2	(13.7)
Intermediate	21	329	163	49.6	(21.4)	166	50.4	(13.7)
Low	13	142	39	27.4	(22.1)	103	72.6	(22.8)
L2 learners:								
All	68	1086	227	21.0	(18.7)	859	79.0	(18.7)
Advanced	25	449	147	32.7	(19.4)	302	67.3	(19.4)
Intermediate	22	338	32	9.4	(16.4)	306	90.6	(11.3)
Low	21	299	48	16.0	(11.4)	251	84.0	(16.4)

$p < 0.01$). As can be seen from Table 2, while the heritage speakers and the native control group produced between 60% and 40% of clitics and NPs, the L2 learners produced significantly less clitics (21%) than NPs (79%). The object by level interaction indicates that the production of clitics increase while the production of object NPs decrease with advanced proficiency. Although this tradeoff between clitics and NPs is true of both the L2 learners and the heritage speakers, the interaction indicates that the heritage speakers still produced more clitics than the L2 learners at all proficiency levels. Tukey HSD test ($p < .05$) showed no differences between the control group, the intermediate heritage speakers, and the advanced heritage speakers in rates of clitics, but differences with all other groups. All heritage speakers produced significantly more clitics than the L2 learners ($p < 0.05$), and advanced L2 learners did not differ from the low proficiency heritage speaker group ($p = 0.81$). Table 2 also shows that the native speakers produced a similar percentage of clitics (51.3%) and NPs (48.7%) and so did the advanced (47.8%/52.2%) and intermediate heritage speakers (49.6%/50.4%) for whom the rate of production between the two categories was also not statistically different. By contrast, the low proficiency heritage speakers and the three proficiency groups of L2 learners produced significantly more NPs than clitics (low heritage speakers: $t(12) = –4.16$, $p < 0.01$; advanced L2 learners: $t(24) = –4.56$, $p < 0.01$; intermediate L2 learners: $t(21) = –9.8$, $p < 0.01$; low L2 learners: $t(20) = 16.04$, $p < 0.01$).[18]

When accusative clitics were not produced, strong pronouns or redundant NPs were used instead, especially by the L2 learners. (These pronominal forms were included in the count of object NPs reported in Table 2.) This type of error can be related to transfer from English, since English has strong pronouns and lacks clitics. Some examples are shown in (12)–(13).

(12) El cazador vinió para salvar la abuela y la chica pero el lobo comió ella. (#312, Low L2)
'The hunter came to save the grandmother and the girl but the wolf ate her.'

Table 3. Oral Narrative Task: Counts and mean percentage production of clitics with finite verbs, non-finite verbs, and restructuring contexts

Proficiency	*n*	Total	With finite verbs			With non-finite verbs			In restructuring contexts		
			Count	M	(SD)	Count	M	(SD)	Count	M	(SD)
Control	20	190	133	69.8	(17.0)	34	15.8	(13.1)	23	14.3	(15.7)
Heritage speakers:											
All	59	404	283	64.5	(23.7)	36	13.3	(21.4)	85	22.4	(17.4)
Advanced	25	188	135	67.3	(23.7)	18	12.5	(13.7)	35	20.9	(16.9)
Intermediate	21	177	122	64.9	(23.6)	13	8.8	(13.8)	42	26.1	(18.1)
Low	13	39	26	55.8	(33.0)	5	26.3	(42.5)	8	17.7	(17.2)
L2 learners:											
All	68	227	153	67.7	(36.2)	37	14.7	(24.2)	36	16.3	(25.4)
Advanced	25	147	98	60.5	(31.6)	28	19.9	(18.4)	21	18.7	(24.6)
Intermediate	22	32	23	72.0	(36.6)	4	14.8	(29.2)	5	10.7	(21.1)
Low	21	48	33	70.7	(40.5)	5	9.5	(27.3)	10	19.7	(30.7)

(13) Se acerquió a su abuela. El lobo saltió y comió ella (#322, Low L2)
'He got closer to her grandmother. The wolf jumped and ate her.'

To examine whether the experimental groups know the constraints on clitic placement as a function of finiteness, Table 3 shows the distribution of clitics with finite and non-finite verbs. A repeated measures ANOVA with group and verb form (finite, non-finite, modal/aux + non-finite) as the within-participants factor showed a main effect for verb form ($F(6, 147) = 101.6$, $p < 0.01$). Most clitics were produced with finite verbs, and there was no main effect for group or group by verb form interaction.

It turned out that errors with clitic-verb placement were very few. In finite contexts, the L2 learners produced only 1 error (0.36%), the heritage speakers none. With non-finite forms, there was a 10.4% error rate for the L2 learners and 2.8% for the heritage speakers.

The rate of clitic climbing versus no climbing in restructuring contexts (modal/aux + non-finite) was also examined, as presented in Table 4, although not all speakers produced these forms. According to a repeated measures ANOVA, there was no main effect for clitic position ($F(1,79) = .57$, $p = 0.45$), but there was a clitic position by group interaction ($F(6,79) = 10.83$, $p < 0.01$). Pairwise comparisons showed that the native speakers and the heritage speakers produced more climbing than no climbing while the L2 learners produced the opposite: more no climbing than clitic climbing.

Lastly, the error rates of DOM with animate direct objects were examined. These are displayed in Table 5. Examples (12)–(13) contain several instances of *a*-omission with animate direct objects. The native speaker controls hardly produced any errors (1 in 112 instances, < 1%), while both the L2 learners and the heritage speakers at all proficiency levels omitted *a*-marking with animate objects, with the L2 learners producing almost twice the amount of omissions (46.9%) of the heritage speakers (26.5%). Overextension

Table 4. Oral Narrative Task: Counts and mean percentage production of clitic climbing and no climbing in restructuring (Modal + Infinitive) contexts by group and proficiency level

Group Proficiency	*n*	Clitic climbing			No climbing		
		Count	M	(SD)	Count	M	(SD)
Control	13	15/25	60	(48)	10/25	40	(48)
Heritage speakers:							
All	44	56/85	65.8	(47)	29/85	34.2	(47)
Advanced	20	22/35	62.8	(51.2)	13/35	37.2	(43.5)
Intermediate	18	29/42	69	(43.9)	13/42	31	(43.9)
Low	6	5/8	62.5	(49)	3/8	37.5	(49)
L2 learners:							
All	23	5/36	13.9	(29.2)	31/36	86.1	(29.2)
Advanced	13	5/21	23.8	(51.2)	16/21	76.2	(37.1)
Intermediate	4	0/5	–	–	5/5	100	(0)
Low	6	0/10	–	–	10/10	100	(0)

Table 5. Counts and mean percentage production of DOM errors with animate and inanimate direct objects

Proficiency	*n*	Animate objects (no a-marking)			Inanimate objects (with a-marking)		
		Count	M	(SD)	Count	M	(SD)
Control	20	1/112	< 1.0	(4.4)	0/54	–	–
Heritage speakers:							
All	58	71/268	26.5	(32.5)	3/151	1.9	(8.1)
Advanced	25	11/105	10.5	(24.5)	1/75	1.4	(6.6)
Intermediate	21	25/93	26.9	(32.7)	1/55	1.0	(4.3)
Low	13	35/70	50.0	(35.6)	1/21	3.9	(13.8)
L2 learners:							
All	68	170/362	46.9	(35.6)	12/304	3.9	(12.0)
Advanced	25	36/135	26.6	(24.0)	4/110	4.4	(12.5)
Intermediate	22	51/118	43.2	(28.2)	7/104	5.5	(15.8)
Low	21	83/109	76.1	(39.0)	1/90	1.1	(4.3)

errors of *a*-marking to inanimate objects were very few by comparison. The differences between the groups for errors with animate objects was significant ($F(6,147) = 14.6$, $p < 0.01$). Tukey post hoc tests ($p < 0.05$) revealed no differences between the advanced heritage speakers and the control group, but all other groups were significantly different from the control. Even when the heritage speakers produced fewer errors than the L2 learners, the two groups did not differ from each other overall or within each proficiency level in the statistical analysis.

To summarize, the results of the oral production task showed that the two experimental groups and the native speakers produced accusative and dative clitics in Spanish,

suggesting that they have basic knowledge of clitics and of their syntactic distribution in simple sentences. However, the production rates of advanced and intermediate proficiency heritage speakers are very similar to the production rates and patterns of the native speakers. By contrast, the low proficiency heritage speakers and the L2 learners produced clitics less frequently and produced errors with strong pronouns, that can be due to transfer from English. Errors with clitic placement as a function of finiteness were very few. However, the two groups (and all proficiency levels) produced errors with DOM, incorrectly omitting 'a' with animate and specific direct objects, while the native speakers did not. This result can easily be attributed to transfer from English, since English does not mark animate direct objects overtly with morphology.

Although production data is an indication of linguistic competence, it only provides a partial picture of it. If knowledge of a construction can be inferred from correct production of it, the opposite is not true: the non-production of a given construction cannot be taken as evidence that the relevant knowledge has not been acquired. More specifically, the fact that only two native speakers and one heritage speaker produced clitic left dislocations spontaneously cannot suggest that L2 learners and heritage speakers in general do not have knowledge of these constructions. And because heritage speakers have been shown to display variable performance depending on task, it is crucial to investigate their linguistic knowledge through a combination of different methodologies. For this reason, the study also employed a written acceptability judgment task.

c. Acceptability Judgment Task (AJT). The purpose of this task was to complement the results obtained in the oral production task by including grammatical and ungrammatical structures produced spontaneously as well as structures that were not produced in the oral task. The design included a total of 90 sentences (45 grammatical, 45 ungrammatical), divided into 18 sentence types with five tokens per type. The target sentences types discussed in the present study are displayed in (14)–(19).

(14) *Clitic positions with finite verbs*:
  a. Juan lo mira todos los días. — Clitic with finite verb (correct)
     Juan it watches every day.
  b. * Juan miralo todos los días. — Clitic with finite verb (incorrect)
     Juan watches it every day.

(15) *Clitic positions with non-finite verbs*:
  a. Pedro insistió en verla inmediatamente. — Clitic with non finite verb (correct)
     Pedro insisted on see it immediately.
  b. * Pedro insistió en la ver inmediatamente. — Clitic with non finite verb (incorrect)
     Pedro insisted on it see immediately.

(16) *Clitics in restructuring contexts*:
  a. Olga lo puede comprar mañana. — Clitic modal infinitive (correct)
     Olga it can buy tomorrow.
  b. * Olga puede lo comprar mañana. — Modal clitic infinitive (incorrect)
     Olga can it buy tomorrow.
  c. Olga puede comprarlo mañana. — Modal infinitive clitic (correct)
     Olga can buy it tomorrow.

(17) *Clitic doubling*:

a. Armando le envió flores a una amiga. Indirect objects with clitic (correct)
Armando her sent flowers to a friend.

b. Armando envió flores a una amiga. Indirect objects without clitic (correct)
Armando sent flowers to a friend.

(18) *Word order and dislocations*:

a. Juan tiene las carpetas en la oficina. S–V–O (correct)
Juan has the folders in the office.

b. Las carpetas las tiene Juan en la oficina. CLLD with accusative clitic (correct)
the folders them has Juan in the office

c. A Marisa le dio Pedro un regalo. CLLD with dative clitic (correct)
to Marisa her gave Pedro a present

d. *A Marisa dio Pedro un regalo.[19] CLLD without dative clitic (incorrect)
to Marisa gave Pedro a present

(19) *Differential object marking*:

a. *María conoce Pedro. animate object without a (incorrect)
Maria knows Pedro.

b. *Juan dio Lucy un regalo. double object construction (incorrect)
Juan gave Lucy a present.

Sentence types (14), (15) and (16) tested knowledge of clitic placement in simple sentences as a function of the finiteness of the verb. Sentence types (17) were included to make sure the participants knew that Spanish is a clitic doubling language with dative clitics. Sentence types (18) targeted basic knowledge of word order and topicalizations: (18a) SVO vs. (18b)

O–cl–V–S or a CLLD. All tokens of sentence type (18b) included specific objects. The ungrammaticality of clitic omission in clitic left dislocations was tested by contrasting sentence types (18c) and (18d), which included dative clitics. Of these 14 target sentence types only five types are ungrammatical. Therefore, another four ungrammatical sentence types were included to counterbalance grammatical and ungrammatical responses. Among the ungrammatical 'fillers' were sentences (19a) missing *a*-marking with direct objects and (19b) double object constructions.[20] These ungrammatical double object sentences were included because according to Torrego's analysis, Spanish DOM and English double object constructions share structural similarities and are ideal to test transfer from English. Since a high rate of *a*-omission was evident in the oral production task, it was important to see whether L2 learners and heritage speakers would also accept these ungrammatical sentences in the acceptability judgment task. The remaining ungrammatical sentences, which will not be discussed in the sentence type analysis due to space limitations, were accusative and dative clitics in subject position and clitic omission with strong pronouns.[21]

The task was presented via a web interface and conducted in the presence of a research assistant. Sentences were randomized and presented with a 5-point acceptability scale underneath. Participants were tested individually and asked to rate each sentence on the scale, assigning the following values: 1 = completely unacceptable, 2 = acceptable in rare contexts, 3 = I can't tell (either way), 4 = acceptable in many contexts, 5 = perfectly

acceptable.[22] Although the task was untimed, participants were asked to respond as intuitively as possible and not to go back to compare answers. Completion time for this task was approximately 15–20 minutes.

d. Results. Mean numerical responses for all sentence types were submitted to a series of factorial ANOVAs with repeated measures in order to investigate specific contrasts and interactions relevant to the research questions. For specific combination of sentences, two main analyses were run. The first analysis compared the native speakers, the L2 learners and the heritage speakers. The second analysis excluded the native speakers and focused on the two experimental groups, and sought to establish whether specific differences between L2 learners and heritage speakers depended on proficiency level, since proficiency is important to examine transfer effects. At least in L2 acquisition, L1 transfer tends to be stronger at low levels of proficiency (Schwartz and Sprouse, 2006). Descriptive statistics and patterns of significance for the sentences by groups are displayed in Table 6. Results of the two experimental groups by proficiency are displayed in Figures 1–7.

The first contrasts displayed in Table 6 relates to examples (14) grammatical and ungrammatical sentences with finite verbs, and (15), sentences with infinitives. See Figure 1 (clitics with finite verbs) and Figure 2 (clitics with non-finite verbs) for the results by proficiency levels. Clearly, all groups discriminated between grammatical and ungrammatical placement of clitics with both finite and non-finite verbs, as revealed by a main effect for clitic position ($F(1,160) = 1709.38$, $p < 0.01$). There was no main effect for verb (finite vs. non-finite) or group (control, heritage speakers, L2 learners), or interactions. The proficiency analysis confirmed the main effect for clitic position ($F(1,138) = 1819.75$, $p < 0.01$), but no effect for group (heritage speakers, L2 learners) or proficiency level (low, intermediate, advanced). This result confirms that all groups know the distribution of clitics with respect to verb finiteness, as the production task showed.

Table 6 displays the overall mean acceptability scores of sentence types (16) involving a sequence of a modal verb and an infinitive: clitic climbing; the clitic appearing between the modal and the infinitive; the clitic in the lower position, after the infinitive. Figure 3 presents the results by proficiency.

The group analysis showed that all groups know the placement of clitics with two verbs, rating the three sentence types differently ($F(2,160) = 860.38$, $p < 0.01$). All groups accepted clitic climbing and no climbing and rated *Mod-Cl-inf unacceptable. However, the groups differed from each other, as revealed by a main effect for group ($F(2,160) = 8.44$, $p < 0.01$) and a group by sentence interaction ($F(4,160) = 9.62$, $p < 0.01$). According to a Tukey HSD ($p < 0.05$), the control group differed from the L2 group and the heritage speaker group; the heritage speakers and the L2 learners did not differ from each other. The group by sentence interaction relates to the fact that the acceptability ratings of the ungrammatical option did not differ among the three groups ($F(2,160) = 1.9$, $p = 0.15$), but the acceptability of the other two grammatical options differed significantly ($F(2,160) = 14.15$, $p < 0.01$). The control, advanced and intermediate heritage speaker groups rated clitic climbing and no climbing similarly, while the L2 learners assigned lower acceptability ratings to clitic climbing ($t(71) = –7.53$, $p < 0.001$).

Table 6. Mean acceptability rating on grammatical and ungrammatical sentences by group (5 = grammatical, 1 = ungrammatical)

Sentence types and examples numbers	Native speakers (*n* = 22)		Heritage speakers (*n* = 67)		L2 learners (*n* = 72)	
	M	(SD)	M	(SD)	M	(SD)
Clitics with finite verbs:						
(14a) preverbal position	4.7_{a}	(.4)	4.1_{b}	(.7)	4.3_{b}	(.6)
(14b) *postverbal position	1_{a}	(.1)	1.3_{b}	(.5)	1.3_{b}	(.5)
Clitics with non-finite verbs:						
(15a) postverbal position	1_{a}	(.1)	1.4_{b}	(.6)	1.6_{b}	(.8)
(15b) *preverbal position	4.9_{a}	(.1)	4.7_{a}	(.2)	4.2_{b}	(.5)
Clitics in restructuring contexts:						
(16a) clitic climbing	4.9_{a}	(.1)	4.3_{b}	(.8)	3.4_{c}	(1)
(16b) *modal clitic infinitive	1_{a}	(.1)	1.2_{a}	(.6)	1.3_{c}	(.6)
(16c) modal infinitive clitic	5_{a}	(0)	4.6_{b}	(.6)	4.8_{a}	(.4)
Clitic doubling:						
(17a) with indirect objects	4.9_{a}	(.1)	4.6_{a}	(.7)	4.7_{a}	(.4)
(17b) indirect objects w/o clitic	4.7_{a}	(.8)	3.9_{b}	(1.1)	4_{b}	(1.1)
clitic doubling and dislocations						
(18a) S-V-O	5_{a}	(0)	4.8_{a}	(.5)	4.8_{a}	(.3)
(18b) CLLD with accusative clitic	4.6_{a}	(.4)	3.5_{b}	(1.1)	2.5_{a}	(1.4)
(18c) CLLD with dative clitic	4.3_{a}	(.7)	3.9_{b}	(.9)	2.9_{c}	(1.1)
(18d) *CLLD w/o dative clitic	2_{a}	(.7)	1.9_{a}	(.8)	2.8_{b}	(1.2)
DOM with animate objects						
(19a) *no marking	1.2_{a}	(.3)	3.4_{b}	(1.2)	2.4_{c}	(1.3)
(19b) *double objects	1.1_{a}	(.2)	2_{b}	(1.1)	1.5_{a}	(.8)

Note: Within a row, means with different subscripts (a, b and c) were reliably different from each other according to Tukey HSD test, $p < 0.05$. Numbers with the same subscript were not reliably different from each other.

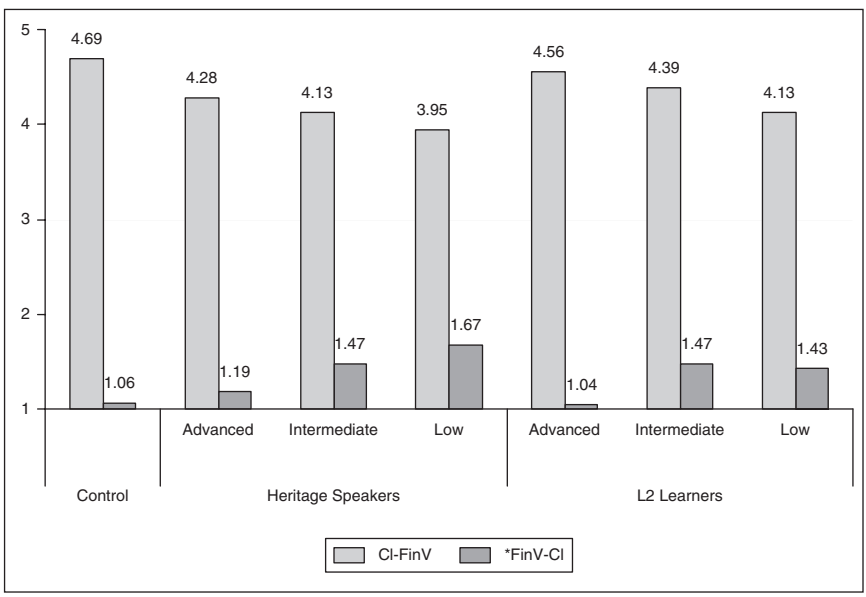

Figure 1. Mean acceptability on clitics with finite verbs by proficiency

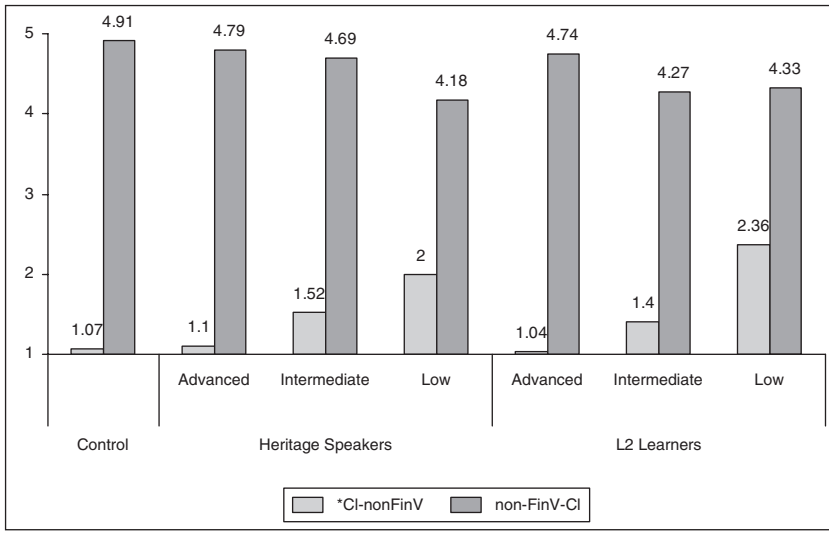

Figure 2. Mean acceptability on clitics with non-finite verbs by proficiency

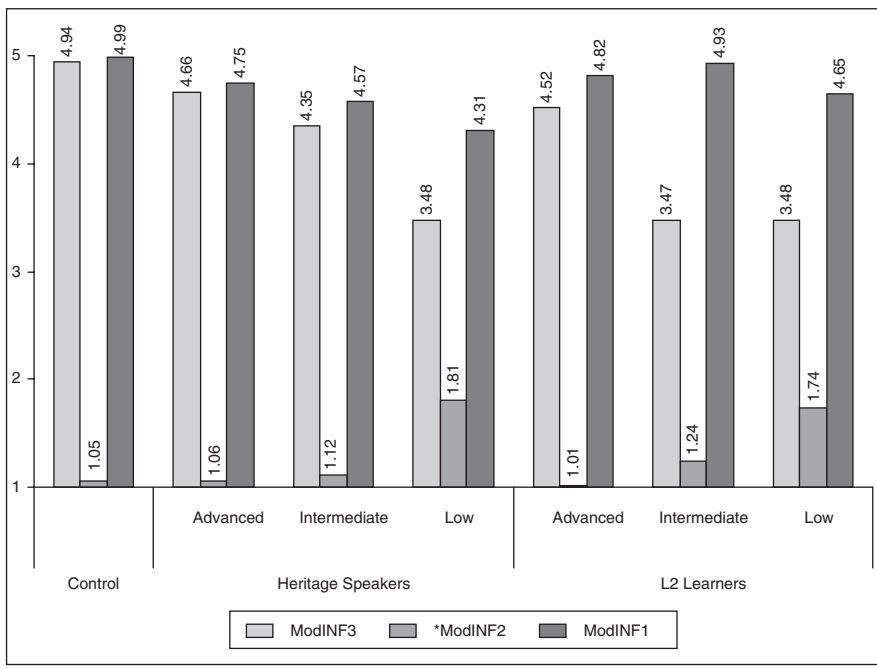

Figure 3. Mean acceptability on clitics in restructuring contexts by proficiency

Previous studies have shown that L2 learners do not readily accept clitic climbing and prefer to leave the clitic in the lower position (Bruhn-Garavito and Montrul, 1996; Duffield and White, 1999). The results of the oral production task confirmed that L2 learners, in general, do not exercise the clitic climbing option as much as the heritage speakers and the native speakers (Table 4). In the AJT, the heritage speakers were significantly more accepting of clitic climbing than the L2 learners. As for sentences with clitics in the lower position, the statistical analysis revealed that the L2 learners found these sentences significantly more acceptable than the control group and the heritage speakers ($F(2,168) = 8.55$, $p = 0.004$). The analysis by proficiency level confirmed a main effect for position ($F(1,138) = 91.07$, $p < 0.01$), for proficiency level ($F(2, 138) = 15.66$, $p < 0.01$) and a clitic climbing by proficiency interaction ($F(2,138) = 2.6$, $p = 0.05$). Unlike the intermediate and advanced heritage speakers, the low proficiency heritage speakers assigned higher ratings to sentences with no climbing than to sentences with clitic climbing ($t(67)$ –3.63, $p = 0.001$), like the L2 learners.

Sentences with clitic doubling with indirect objects were rated more acceptable than sentences with no clitics ($F(1,160) = 23.18$, $p < 0.01$). There was also a main effect for group ($F(2,160) = 5.94$, $p = 0.003$), and the Tukey test ($p < 0.05$) indicated that the native speakers differed from both the L2 learners and the heritage speakers. Figure 4 presents the results by proficiency. The analysis revealed a main effect for proficiency level ($F(2,138) = 10.19$), $p < 0.01$), and a sentence by proficiency interaction ($F(2,138) = 3.76$, $p = 0.026$).

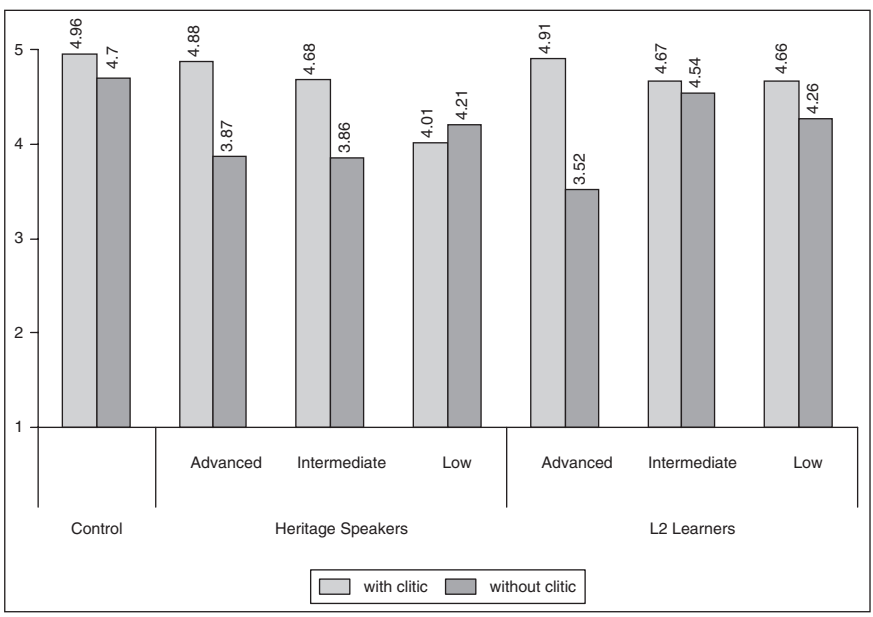

Figure 4. Mean acceptability ratings on clitic doubling with indirect objects by proficiency

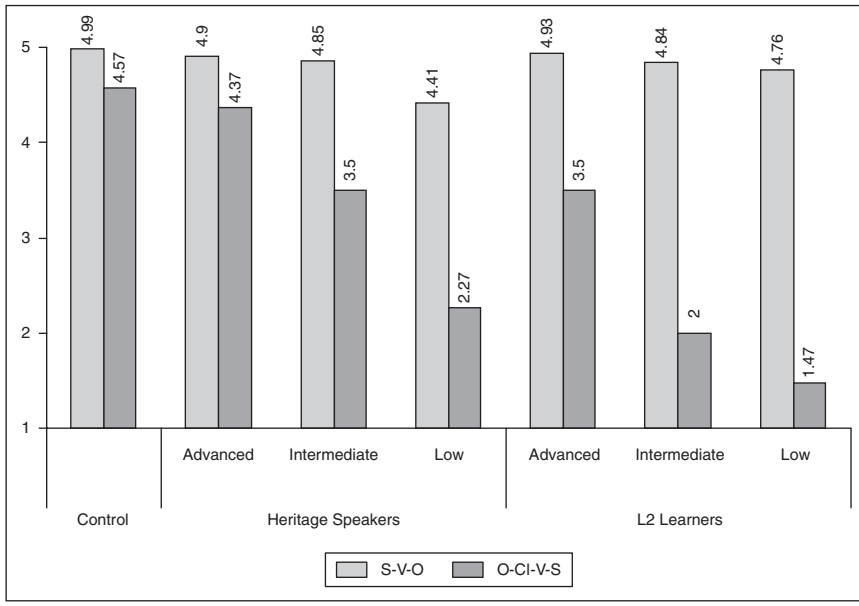

Figure 5. Mean acceptability judgments on S-V-O and CLLD by proficiency

The results of sentences with clitic left dislocations, (18), are also displayed in Table 6 and Figure 5. A repeated measures ANOVA comparing the two sentence types by group revealed that the overall ratings on SVO were higher than the same version of those sentences with dislocations (O–cl–V–S) ($F(1,160) = 143.94$, $p < 0.01$). By and large, the heritage speakers were significantly more accepting of clitic left dislocations with accusative clitics than the L2 learners, even though they did not accept them to the same degree as the native speakers ($F(2,160) = 21.25$, $p < 0.01$). The accuracy advantage for the heritage speakers over the L2 learners with these sentences held at the three proficiency levels ($F(1,138) = 12.17$, $p < 0.01$), but especially at the advanced level. The advanced heritage speakers did not differ from the control group, but the advanced L2 learners differed both from the native speakers and the heritage speakers, Tukey ($p < 0.05$).

Similar acceptability ratings obtained for the contrast between clitic left dislocations with and without clitics, as shown in Figure 6. Recall that clitic omission in these sentences is ungrammatical. There was a main effect for sentence type: ratings on the grammatical sentences with clitics were higher than on the ungrammatical sentences without clitics ($F(1,160) = 15.47$, $p < 0.01$). For the grammatical sentences with clitics, there was a significant difference by group ($F(2, 160) = 13.98$, $p < 0.01$). Even though the heritage speakers assigned lower ratings than the control group, their ratings were still significantly higher than those of the L2 learners. The heritage speakers did not differ statistically from the control group; the difference between the heritage speakers and the L2 learners was significant, Tukey ($p < 0.05$). The ratings of the ungrammatical sentences without clitics yielded a similar group differences ($F(2,160) = 19.58$, $p < 0.01$). Tukey

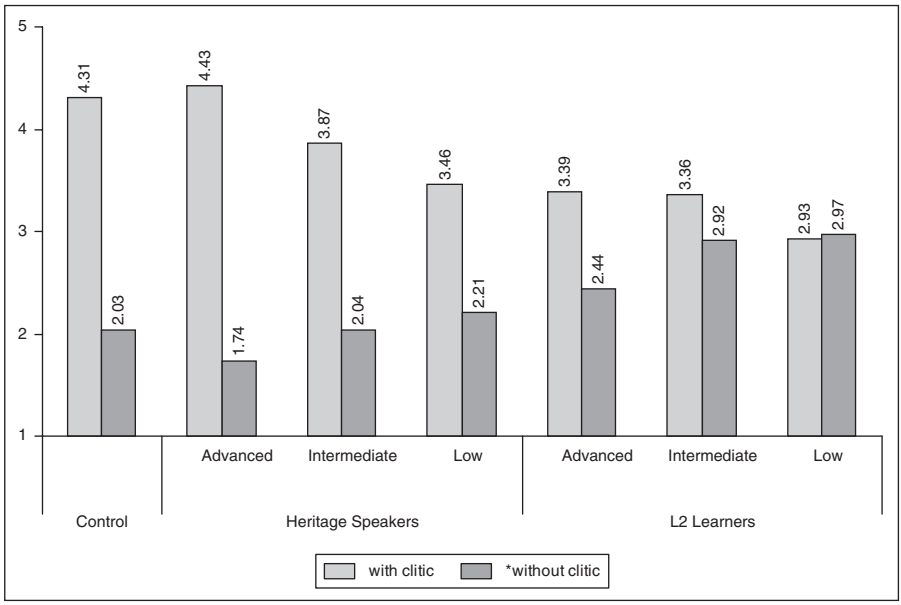

Figure 6. Mean acceptability judgments on CLLD with and without dative clitics by proficiency

HSD ($p < 0.05$) showed that the ratings assigned by the heritage speakers were no different from the ratings of the native speakers, but the ratings of the L2 learners were statistically higher than those of the two other groups. The native speakers and the heritage speakers of all proficiency levels rated the two sentence types differently, accepting the grammatical sentence significantly more than the ungrammatical sentence (control $t(21) = -10$, $p < 0.01$; advanced heritage speakers; $t(29) = 6.17$, $p < 0.01$; intermediate heritage speakers $t(22) = 5.68$, $p < 0.01$; low heritage speakers $t(13) = -3.256$, $p = 0.006$). The low proficiency L2 learners did not discriminate between the grammatical and ungrammatical sentences ($t(22) = -1.92$, $p = 0.68$), but the two other L2 groups also rated grammatical sentence with clitics more acceptable than the ungrammatical sentence without the clitics (intermediate L2: $t(23) = 5.34$, $p < 0.01$; advanced L2: $t(24) = 6.42$, $p < 0.01$). Overall, the results of CLLDs show that even when they do not perform at the native-speaker level, the heritage speakers find these structures significantly more acceptable than the L2 learners.

Last, Figure 7 shows the results of the two ungrammatical sentences related to animate object marking (19a) and (19b): sentences missing *a*-marking and double object constructions. Both sentence types revealed a main effect by group ($F(2,160) = 28.9$, $p < 0.01$) and $F(2,160) = 9.3$, $p < 0.01$). The analysis by proficiency was also significant ($F(2,138) = 29.2$, $p < 0.01$). The heritage speakers were significantly more accepting of ungrammatical sentences missing *a*-marking (DOM) than the L2 learners, at all proficiency levels. But only the low proficiency heritage speakers were more accepting of ungrammatical double object constructions than the L2 learners ($p < 0.01$). Since English has double object constructions and does not mark animate direct objects overtly, these results are potentially compatible with transfer from English.

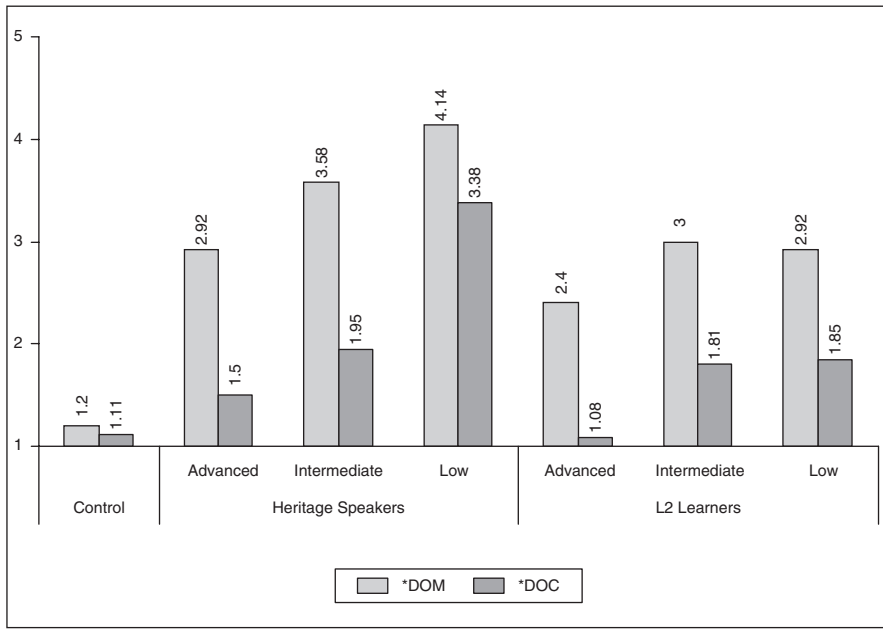

Figure 7. Mean acceptability judgments on DOM and DOC (double object constructions) by proficiency

Overall, the results of the AJT task confirm and expand the trends found in the oral narrative task. Both L2 learners and heritage speakers have knowledge of the syntactic constraints and possibilities of object clitics in Spanish, as the results of sentences (14)–(17) showed. The heritage speakers, however, outperformed the L2 learners with clitic climbing. With structures that interface with semantics–pragmatics (sentences (18) and (19) in Table 6), the heritage speakers outperformed the L2 learners with clitic left dislocations (18). Yet, with object marking (19), the two groups differed significantly from the native speakers in recognizing the ungrammaticality of these sentences, but the L2 learners outperformed the heritage speakers, especially at lowest levels of proficiency.

V Discussion

The assumption underlying this study, based on previous research on clitics, is that L2 learners can acquire functional projections not instantiated in their L1. By comparing L2 learners and heritage speakers ranging from low to advanced proficiency in Spanish, this study also showed that although L2 learners and heritage speakers have comparable knowledge of object expression in Spanish, they differ significantly from native speakers in several respects.

The main question addressed in this study related to the specific effects of transfer from English to Spanish in L2 acquisition and incomplete L1 acquisition in heritage speakers. We asked whether L1 influence in adult L2 learners similar to L2 influence in

the L1 of early bilinguals. To answer this question, we also made a distinction between structures that relate to syntax proper (object clitics and their placement with respect to the verb in simple sentences) and structures that engage other interfaces, such as clitic left dislocations (the syntax–semantics–discourse interface) and differential object marking (syntax–semantics–pragmatics). English does not have clitics, but it does have topicalizations and 'affected' animate direct objects. If transfer is selective in these cases, due to both structural overlap and linguistic complexity, heritage speakers and L2 learners should have more robust control of clitics in simple sentences than of clitic left dislocations and DOM. This is precisely what the overall results revealed.

Both the production task and the acceptability judgment task showed that L2 learners and heritage speakers were as accurate as native speakers on clitic placement, even though the oral production task also showed that L2 learners produced more strong pronouns and NPs than clitics, as compared with the heritage speakers and the native speakers. This result can also be attributed to transfer from English.

The acceptability judgment task included sentences with dislocations, which did not occur spontaneously in the oral production task. The results showed that both the native speakers and the heritage speakers did not assign to these sentences ratings as high as those of the native speaker control group, confirming findings by Valenzuela (2006), but the heritage speakers outperformed the L2 learners and were more native-like overall, at all proficiency levels. This suggests that L2 learners are still constrained by their L1 and find SVO sentences more acceptable than sentences with CLLDs. The vast majority of L2 learners rated sentences with CLLD and accusative clitics unacceptable, especially at lowest levels of proficiency. And while the heritage speakers recognized the ungrammaticality of sentences without dative clitic doubling in CLLDs, the low and intermediate proficiency L2 learners treated both grammatical and ungrammatical CLLD sentences quite unacceptable. L1 influence from English is a likely source of this error because topicalizations under specific discourse conditions are possible in English, but these do not have resumptive pronouns. The fact that advanced L2 learners discriminated between the two sentences types (but still rated these sentences lower than the heritage speakers) suggests that they were on their way to overcome L1 transfer. Thus, with CLLDs, the L2 learners were more affected by transfer from English than the heritage speakers.

But the results of DOM show a different pattern of transfer in the two groups. The oral production task confirmed that heritage speakers, including those with advanced proficiency, fail to overtly mark animate direct objects, and considered these sentences grammatical in the acceptability judgment task, at least more than the native speakers. The heritage speakers (all proficiency levels) also accepted ungrammatical double object constructions in Spanish, confirming Torrego's analysis that Spanish DOM and English double objects may be structurally similar. The L2 groups also made errors with DOM and double objects, although the L2 learners were statistically more accurate than the heritage speakers in the acceptability judgment task. The opposite pattern was true of the oral production task, where the L2 learners produced more errors with DOM than the heritage speakers. Other studies show that heritage speakers tend to outperform L2 learners in oral tasks, while L2 learners tend to outperform heritage speakers in written tasks (Montrul et al., 2008a), and this is perhaps related to the manner and context of acquisition, a matter I address in the next section. Taken together, the results of the two tasks

show that DOM, an interface phenomenon, is subject to incomplete acquisition or attrition in Spanish heritage speakers (see also Montrul and Bowles, 2009, 2010) and is also difficult to master for L2 learners (Farley and McCollam, 2004; Bowles and Montrul, 2009), more so for heritage speakers than CLLDs. Two factors that may contribute to transfer from English and omission of the object marker with animate direct objects is the reduced acoustic salience (especially when the preceding verb is in the present or in the preterit and ends in a vowel) and the optionality of the marker, subject to semantic and pragmatic conditions. For elaboration of these ideas, see Montrul and Bowles (2010).

These results provide new evidence for the claim that interfaces are vulnerable in L2 acquisition and early bilingualism beyond childhood. But they also suggest that it is not only the syntax–discourse interface that is vulnerable, as Sorace and collaborators have proposed, but also the syntax–semantics/pragmatics interface, an internal interface (see White 2009). Although clitic left dislocations and DOM constructions are used for specific pragmatic purposes (i.e. to express topicality), they also encode specificity, a semantic notion. In this study, however, topicalizations were not tested in specific pragmatic contexts to see whether L2 learners and heritage speakers where aware of their pragmatic import. Similarly, DOM was only tested in core cases of animate (human) and specific direct objects. We did not test sentences with indefinite, non-specific objects or with topicalized inanimate objects, which would be more relevant to investigate pragmatic knowledge of these constructions more directly. Therefore, the results presented here are more representative of transfer at the syntax–semantics interface, than of the syntax–pragmatics interface, if that division is actually possible to make.

In addition to transfer effects in the two groups, the results also showed selective advantages for heritage speakers. The L2 learners and the heritage speakers showed comparable robust knowledge of clitics but non-targetlike knowledge of DOM, but there were also several other aspects in which the intermediate and advanced proficiency heritage speakers were more native-like than the L2 learners of all proficiency levels. I suspect these differences have to do with patterns of language use.

In the oral task, the ratio of clitics to NPs and of clitic climbing were comparable for the advanced and intermediate heritage speakers and native speakers, whereas the L2 learners, including those with advanced proficiency lagged behind. Similarly, the heritage speakers were more similar to the native speakers than the L2 learners with clitic climbing and clitic left-dislocations in the acceptability judgment task. On the one hand, these results are compatible with the idea that, even when the grammars of heritage speakers do not always converge on the grammars of native speakers, acquiring a language since birth brings advantages for phonology and some areas of morphosyntax, contrary to what Au et al. (2002, 2008) suggested.

Alternatively, these results could be related to experience and language use. Topicalizations in general, and clitic left dislocations in particular, are a feature of informal, spoken language. If these structures occur in written language at all, they typically occur under strict stylistic conditions (Sornicola, 2003). A main difference between heritage speakers and L2 learners concerns mode of acquisition and experience, as discussed earlier (Montrul, 2008). L2 learners typically receive initial exposure to the language in the classroom, where there is a significant amount of written input and limited opportunities to use the language spontaneously in conversations. By contrast, heritage speakers

were exposed to the heritage language naturalistically since birth and may have heard significantly more instances of CLLDs than their L2 learner counterparts. Therefore, the fact that heritage speakers in the present study used more clitics than NPs in the oral task and accepted CLLDs as grammatical more than the L2 learners suggests that this finding may have to do with experience and language use.

On the other hand, DOM with animate and specific direct objects is obligatory in both spoken and written registers, and hardly a stylistic option as CLLDs are. DOM with animate and specific direct objects is equally frequent in spoken and written registers. But the fact that the heritage speakers in the present study produced less errors with DOM in the oral task but were less accurate with ungrammatical sentences without DOM in the acceptability judgment task also suggests that while the two groups may have similar problems with these structures, the problems are manifested differently in the two populations: more errors by the L2 learners in the oral production task but more errors by the heritage speakers in the acceptability judgment task. These results confirm the same task/modality effect reported by Montrul et al. (2008b) with gender agreement, a study which tested the same groups of L2 learners and heritage speakers reported in the present study.

VI Conclusions

This study has shown how grammatical transfer affects both L2 acquisition and incomplete L1 acquisition in heritage language speakers. It has also shown that transfer effects affect the grammatical system differently in the two populations. While core syntax is less vulnerable to persistent dominant language transfer (Montrul et al., 2008a), the results of this study confirm the same conclusion in the area of clitics and further provide novel evidence that the vulnerability of the semantics–pragmatics interface to transfer also holds in the case of incomplete acquisition in heritage speakers. As such, this study bridges the gap between studies of childhood bilingualism and adult L2 acquisition.

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Notes

1. Input can also differ in quality, especially if it is restricted to certain registers, where some structures may be more common and frequent than others. Alternatively, qualitatively different input refers here to the fact that the family language spoken by interlocutors may already

contain non-native features or contact features, different from the monolingual norm. See Paradis and Navarro (2003) and Cornips and Hulk (2006) and for some discussion of this issue and examples.

2. For more in-depth characterization of this population and all the variables that play a role in their linguistic competence and patterns of language use see Kondo-Brown (2006), Valdés et al. (2006), Polinsky and Kagan (2007), Brinton et al. (2008), Montrul (2008).
3. An anonymous reviewer questions whether by claiming that the language acquisition in heritage speakers may be incomplete or abbreviated in comparison with the full grammar acquired by monolinguals I am also implying that heritage speakers develop 'rogue' or 'wild' grammars that are not natural language grammars. The answer is 'not at all'. Developing monolingual L1 grammars (think of a 2- or 3-year-old), bilingual grammars, and fossilized L2 grammars are all natural languages even when they may not display all the structural properties and morpholexical richness evidenced in fully acquired mature grammars. This is akin to claiming that standard languages and creole languages are natural language grammars, even when according to some researchers creole languages may be structurally less elaborated than standard languages (McWhorter, 2007).
4. Literacy may be involved in the acquisition and use of relative clause, conditionals, counterfactuals and complementation with subjunctive in Spanish. Many of these structures are not only complex, but they are also more frequent in written language. See Guasti and Cardinaletti (2003) for examples and Montrul (2008: chapter 4) for more discussion.
5. On Sportiche's (1996) account, accusative clitics are specific DPs, which receive case within the VP in AgrOP. Accusative clitic projections have A-bar specifiers, license specificity (the feature [+F]), and are likened to operator/variable constructions. By contrast, dative clitics do not always license specificity. The projection for dative clitics has an A-specifier where dative case is checked. Dative clitics are analysed as strict agreement markers.
6. Clitic left dislocations are different from contrastive topicalizations, which do not have a resumptive clitic. Sentences like (6b), without the clitic, are grammatical in a contrastive focus structure or as a hanging topic. In contrastive focus constructions, *las carpetas* would have to be stressed and there should be an intonational pause after it (*LAS CARPETAS, Juan tiene en su oficina*. 'The folders, Juan has in his office.').
7. Anagnostopoulou (1997) proposes that CLLD involve adjunction to a left peripheral position within the IP, but contrastive topicalizations involve adjunction to CP.
8. I am simplifying considerably the facts here, since there are many cases where the presence of DOM with animates and inanimates is not so clear cut (see Aissen, 2003; Laca, 2006). There are several counterexamples to the generalization that only specific and animate objects are marked with the preposition *a* in Spanish. First, non-specific negative quantifiers like *nadie* 'nobody' always require *a* (*No vi a nadie*. 'I didn't see anybody.'). Second, inanimate objects can be marked with the preposition *a* if the subject is also inanimate (*La calma precede a la tormenta.* 'The calm precedes the storm.'). Third, with animate non-human (animal) direct objects, use of the preposition *a* is optional (*Mató el/al mosquito*. 'He/she killed the mosquito.'). However, the present study only focuses on the most prototypical cases, and on specific animates in particular. If L2 learners and heritage speakers do not know the use of DOM in prototypical cases, it is doubtful that they will know how to use it in non-prototypical cases.
9. Topicality refers to topicalizations. For example, in a sentence with an indefinite human object, DOM is not required (*La profesora vio muchos estudiantes*. 'The professor saw many

students.') but if the object is topicalized, then DOM is realized (*A muchos estudiantes vio la profesora*. 'The professor saw many students.') Examples such as these illustrate the complexity of DOM distribution.

10. Cuervo (2003), following Demonte (1995), says that clitic-doubled indirect objects, not DOM objects, are like double object constructions in English, while non-doubled indirect objects correspond to the PP dative structure in English. I assume Torrego's (1998) analysis in this article.
11. Of course, there are some counterexamples, since there are also some inanimate double objects as in *John gave the wall a coat of paint*. See Bresnan *et al*. (2007) for discussion of the categorical and gradient nature of the double object construction in corpus-based data, and the role of animacy.
12. Although not all verbs that take DOM objects in Spanish are causative or highly agentive: e.g. *conocer* 'know', *ver* 'see'.
13. However, the responses required in the tasks used by Zapata et al. (2005) were quite open-ended, and the study did not include a control group of monolingual speakers assumed to possess complete knowledge of Spanish. It would be useful to know whether native speakers also produce clitic left dislocations more often than the other structures in these tasks as well.
14. Most participants took part in 18 short experiments, only three of which are only reported here. All participants were tested individually by the research assistants in two 90-minute sessions completed on two different days. The order of the tasks completed in each experimental session varied for all participating participants.
15. Not all participants completed all the tasks. Therefore, the number of participants in the two tasks reported in the present study differ somewhat.
16. The control group was tested first, to make sure all the instruments to be used in the study were working. Two Spanish–Basque bilingual participants were also tested in the preliminary screening but later eliminated because their performance was somewhat different from that of the rest. Among those native speakers retained, there were no differences in performance on any of the tasks, and for that reason this group was used as the comparison group.
17. As in many studies that follow this procedure, the classification of subjects into categorical groups is arbitrary and decided by the researcher.
18. An anonymous reviewer questions the validity of the proficiency test or the oral task used on the basis of results such as these. However, the proficiency test was a written task and this is an oral task. It is typically found that heritage speakers have lower grammatical accuracy in written than in oral Spanish, unlike L2 learners who are typically more accurate in written tasks than in oral tasks. See Montrul et al. (2008b) for discussion. I do not see this as a flaw with the tests. The tests seem to reflect dissociations according to mode of acquisition in these two populations. At the same time, if the same measures are not used with the two populations it is impossible to begin to understand how the two groups differ or not from each other and in which linguistic skills and dimensions.
19. This sentence is incorrect, in the absence of prosody, with a topic interpretation. Even though a reviewer claims that this sentence is syntactically possible in Spanish, as a native speaker I find it quite ungrammatical and my judgments are confirmed by the results of the control group presented in the experiment.
20. The original purpose of this task was to test clitic positions, and sentences with DOM were not the focus. As a result, the design did not include grammatical and ungrammatical versions of

DOM with animate and inanimate objects. After seeing the results of the present study in both the oral production task and the AJT, a larger scale follow-up study of DOM was undertaken with heritage speakers and L2 learners. See Bowles and Montrul (2009); Montrul and Bowles (2009, 2010).

21. Results of these sentences are reported in Montrul (2010).
22. While the use of 'I don't know' as a mid-point category may be problematic for the interpretation of the results, such a scale has been used in several L2 studies, and that was the main reason for adopting it here. However, to anticipate this potential criticism, the '3' responses were removed for analysis and the scale was treated as a 4-point scale rather than a 5-point scale. Therefore, mean responses approximating 3 in the task were obtained by averaging individual ratings of 1s, 2s, 4s and 5s but not because most participants responded with ratings '3'.

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