

The syntax-semantics of bare and definite plural subjects in the L2 Spanish of English natives

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Abstract

This study investigates the extent to which advanced native-English L2 learners of Spanish come to acquire restrictions on bare plural preverbal subjects in L2 Spanish (e.g. *gatos* “cats” vs. definite plurals such as *los gatos* “the cats”). It tests L2 knowledge of available semantic readings of bare plurals and definite plurals in Spanish, where [+specific] and [+generic] interpretations are syntactically represented differently from English. Assuming L1 transfer, and in view of a potential subset/superset relationship of the two grammars, the learning task in this domain is not a straightforward one. Target acquisition requires both grammatical expansion and retraction; Spanish definite plural subjects require the addition of an L1-unavailable [+generic] reading, while a loss of an L1-available [+generic] reading for preverbal subject bare plurals is required. The results and analysis show that advanced L2 learners of Spanish (English L1) can circumvent a superficial subset/superset learnability problem by means of feature resetting in line with the Nominal Mapping Parameter.

Keywords

Bare nominals, definite plural subjects, Full Transfer/Full Access, L1 transfer, Spanish L2 acquisition, Subset/Superset Principle

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Introduction: Bare and definite plurals in English and Spanish

This study investigates the extent to which advanced English-speaking L2 learners of Spanish acquire the semantic properties of Spanish definite plural (DefP) and bare plural (BP) subjects in light of an apparent learnability problem resulting from L1 English transfer. Transfer from English L1 to L2 Spanish would need to be followed by two types of grammatical modification in order to yield the correct target L2 grammar: semantic expansion in the domain of DefP subjects and restriction of the possible L1 semantic mappings of BP subjects.

Languages with article systems differ as to whether or not the articles are used with plural noun phrases (NPs) with generic interpretations. Spanish and English both have the syntactic possibility of expressing BPs and DefPs (as subjects or objects). However, the mapping of potential semantic interpretations (taken as part of Universal Grammar (UG)) onto these forms is quite different between the two languages. The distribution of BPs and DefPs in English denotes a dichotomy of available semantic interpretations based on [+specific] versus [+generic] interpretations. By generic interpretation, we mean reference to the entire kind corresponding to the set represented by the NP. By specific interpretation, we mean reference to a subset of the individuals that make up the set. In Spanish, generic reference (kind-denotation) and specificity (i.e. reference to a subset of the possible members of a set) are both lexicalized and mapped onto an overt determiner in DefPs, as shown in (1a) and (2a). In English, specificity (but not genericity) is represented by DefPs, as shown in (2b), whereas genericity (kind-denotation) is expressed by BPs, as shown in (1b), at least with count nouns¹:

- (1) *generic reference (kind denotation)*
 - a. *Los leones viven en el Sahara.*
 - b. Lions live in the Sahara.

- (2) *specific reference (subset denotation)*
 - a. *Los leones del zoológico son menos feroces.*
 - b. The lions in the zoo are less ferocious.

To account for the above facts, several proposals have been offered in the syntax-semantics literature related to parametric differences in how kind-denotation and subset-denotation (maximality) are mapped within determiner phrases (DP) crosslinguistically (e.g. Chierchia, 1998; Contreras, 1996; Dayal, 2004; Longobardi, 2001; Vergnaud & Zubizarreta, 1992). We adopt the general tenets of Chierchia's (1998) Nominal Mapping Parameter (NMP) since it accounts fairly accurately for the contrast between the two languages pertinent to this study and makes testable predictions for L2.² We further adopt Dayal's (2004) later modifications to Chierchia's proposal, since it eliminates the arguably problematic Avoid Structure Principle originally proposed by Chierchia's NMP, by offering a universal scale of definiteness.

If the L1 steady state constitutes the initial hypothesis for L2 Spanish in this domain, a particular developmental sequence is implied for the mapping of target semantic properties. The L2 Spanish acquisition of subject DefPs by L1 speakers of English requires remapping in the direction of expansion: learners must come to permit [+generic] interpretations with DefPs in addition to [+specific] interpretations since only the latter is possible in English DefPs, whereas the former is blocked. At the same time, they must come to know that the remapping of [+generic] interpretations to subject DefPs also entails the loss of such interpretations for preverbal BP subjects in L2 Spanish, although these are forms to which [+generic] interpretations are assigned in English. According to standard assumptions, unlearning is more difficult than learning as a learnability scenario; the former requires negative evidence not straightforwardly available from the input. As

a result, coming to know that Spanish BP subjects do not allow a [+generic] meaning results in a potential locus of learnability difficulty.

The corresponding L2 learning task is also challenging for a theory of associative or purely frequency-based learning (see Eskildsen, 2009; cf. Yang, 2002). This can be seen for instance when one considers the fact that BP subjects are in fact possible in Spanish, although they are highly limited in preverbal position and more freely allowed in postverbal position. In addition, Spanish preverbal BP subjects are possible only with an existential reading. In such cases, BPs must be modified or in conjoined structures (see (3) and (4), from Laca, 1999).

- (3) *Eléctricas letras verdes intermitentes anunciaron la llegada del vuelo.*³
 “Flashing electrical green lights announced the flight arrival.”

- (4) *Fotógrafos y cámaras de televisión llegaban con la obsesión puesta en los ojos y en los codos.*
 “Photographers and television cameras came with obsession in their eyes and in their elbows.”

Moreover, BPs are possible as objects postverbally and even preverbally under other conditions (e.g. topic/focus constructions and Clitic Left Dislocation (CLLD)). As a result, it is not the case that Spanish input is devoid of BPs entirely.

The existence of BPs in preverbal contexts, despite their possibly limited occurrence in Spanish, is likely to contribute to blocking the parsing failure that would be necessary to restructure the transferred L1 grammar for two interrelated reasons. First, structures carrying an existential interpretation are not necessarily incompatible with a generic interpretation.⁴ Crucially, although native Spanish speakers assign existential interpretations to BPs as preverbal subjects, it is not clear that such interpretations are always uptaken by L2 learners. If the difference between existential and generic readings is not mutually exclusive (as is the case with specific vs. generic readings in instances of DefPs in Spanish), differences in meaning assigned to the same contexts by natives and L2 learners would not constitute conversational breakdowns and thus potentially go unnoticed (see Rothman & Iverson, 2008). Second, it might be the case that [+generic] BP objects appearing in preverbal contexts due to specific pragmatic requirements are initially processed as subjects, as would be predicted by the First Noun Principle (Vanpatten & Cadierno, 1993). If so, then the conservative processing strategies of L2 learners from the beginning stages of acquisition would provide other (in this case, misinterpreted) evidence that BP preverbal subjects are apparently licensed in Spanish. In sum, the presence of BPs (with nongeneric readings) in Spanish input further complicates, in nontrivial ways, the learnability task involved in restricting generic interpretation to DefPs. This scenario also limits the hypothesis that frequency alone, specifically the utter absence of BPs, could serve as an unambiguous trigger for straightforward remapping of [+generic] interpretations only to DefPs.

Considering instead an approach in terms of subset/superset relationships (e.g. Manzini & Wexler, 1987; Wexler & Manzini, 1987), the L1 and L2 grammatical properties for the present domain are related in that Spanish subject BPs represent a subset of the possible interpretations of English subject BPs. The opposite arises regarding DefPs in that it is the English DefPs that represent a subset of the possible interpretations of Spanish DefPs. These two sets of relationships are represented in Figure 1 below:

Given the potential subset/superset relationships above, Full-Access approaches to adult L2 acquisition that also assume complete L1 transfer (e.g. Schwartz & Sprouse, 1996; White, 2003) would predict that available positive evidence in the input is sufficient for English-speaking learners of L2 Spanish to eventually assign [+generic] readings to DefPs, a form on which this semantic

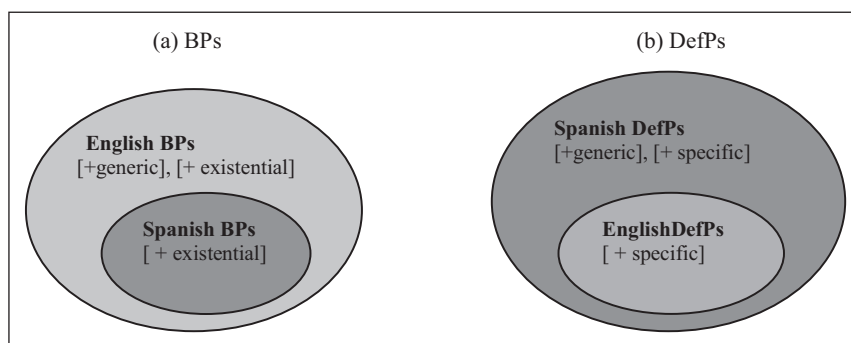


Figure 1. The subset/superset relationships of the semantics of BPs and DefPs subjects in Spanish and English.

BPs: bare plurals; DefPs: definite plurals.

interpretation is precluded in their L1. However, this remapping between meaning and syntactic structure from the L1 to the L2 in no way guarantees the blocking of a [+generic] interpretation for BPs, a semantic property of BPs in the L1 that is absent in the L2. This failed blocking from the L1 to the L2 could be treated as a so-called preemption problem and may be taken to raise a learnability challenge. Gabriele (2005) argued that the preemption problem noted in early work for L2 syntax (e.g. Trahey & White, 1993; White, 1991) can extend to semantics as well. However, we will provide evidence that this possibility is not an insurmountable problem regarding the empirical domain of the current study since it would leave unexplained how some advanced L2 learners in this study overcome the potential learnability problem described above. This is also supported by previous evidence by Slabakova (2006) and Ionin, Montrul, and Crivos (2009) for the same domain. We present experimental data from an advanced L2 Spanish group compared against a native Spanish speaker baseline group. Crucially, a subgroup corresponding to roughly half of the advanced learners that were considered in this study shows full L2 convergence for all the properties that were tested.

In addition, we consider the hypothesis that the semantic restriction on BP preverbal subjects in Spanish (lack of a [+generic] interpretation) should be learned in L2 Spanish, if at all, only after knowledge of [+generic] interpretations of Spanish DefPs subjects is acquired since the former, but not the latter, requires the loss of an L1 property. With others (e.g. Ionin et al., 2009), we propose that the formal roots of the L1/L2 grammar's subset/superset relationship above can be the source of a prolonged pattern for L2 convergence, specifically involving the asymmetry in the learning task above, in subparts of the present domain (i.e. why mapping genericity to DefPs could precede its unmapping to BPs). However, in light of the individual data analysis, it is clear that some learners, perhaps the most advanced of all the advanced L2 Spanish speakers, demonstrate full acquisition for all relevant properties of the present domain. We offer an explanation for the apparent developmental patterns that emerge in the present and related studies and show how convergence is possible in this apparently unfavorable mixed subset/superset scenario. We consider that factors related to, but beyond UG accessibility are involved in the ultimate explanation of seeming successes or failures of different groups that have been tested on properties such as the ones considered here (see e.g. Slabakova for a related approach regarding L2 Italian).

Semantic framework

In this section, we discuss some of the basic aspects of a syntax-semantic approach to the empirical phenomena this study tested. The NMP (e.g. Chierchia, 1998; Schmitt & Munn, 2002) has been

proposed to account for the semantic distribution and interpretation of bare nominals/NPs (in contrast with nominals with overt determiners), in argument position across languages, dividing them into three types. According to Chierchia (1998), parametric/typological variation in this domain is determined by the features [\pm predicate] and [\pm argument]; that is, bare NPs can denote predicates, arguments, or both in different languages. A language in which NPs are specified for [+argument, -predicate] features is Chinese (type I languages), leading every lexical noun to be lexically specified as a mass noun, so that plural marking does not exist as an intrinsic lexical specification of nouns. In addition, bare NPs occur freely as arguments.

In Germanic languages like English (type II languages), NPs can be mapped as either semantic arguments (names of kinds, regularities that occur in nature) or as predicates, given their feature specification as [+argument, +predicate]. Under this account, bare NPs are allowed for both mass and count nouns, although they cannot be freely used as arguments as in Chinese. In addition, bare count nouns are argued to require plural marking. An alternation between plural argument NPs lacking determiners (BPs) and with overt determiners (DefPs) provides a basis for their distinct interpretations as generic NPs and specific NPs, respectively. BPs are also restricted by the count/mass and singular/plural properties of the noun. That is, in English, only singular mass nouns and plural count nouns can appear as bare arguments in subject position, as exemplified in (5a)–(5d):

- (5) a. *The sand is everywhere in the Caribbean. (mass noun)
 b. Sand is everywhere in the Caribbean.
 c. *Storm causes a lot of damage. (count noun)
 d. Storms cause a lot of damage.

In contrast with Type II languages, Romance languages, including Spanish are [-argument, +predicate] (type III languages). Bare NPs are lexically specified as predicates, therefore they cannot freely occur as such in argument position. That is, in contrast with English, BPs are mostly blocked in an argument position such as subject and a determiner is required, as shown in (6a) and (6b). As seen in (6a), bare nominal subjects are not allowed with a generic interpretation in Spanish. A determiner is required in order for the NP to project a full DP, as shown in (6b). In addition, the DefP DP can be ambiguous between a kind-denoting [+generic] and a subset-denoting [+specific] reading.

- (6) a. **Gatos son amistosos.*
 cats are friendly
 ‘Cats are friendly.’
 b. *Los gatos son amistosos.* [+generic] or [+specific]
 the cats are friendly
 ‘Cats are friendly.’

In sum, following Chierchia’s (1998) approach, the difference between NPs with overt determiners in English and Spanish lies in the fact that the overt determiner (e.g. definite articles) lexicalizes specificity in English, whereas in Spanish, it can lexicalize either specificity (subset-denotation) or genericity (kind-reference). In order to resolve a potential confound (namely, that English definite articles would be able to lexicalize both specificity and genericity), Chierchia resorts to the *Avoid Structure Principle*, which precludes the use of a determiner for generic interpretation when the same interpretation is available for bare nominals. That is, the simpler structure (the bare NP) prevails in this case. However, unlike English, which has a type-shifting operator that applies for bare nouns to become arguments in generic sentences and individual level predicates, Romance languages (including Spanish) do not have such an option and need to resort to the definite article.

A different alternative to resolve the above conflict is proposed by Dayal (2004). She builds upon and extends Chierchia's analysis (p. 396) but without the *Avoid Structure Principle*. She bases her proposal on German, a mixed type language where both BPs and DefPs can have generic reference. She puts forward a universal scale of definiteness with number marking playing a significant role in accounting for the presence/absence of the determiner and where different individual languages opt for different cutoff points in lexicalizing the definite article.⁵ More specifically, within such a scale, languages can opt for lexicalizing only one of the two readings on the definite article (e.g. the case of English) or can opt for lexicalizing both readings, kind-denotation and subset-denotation⁶ (e.g. the case of Spanish). Remember we have treated kind-denotation as the generic reference and subset-denotation as specific reference (see (1) and (2)).⁷

The learner's task: L2 Spanish

Considering the properties laid out above regarding the distinction between BPs and DefP DP, BPs and DefPs in English map to [+generic] versus [+specific] semantic interpretations, respectively, whereas DefPs are ambiguous between both interpretations in Spanish, as illustrated again in (7) and (8) below:

- | | | | |
|-----|----|---|-----------------------|
| (7) | a. | Zebras have stripes. | (√generic/*specific) |
| | b. | * <i>Cebras tienen rayas.</i>
zebras have stripes
"Zebras have stripes." | (*generic/*specific) |
| (8) | a. | The whales eat fish. | (*generic/(√specific) |
| | b. | <i>Las ballenas comen pescado.</i>
the whales eat fish
"Whales eat fish." | (√generic/√specific) |

English BPs in combination with state (or property-denoting) predicates such as (7a) have a generic or kind-denoting interpretation (i.e. *Zebras have stripes* is a statement about the zebras in general, referring to any members of the set of zebras as a whole). In Spanish, in contrast (7b), BPs are simply not allowed with this meaning (but see introduction for other readings). Furthermore, English does not allow a generic interpretation with DefPs in (8a) (i.e. *The whales eat fish* cannot be a statement about the whales as a whole in English; it can only be used to refer to a specific subset of whales) differently for the Spanish counterpart in (8b).⁸

The L2 learners of Spanish who have English as their L1 need to learn that DefPs can be interpreted as either generic (kind-denotation) or specific (subset-denotation). However, they must also learn that in Spanish kind-denotation cannot be assigned to subject bare NPs. Crucially, according to Dayal's scale of definiteness, there is no universal restriction dictating that a language cannot in principle use both bare NPs and NPs with overt determiners to identify kind-denotation (genericity). For instance, Brazilian Portuguese is one language that does that (see, for example, Schmitt & Munn, 1999, and references therein). Assuming L1 transfer and keeping in mind the subset/superset relationship between the two grammars, as laid out in the introduction, the L2 learners' task in the acquisition of the semantic properties of Spanish DefPs seem partially unproblematic. It requires the addition of the [+generic] reading that is unavailable for DefPs in English. However, acquiring the properties of Spanish BPs seems more problematic insofar as it requires the blocking of the same [+generic] reading, available in the L1 for BPs (i.e. English). Notice that the addition of the [+generic] readings to DefPs without losing the possibility of the same meaning for bare NP subjects would also be entirely UG-compliant. For instance, it

would yield a grammar similar to Brazilian Portuguese. However, it would still be different from Portuguese (in that [+generic] bare NPs are singular in Brazilian Portuguese) and also from both English (the source language) and Spanish (the target L2 language) (see, for example, Finert & Broselow, 1986, for relevant work on the L2 acquisition of reflexive binding where this kind of outcome takes place).

Chierchia (1998) discusses explicit predictions about first-language acquisition involving the Subset Principle. Because the child acquiring her first language only employs positive evidence for grammar setting, the child learner must start with the most conservative value of the NMP, which is the Chinese-type language (pp. 400, 401), corresponding to [–argument, –predicate]. The possible transfer of properties of an L1 system in L2 acquisition makes this learning process different depending on the L1. For example, Chinese learners are likely to have a different developmental sequence for L2 Spanish than English learners in this domain. The L2 grammar acquisition task is essentially the same as the L1 acquisition task, but it would be complicated by differences in the initial state between the L1- and L2-acquisition scenarios. Only L2 learners have (possibly) necessary restructuring of the L1 transfer settings that can be unfavorable under L1/L2 comparative subset/superset considerations. Even if L2 learners are in principle able to reset parameters transferred from their L1 and overcome a dearth of direct negative evidence in the target input, such a task can be seriously hampered here given, as detailed above, the fact that Spanish input is somewhat misleading (BPs are attested to the input, albeit in different ways than in English, see (3) and (4)).

While direct instruction is sometimes provided on [+generic] reference of DefPs, instruction on the incompatibility of [+generic] meaning with BP preverbal subjects is usually not provided (see also Slabakova, 2006, for Italian). Although we are not focused here on instructional effects, mentioning this is relevant; even though positive evidence in the form of instruction might be available for some, crucially it is not offered for all of the properties covered in our investigation, and it is much less likely to be available in the case of negative evidence. Thus, instruction is disqualified as an overarching explanation for success. As a result of the ambiguity of input and the fact that learners are not likely to receive instruction regarding all relevant properties, a target specification of L2 features may be delayed or never be fully achieved due to transfer effects from the L1 (e.g. Ionin et al., 2009; Schwartz & Sprouse, 1996). In fact, if the Subset Principle holds in L2 acquisition (but see White, 1989 as discussed in Slabakova, 2002) and if L1 transfer truly obtains, one could expect to find English L2 learners to never fully preempt [+generic] reading assignment to BPs in L2 Spanish, contrary to what we will argue to be the case in the present context.

The L2 acquisition of BP NPs and DefP NPs

The acquisition of the semantics of DefP preverbal subjects among English-speaking learners of Romance languages is an area of increasing interest for L2 researchers. Specifically, researchers have been interested in the role of L1 transfer in the acquisition of L2 semantic interpretations (e.g. Ionin et al., 2009; Ionin & Montrul, 2009, 2010; Slabakova, 2006; Snape, 2008). Most researchers have found that overall, adult L2 learners are able to acquire new L2 semantic interpretations of DefP subjects (e.g. *the lions*) but encounter persistent difficulties in unlearning existing L1 semantic options.

Slabakova (2006) is one of the few studies examining these properties. She adopted Longobardi's (2001) *Bare Noun/Proper Name Parameter* to test L2 acquisition in this domain by English-speaking L2 learners of Italian and Italian-speaking L2 learners of English. The comparison is relevant because Italian behaves both similarly to Spanish and differently from English, in the distribution and syntactic forms of BP nouns, despite subtle semantic differences from Spanish. To test the possibility of parameter resetting and the expected convergence on seemingly unrelated semantic properties, Slabakova examined and compared a group of 76 Italian-speaking L2 learners of English and compared them to a control group of 24 English natives. Additionally, she examined a group of

51 English-speaking L2 learners of Italian, in comparison to a control group of 28 native Italian speakers across two experimental tasks. The results from a truth value judgment task and a grammaticality judgment task indicated that L2 learners are able to restructure the parameter according to the target language, both syntactically and semantically.

Another study examining the acquisition of DP syntax and semantics in Romance languages is Ionin et al.'s (2009) bidirectional study. The authors examined the extent to which English-speaking learners of Spanish and Spanish-speaking learners of English can interpret the generic and specific L2 readings of DefP NPs in subject position. Assuming L1 transfer (e.g. Schwartz & Sprouse, 1996), the authors expected L1 effects in both directions. That is, the authors predicted English natives to show difficulty in the acquisition of the generic meaning of DefPs in Spanish L2, an option not available in English for DefPs. They also predicted Spanish natives to have difficulty unlearning the nongeneric meaning of DefP DPs in English L2 and instead to allow them to be interpreted as either generic or specific (an overgeneralization pattern). The authors expected this latter case—the unlearning of the generic meaning in L2 English—to be more challenging than the learning of a new semantic interpretation (+generic) of DefPs by English-speaking L2 learners of Spanish. Ionin et al. based this assumption on the fact that English learners of Spanish are exposed to positive evidence in the input in which DefPs are used with either a generic or specific meaning. Thus, they expected English natives to reset their L1 options in L2 Spanish and recover from undergeneralization errors in the L1 English→L2 Spanish direction. Results from a truth value judgment task with 48 Spanish-speaking learners of English and 58 English-speaking learners of Spanish showed transfer effects in both directions. However, the results confirmed the authors' expectations of more difficulty in the L1 Spanish→L2 English direction (unlearning in L2 English the available L1 Spanish option of DefPs with a generic reading). The authors concluded that these results confirmed Slabakova's (2006) findings and provided further evidence in favor of Full-Transfer/Full-Access predictions (e.g. Schwartz & Sprouse, 1996).

More recently, Ionin and Montrul (2010) found additional similar L1 transfer in the direction L1 Spanish→L2 English. The authors investigated the role of transfer in the acquisition of definite articles in English L2 by Spanish ($n = 24$) and Korean ($n = 29$) native speakers. Although Korean has no definite articles, Spanish DefP DPs allow a generic meaning and English DefPs do not. Therefore, the authors expected Spanish speakers to overaccept English definite articles with an ungrammatical generic interpretation significantly more than proficiency-matched Korean learners. Results from a truth value judgment task and an acceptability judgment task confirmed their expectations. Spanish speakers overextended the generic interpretation to English DefPs significantly more than the Korean L2 learners. The Korean speakers were more successful in assigning the target-specific values to English DefPs.⁹ However, the results from a follow-up study showed that Spanish advanced L2-English learners were eventually able to recover from L1 transfer effects, despite lack of positive evidence and explicit instruction, and reached target-like competence levels comparable to those of Korean L2-English learners. These results indicate that the L2 acquisition of the semantics of DPs is initially vulnerable to transfer effects, but eventually, L2 learners are able to recover and achieve native-like performance. As in the case of Slabakova's study, the authors conclude that their findings are inconclusive as to whether the source of the recovery stems from the full specification of domain-specific linguistic knowledge provided by UG or from domain-general metalinguistic strategies.

Similar results on the full acquisition of DP-related structures and consequent resetting of L1 parametric options were found by Snape (2008). The author examined the L2 acquisition of the NMP in English L2 by Spanish- and Japanese-speaking learners. Specifically, the author investigated whether adult L2 learners from different L1s come to acquire the parametric distinction between mass and count nouns and the properties of different types of definite DPs in English. Spanish and English behave similarly in that both languages have a count and a mass semantic domain. However,

as we discussed, Spanish differs from English in that, in general, nouns must be licensed by a phonological overt article and BPs are not allowed. In English, count nouns can occur both with overt articles and as BPs. Japanese, on the other hand, differs from English in that it lacks a mass–count plural distinction and that bare nouns are not allowed. Thus, only a mass (kind) meaning is lexically specified as part of nouns. The author predicted Japanese and Spanish learners to change their L1 parametric setting into English despite different L1 options. Results from an acceptability judgment task and an elicited production task confirmed the author's expectations, although there were some persistent L1 transfer effects among the Japanese speakers in the elicitation task. In the acceptability task, both Japanese and Spanish advanced learners showed sensitivity to the count–mass distinction in English, although the Spanish learners incorrectly accepted ungrammatical mass plural conditions (e.g. **some butters*). In the elicited production task, the Japanese speakers showed some difficulty in the use of definite determiners in the plural and mass NP conditions. Snape argued that this persistent problem among the Japanese learners stemmed from the different pragmatic uses of definites in Japanese and not from a representational deficit. He concluded that both groups of L2 learners have full access to UG constraints and have successfully reset the NMP, despite some continued difficulties in the mapping between pragmatic and syntactic information among the Japanese learners (e.g. Bos, Hollebrandse, & Sleeman, 2004; Sorace, 1993).

The studies above on the L2 acquisition of DP subject interpretations in Spanish are relevant in that they focus on the acquisition of the semantics of either BPs or DefPs. Nevertheless, none of them examine the parallel acquisition of both properties by the same groups of L2 learners. The current study attempts to fill this gap by examining L2 learners' parallel acquisition of aspects of the syntax-semantics of both DefP and BP subjects, focusing on the acquisition of L2 Spanish by English native speakers. It is important to examine the acquisition of these two phenomena by the same group in order to address in a unified way the extent to which complete acquisition of target-like representations in this domain is or is not possible. That is, this analysis will allow us to test the necessary expansion by L2 Spanish learners of the possibilities allowed by their L1 English grammar (to allow a generic interpretation of DefPs) as well as whether these learners constrain their L1 grammars by rejecting a generic interpretation of BP subjects in Spanish.

The study

Participants

The study tested 26 ($n = 26$) subjects: 16 advanced L2 learners and 10 native Spanish controls. A larger study included another 18 advanced learners, but we excluded these other participants from the analysis that we report given what we deemed to be unreliability in the assessment of their L2 proficiency. Given our focus on potential for ultimate attainment in this domain, determining reliably the subjects' advanced proficiency was of great importance. As a result, we report herein only data from the 16 advanced learners for whom there is no question of their advanced proficiency. It is nonetheless interesting to note that the data from the excluded participants did not differ from the patterns seen in the 16 subjects considered in the present study.

The L2 learner group consisted of English-speaking adult L2 learners of Spanish, collected from a pool of graduate students at a major US research university. The control group included 10 university-educated Spanish native speakers from Spain. There are no reported dialectal differences in the interpretation and use of BP nouns across Spanish dialects. Therefore, having control participants from a single Spanish-speaking country was not an issue.

All participants filled out a language background questionnaire and took a standardized proficiency placement exam standardly used in generative L2 Spanish research over the past decade. The

proficiency placement consisted of two sections: a cloze passage with three multiple-choice response options for each blank adapted from a version of the *Diploma de Español como Lengua Extranjera* (DELE) and a multiple-choice question part adapted from an Modern Language Assessment (MLA) placement test (e.g. Montrul & Slabakova, 2003). The total maximum combined score was 50 points. Advanced-level proficiency was set at 40–50. The native average score was 48.6 with a range of 47–50, whereas the L2 learners had an average score of 44.4 with a range of 41–49.

Data elicitation

Both groups completed a Context Felicitousness Task (CFT) based on test sentences adapted from Slabakova (2006).¹⁰ As was the case of Slabakova (2006), the target sentences varying the presence of articles within the preverbal subject DP were paired with different conditions/contexts as a type of counter balance. In addition, the syntactic positions of the target NP and adjectival modification were controlled for. We interspersed 72 fillers focusing on various unrelated properties (used to test the learners for other studies) with the test materials. These properties, which are not discussed here, included various instances of N-drop (using cues of gender concord), adjective syntactic placement, and adjectival semantics. All stimuli were presented randomly via computer-mediated modules.

The CFT consisted of 24 test sentences each preceded by a short story, interspersed with the filler items, all in Spanish. The purpose of each story was to provide an appropriate context (either [+generic] or [+specific]) for the test sentence. The purpose of the test sentences was to assess the participants' interpretation of either Spanish DefPs or BPs in a pragmatically rich context. Participants were instructed to read the context story first, read the test sentence, and then indicate whether the sentence was "fine" or "odd" according to the context. In the case that the participants judged the sentence to be "odd," they were instructed to provide a correction of the sentence or a reason why they thought it was odd. There were four test conditions with six tokens each, alternating the variables [+generic] and [+specific] in the story context with DefPs and BPs in the test sentences, as represented in (9)–(12) below:

(9) DefP subjects with generic context reading

A mi amigo Alberto le gusta hacer predicciones sobre la economía mundial. El otro día me dijo que los países pequeños se beneficiarán mucho de los avances tecnológicos del siglo 21. Estos se harán cada vez más ricos mientras que otros grandes se harán cada vez más pobres.

"My friend Alberto likes to make predictions about the world economy. The other day, he told me that small countries will benefit a lot from the technological advantages of the 21 century. These countries will get richer and richer while big countries will get poorer and poorer."

Según mi amigo Alberto, los países pequeños serán más prósperos en el siglo 21.

SPAN✓, ENG*

According my friend Alberto, the countries small will be more prosperous in the century 21.

"According to my friend Alberto, small countries will be more prosperous in the 21st century."

(10) DefP subjects with specific context reading

El verano pasado fuimos a un festival en el centro del pueblo. Había juegos, música y una variedad grande de comida y bebidas. Claro que los adultos tomaron vino y cerveza mientras los niños tomaron refrescos y jugo.

"Last summer, we went to a festival downtown. There were games, music and a large variety of food and drinks. Of course, the adults drank wine and beer, while the children drank soda and juice."

Los niños no tomaron bebidas alcohólicas.

SPAN√, ENG√

The children not drank drinks alcoholic

"The children did not drink alcohol."

(11) BP subjects with generic context reading

No me gustan los gatos pequeños pero me encantan los grandes. Lo que más me gusta de ellos es que cada uno piensa que ser gato grande en este mundo significa ser inteligente y muy guapo ¡Qué grupo de animales más divertido!

"I don't like small cats but I love the big ones. What I like the best about them is that each one thinks that being a big cat in this world means being intelligent and good looking. What a fun group of animals!"

Gatos grandes tienen una opinión muy alta de ellos mismos.

SPAN*, ENG√

Cats big have an opinion too high of they self

"Big cats have a very high opinion of themselves."

(12) BP subjects with specific context reading

Hace unos años, los políticos de mi país no mencionaban nada en cuanto a la religión durante las campañas políticas para no ofender a nadie. No obstante, las cosas van cambiando poco a poco y los políticos hablan cada vez más de la religión.

"A few years ago, my country's politicians did not mention anything about religion during their political campaigns so they did not offend anyone. However, things are changing little by little and politicians speak more and more about religion these days."

Anteriormente, políticos de mi país no hablaban mucho de religión.

SPAN*, ENG*

Previously, politicians of my country not spoke much of religion.

"Previously, my country's politicians did not use to speak too much about religion."

Results

This section presents the empirical results of the CFT. The statistical analysis consisted of a mixed analysis of variance (ANOVA) with the group/proficiency level as the between-groups factor and the category type (type of nominal and context) as the within-groups factor. When necessary, Bonferroni post hoc analyses were conducted to determine any differences between the groups.

Figure 2 below shows the average group acceptance for each of the DP subject/context types. It can be seen that the native speaker group reliably accepts the two grammatical categories (DefPs in [+generic] contexts and DefPs in [+specific] contexts) and rejects, with proper correction (i.e. the addition of an article), the ungrammatical categories (BPs in a [+specific] context and BPs in a [+generic] context).

The advanced speaker group also reliably accepts DefPs in both [+generic] and [+specific] contexts with an average group acceptance of 5.19 and 5.31, respectively. Since English already allows for DefPs in [+specific] contexts, good performance on that category was entirely expected.

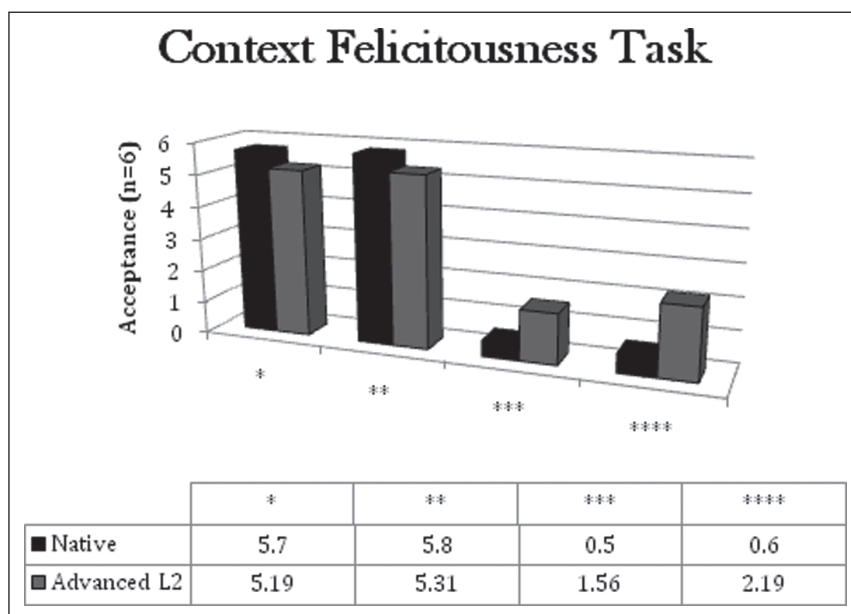


Figure 2. Acceptance rate for context felicitousness task.

*, DefP/[+generic] context, Spanish/*English; **, DefP/[+specific] context, Spanish/English; ***, BP/[+specific] context, *Spanish/*English; ****, BP/[+generic] context, *Spanish/English.

Given their advanced proficiency, we also anticipated the possibility that these learners would perform well on DefPs with [+generic] contexts, which was confirmed by the data. It appears that they have accurately expanded their L1-transferred grammar to assign [+generic] interpretations to DefP preverbal subjects in Spanish. Importantly, we note that the group averages for these two categories are truly representative of individual grammars, which is to say that there was very little variation among individuals within either group, native or nonnative.

Although it is clear from the data that advanced English learners of Spanish map [+generic] interpretations on to DefP subject, the question remains as to whether their grammars are truly target like. That is, do they also know that [+generic] interpretations cannot be mapped to BP preverbal subjects? Remember that for BP subject interpretation, the acquisition task of the L2 speaker group is to eliminate an L1 possible reading, namely, to block a [+generic] reading for BP subjects. The advanced speaker group shows a trend toward doing so. However, they do not perform as a group like the native speakers do since they incorrectly accept approximately one-third of the BP subjects provided in [+generic] contexts as grammatical. In addition, although the L2 learner group averages for the two DefP subject contexts resulted from a narrow range of individual scores, the group averages for the BP subjects resulted from a wider range of individual responses. Nevertheless, as can be seen in Figure 3, a subgroup of the advanced speaker individuals ($n = 8$ or 50%) in fact performed entirely within the range of native speaker performance in all four categories, demonstrating that full convergence is possible.

Now that we have seen a descriptive analysis of the test results, we provide a statistical analysis of the data before making any definitive claims about the results. The results of a mixed-model ANOVA showed that there was a main effect for group: $F(2,40) = 1.64$, $p < .01$. A main effect was also found for type (i.e. DefPs vs. BPs): $F(1,40) = 172.66$, $p < .0001$. Finally, no main effect was found for context (generic vs. specific): $F(1,40) = 1.08$, $p = .30$. The results of this analysis mean that the two advanced learner subgroups performed somewhat differently from the native control

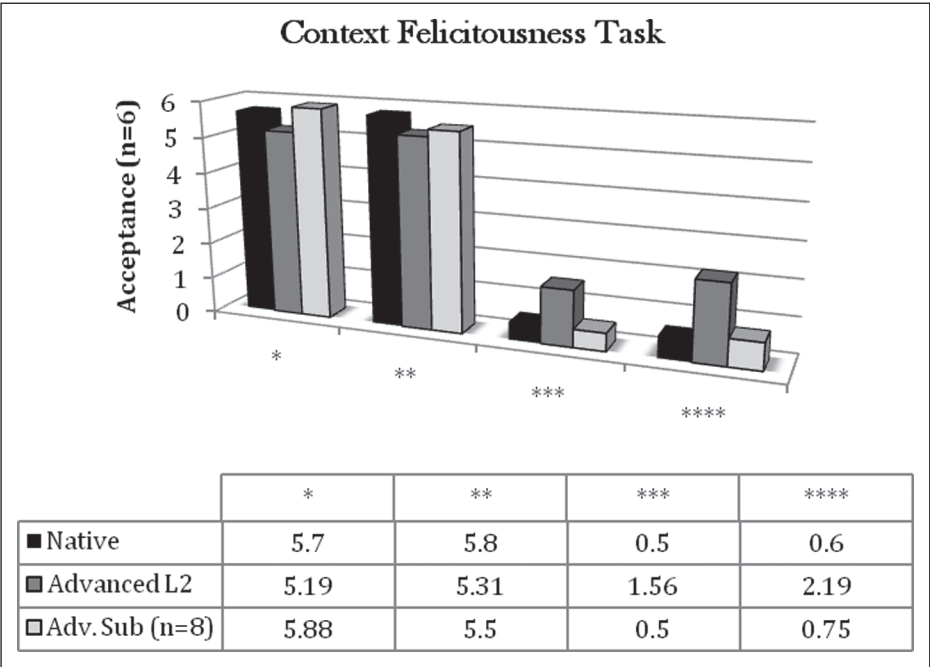


Figure 3. CFT acceptance rate, dividing advanced group by performance.
CFT: Context Felicitousness Task; *: DefP/[+generic] context, Spanish/*English; **: DefP/[+specific] context, Spanish/English; ***: BP/[+specific] context, *Spanish/*English; ****: BP/[+generic] context, *Spanish/English.

group with regards to at least some of their average acceptance of the category types discussed above. Despite any differences between the group performances, all groups distinguished between nominal subject types (DefPs vs. BPs), although the context type alone did not have much, if any, bearing on the average acceptance of the participant groups. Additionally, it was found that there was an interaction between group and type ($F(2,40) = 5.29, p < .009$) and between type and context ($F(1,40) = 14.17, p < .000$).

Bonferroni post hoc tests showed a significant difference for the type of nominal ($p < .0001$) for each group. This indicates that, as a whole, none of the participant groups treated DefP and BP subjects in the same manner. Significant differences were found for all groups between their acceptance of DefPs and their acceptance of BPs. This indicates that both participant groups differentiate in a target manner between DefP and BP subjects. This difference is expected considering that the use of BP subjects in Spanish is not fully licensed in most contexts, whereas DefP subjects encompass the semantic distribution of both BPs and DefPs in English. That is, BP subjects are not felicitous in Spanish with either of the interpretations ([+generic] or [+specific]) represented in the corresponding context stories. Alternatively, this indicates that semantic context determines if either a DefP or a BP subject is felicitous in Spanish (under the view that BP subjects are allowed in other, albeit restricted, semantic contexts, see section “Introduction: Bare and definite plurals in English and Spanish”).

Finally, significant differences were found between the following type and context combinations: DefP generic versus BP generic ($p < .0001$) and DefP specific versus BP specific ($p < .0001$). This is, of course, fully expected due to the difference between the DefPs and BPs. No significant differences were found between DefP generic versus DefP specific ($p = .063$) or BP specific versus BP generic ($p = .061$).

Discussion and conclusion

Bringing the descriptive and statistical analyses of the results together, it seems reasonable to argue that advanced English learners of L2 Spanish demonstrate target knowledge of the semantic mappings that are possible to DefP and BP subjects in Spanish. However, while all groups performed statistically similarly in the DefP subject categories, the advanced learners group did not disallow [+generic] BP subjects to the same degree as natives. It is important to note that they did reject such BP subjects more than chance-level performances would indicate and, crucially, in contrast to what their native English language requires due to licensing a [+generic] meaning of BPs. Such performances are consistent with the developmental and ultimate attainment predictions that follow from the Full Transfer/Full Access model (e.g. Schwartz & Sprouse, 1996). Our results are in line with the results of other studies examining the performance of English learners of L2 Spanish at lower proficiency levels and even Spanish learners of L2 English in the same domain (e.g. Cuza, Guijarro-Fuentes, Judy, & Rothman, 2008; Ionin et al., 2009; Ionin & Montrul, 2010), all of which have shown clear patterns of full transfer and evidence toward convergence, implicating adult accessibility to UG. As it pertains to our advanced learners, traces of English influence are found in their acceptance level for [+generic] BP subjects. This would be consistent with Gabriele's (2005) claim that a preemption problem can arise for L2 semantics, resulting in optionality for L1/L2 meaning mappings within the L2. While it is clear from our data that semantic preemption is difficult and thus contributes to explanations of developmental delays, it is not the case that semantic preemption is impossible. A look at the individual data of the advanced L2 learner group revealed that 8 out of 16 advanced learners not only accepted [+generic] DefP subjects but also rejected [+generic] BP subjects to a level that is equivalent to what is found for the native speaker controls (see advanced subgroup in Figure 2). From this observation, we claim that complete convergence in this domain is possible. In other words, L1 semantic preemption is possible in the context of adult L2 acquisition.

The question now remains as to how full L2 convergence in this domain is possible given the way we have framed the learning task in question, which would appeal to an unfavorable subset/superset relationship for one of the two properties to be acquired as part of this task. Something that sets this study apart from others looking at similar properties (e.g. Ionin et al., 2009) involves our focus not only on the need for the L2 learners to acquire a [+generic] interpretation of DefP preverbal subjects but also on their need to unmap this [+generic] interpretation from BP subjects, against what would be predicted by L1 transfer alone. A strict interpretation of Full Transfer/Full Access would predict that the unlearning step should not only be more difficult than acquiring a new interpretation, but perhaps ultimately impossible if the subset/superset scenario we presented earlier were taken to impose strict restrictions on the learning task. With this in mind, let us explore an approach that can explain our results while maintaining that Full Transfer/Full Access is supported without difficulty.

We had suggested that the possible meanings assigned to DefP and BP subjects in Spanish and English are structured in a type of subset/superset relationship (see Figure 1). Let us now consider the possibility that the subset/superset properties we have claimed to yield a learnability problem only superficially do so. As we discussed, for a subset/superset relationship to cause inescapable problems for L2 convergence, the relationship has to be one in which parsing failures become impossible as a result of an initial but nontarget-like superset choice, whereby grammatical restructuring leading to the subset choice cannot be obtained. In other words, if the learnability problem arises, the grammatical trigger that would yield the target semantic mapping (the subset choice for BPs in Spanish) would be unnoticeable/unacquirable as a result of the initial superset choice, preventing convergence on the subset target from taking place.

However, the learnability problem may in fact not remain in the present situation, if the superset/subset scenario is formally recast in terms of the specifications of the NMP (Chierchia, 1998). Considering the lexical features [\pm argument] and [\pm predicate] that Chierchia (1998) argues specify the settings of the NMP, the learning task for the English learner of L2 Spanish can be revised in a unified way, so that the English L2 learner of Spanish simply has to learn that Spanish has a [$-\text{argument}$] specification and only the [$+\text{predicate}$] feature is relevant (different from the English [$+\text{argument}$, $+\text{predicate}$] specification). Therefore, if it is true that all nominals are inherently/lexically predicative or [$-\text{argument}$, $+\text{predicate}$] in Spanish, the fact that the input shows nouns in behavior that is compatible with [$-\text{argument}$] should provide cues to the learner to identify that the [$+\text{argument}$] feature indeed does not apply in Spanish. One way in which learners receive at least indirect cues from the input that nouns are lexically [$-\text{argument}$] occurs when they encounter plural count nouns with a [$+\text{generic}$] interpretation (kind-denotation) in subject position and with the projection of a definite DP. This kind of input is possible only in a language in which nominals are lexically [$-\text{argument}$] (that is, Spanish, but not English). On the other hand, a possible cue for setting the NMP as either [$+\text{argument}$] may be the occurrence of BPs with a [$+\text{generic}$] interpretation in the input, which would trigger the setting of the parameter as [$+\text{argument}$], that is, English but not Spanish. In the absence of the latter kind of input, the learners would need other types of cues to conclude that the language in question is [$+\text{argument}$]. Therefore, given that Spanish, even in a L2-acquisition setting, only offers cues for the setting of the parameter as [$-\text{argument}$] (DefPs, but not BPs with [$+\text{generic}$] interpretation), this scenario may very well be sufficient for the acquisition of the target settings for L2 Spanish, circumventing the learnability problem we initially considered. Once these cues are correctly identified, the NMP is reset, from which semantic mappings that would on the surface be in a subset/superset relationship, as shown in Figure 1 for BPs, simply fall out. In sum, this outcome would effectively eliminate the existence of the learnability problem we discussed before, which we identified as a semantic preemption problem.

Nevertheless, even under a NMP resetting scenario, it is reasonable to assume that it would require substantial exposure to Spanish to reset the [argument] feature specification of nouns to [$-\text{argument}$], since the learners start with a [$+\text{argument}$] specification from English.¹¹ Input quality is a real issue here since in order for the learners to lose the [$+\text{argument}$] feature they would need unambiguous input that subject NPs are never inherently specified as arguments in Spanish. Let us agree that most L2 learners of Spanish do not always receive unambiguous input since unlike native speaker acquirers they receive input from at least two sources: native speakers and nonnative speakers. This is true, at least, for tutored L2 learners in general. L2 Spanish learners in this study, despite all testing at the advanced level of proficiency, are essentially tutored learners. It might be the case that having to filter through native and nonnative input throughout development makes convergence more difficult in this domain, extending its time frame. Such a claim is testable in future research by comparing tutored versus naturalistic L2 learners of Spanish, since the latter group is likely to have much less access to nonnative input and much more access to native input.

Furthermore, if a parameter resetting explanation is on the right track and the NMP is reset late at least in some cases, under the present circumstances, then one might argue that we leave unexplained the asymmetry we noted in the L2 learner target assignment of [$+\text{generic}$] interpretations to DefP but not to BP subjects, which we took to be at the source of the preemption problem we considered. If indeed the meaning mappings simply fall out from the specification of the [\pm argument], then why would there be any asymmetry in this regard? That is, if the specification is [$+\text{argument}$], the mapping corollaries should result in [$+\text{generic}$] interpretations only to BP subjects, and if the specification is [$-\text{argument}$], then the [$+\text{generic}$] mapping should be exclusively to DefP subjects. Nevertheless, as we showed, some of the advanced learners tested here did allow [$+\text{generic}$]

interpretations with both BP and DefP subjects.¹² When this pattern is present, we take it to indicate that the NMP has not yet been underlyingly reset in L2 Spanish.

Alternatively, in order to explain similar ambiguous outcomes, Slabakova (2006) hinted at the possibility that transfer and UG accessibility might not be the only variables involved in the L2 acquisition of these properties or at least in the explanation of all L2 behavior for these properties at every level of proficiency. It is possible that the pattern noted is related to instruction. L2 learners are often instructed that in Spanish the definite article is normally used more often than in English, which correlates to the fact that DefP subjects can take generic and specific readings (e.g. Ascarrunz-Gilman, Levy-Konesky, & Daggett, 2005, p. 20). However, they are not instructed on the fact that BP subjects cannot take generic readings. Therefore, the asymmetric pattern noted above might not relate to acquisition plus an L1 preemption problem but rather earlier domain-general learning of properties that are descriptively the same as some of the semantic reflexes of the NMP resetting. This would still be compatible with the idea that L2 learners face difficulties resetting the NMP to a new target. Nevertheless, one cannot reach decisive conclusions in this respect without additional tests of instructional effects. As in Slabakova (2006), extralinguistic influences are not systematically investigated herein, given the focus on the acquisition of properties internal to the linguistic system. It would be relevant to consider these potential co-occurring influences in future studies. Controlling for or testing them in this way may prove fruitful toward the explanation of L2 performance. Future research that can tease the necessary variables apart in this regard is warranted.

A distinct source of the learning asymmetry in question may instead be the syntactic distribution alone of the relevant cues for L2 Spanish acquisition. As the test conditions in (9)–(12) illustrate, the input data show that DefPs are grammatical both with [+generic] and [+specific] interpretations, whereas BPs are ungrammatical with both possibilities in Spanish. Given that English allows both DefPs and BPs, learners may be led to sometimes accept BPs in the Spanish test data independently of their interpretation and licensing context, simply because these forms are syntactically possible in English (albeit only with a [+generic], not [+specific] interpretation), together with DefPs. Evidence that would support this hypothesis comes, for instance, from the fact that the two advanced groups showed similar rates of acceptance for both types of BPs independently of their [+specific] or [+generic] interpretations; that is, there was no statistically significant difference between the rates of acceptance of BPs with a [+specific] and a [+generic] interpretations by the L2 learners, as shown in section “Results.” This alternative explanation for the asymmetry above would capitalize on the fact that at least some learners may have more difficulty in rejecting structures that are syntactically unacceptable in the target grammar (BPs) but not in their L1 and would provide additional or independent motivation for the existence of the asymmetry we observed in the L2 learner test results. Despite this possibility, it is important to reiterate that a subgroup of the advanced learners did not show difficulties leading to the asymmetry at all and showed performance that was not significantly different from the native speakers regarding any of the test conditions.

Notwithstanding all of the questions and possibilities we have proposed, the data and results we have presented further contribute to our understanding of L2 acquisition in this domain, in addition to comparable studies available in the literature. Unlike Bley-Vroman’s (1990) all or nothing stance, much research in the generative tradition in the past two decades has acknowledged that the absence of totally target-like L2 convergence does not preclude an active role for UG in adult L2 acquisition. UG can still be accessed by adult learners even in the case where certain divergent outcomes at high levels can be obtained (e.g. Lardiere, 2007, 2009; Snape, 2008; Sorace, 1993). Even partial-access approaches acknowledge some level of UG effect in the adult L2-acquisition process. We take our results to be consistent with models that advocate a stronger UG role in L2 acquisition, in particular the Full Transfer/Full Access model.

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Notes

1. For the purposes of this study, we focus on BPs of count nouns in subject position, which clearly show the kind-denoting versus subset-denoting contrast above. The paradigms are different for noncount nouns. Krifka et al. (1995) provide a thorough discussion of the types of generics in English.
2. However, we acknowledge (e.g. with Serratrice, Sorace, Filiaci & Baldo, 2009) that there are independent issues that raise difficulties for the NMP.
3. Example (3) may not be acceptable to some native speakers, but the relevant point here is to show the availability of examples such as this in Spanish.
4. Take for instance (i) in English. The generic reading does not require the existence of saber-tooth tigers (in fact, they are now extinct), although their existence may actually be (incorrectly) inferred from the generic interpretation: (i) Saber-tooth tigers have massive teeth.
5. Typological crosslinguistic variation is constrained by the fact that “ \cap ” is lower than “ \cup ,” in Dayal’s formal analysis.
6. Subset reference has also less commonly been treated as maximality.
7. Space limitations do not permit us to review in further detail the other syntax-semantic proposals. Nevertheless, we are aware of competing proposals that attempt to explain the same phenomena covered by Chierchia’s (1998) NMP, such as Longobardi’s (1994, 2001) N-to-D movement and Vergnaud & Zubizarreta’s (1992) proposal, which appeals to the parameterization of the definite determiner itself. We have elected to use the NMP because it makes precise predictions regarding the scope of this study and most accurately explains the contrast between the two languages involved in this study. We are also aware of crosslinguistic evidence that challenges the tenability of Chierchia’s original (1998) proposal. However, we also appeal to Dayal’s (2004) proposal, which addresses at least some of the shortcomings of the original NMP.
8. Since a specific reading may be more prominent with individual event predicates, the experimental test sentences used in this study are restricted to state or property-denoting predicates.
9. However, some of the Korean L2 learners of English showed difficulty by assigning a [+specific] reading to BPs, an option available in Korean but not in English. This indicates an overacceptance pattern similar to the acquisition of DefPs by Spanish learners but in this case regarding the acquisition of BPs by Korean learners.
10. We note that Slabakova labeled this task a Truth Value Judgment Task. We thank her greatly for sharing with us details of her task as well as the actual experimental protocol.
11. Under this view, one possible consequence is that NMP is a parameter that would in general be expected to be reset late.
12. This pattern was much more common among intermediate learners excluded from this study, among which optionality hovers around 50%. However, the simultaneous assignment of [+generic] interpretation to DefPs and BPs remained even among some of the advanced learners considered here.

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