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Focus and split-intransitivity: the acquisition of word order alternations in non-native Spanish

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Recent unrelated studies reveal what appears to be a common acquisitional pattern in second language acquisition (SLA). While some findings show that advanced learners can indeed achieve convergent, native-like competence with formal syntactic properties (even when these are underdetermined by the input), other findings suggest that they can display divergent and even optional competence at the syntax–discourse interface with discursive properties like focus and topic. These apparently contradictory observations are not coincidental, as they can also be traced in other acquisitional studies on L1 acquisition, L1 attrition in bilinguals, child SLA and SLI (specific language impairment).

If this pattern is correct, it should be observed in the L2 acquisition of any given property that is simultaneously governed by both a formal grammatical constraint and a discursive constraint. I tested whether this is the case in advanced non-native Spanish acquisition of the syntactic distribution of subject–verb (SV) and verb–subject (VS) word order, which is constrained by both a formal syntactic property (the Unaccusative Hypothesis or Split-intransitivity Hypothesis) and a property at the syntax–discourse interface (presentational focus).

Results show that the interlanguage grammars (ILGs) of both English ($n = 17$) and Greek ($n = 18$) learners of Spanish converge with the grammars of native Spanish speakers ($n = 14$) when formal properties are involved, yet they diverge (in particular by showing optionality) with discursive focus. These results confirm the emerging view that acquisition of formal syntactic properties is more readily acquired than discourse properties, which are persistently problematic.

I Introduction

An examination of recent work on second language acquisition (SLA) reveals what seems to be an emerging pattern. Advanced second language (L2) learners' interlanguage grammars (ILGs) converge with native grammars when formal properties are involved, even when the constructions under investigation are underdetermined by the L2 input and are not instantiated in their L1 (Martohardjono, 1993; White and Genesee, 1996; Kanno, 1997; Pérez-Leroux and Glass, 1997; 1999; Hertel, 2000; 2003; Marsden, 2002). By contrast, advanced learners' ILGs diverge from native grammars at the syntax–discourse interface with properties like focus and topic, which seem persistently problematic (Polio, 1995; Pérez-Leroux and Glass, 1997; 1999; Al-Kasey and Pérez-Leroux, 1998; Pérez-Leroux *et al.*, 1999; Lozano, 2002b; 2002c; *in press*). In some cases, such divergence is characterized by optionality (Papp, 2000; Sorace, 2000; Lozano, 2003). Similar patterns are reported in bilingual L1 attrition (Satterfield, 2003; Helland, 2004; Montrul, 2004; Sorace, 2004; Tsimpli *et al.*, *in press*).

This emerging pattern, initially pointed out by Sorace (2004) for L1 attrition, is a fruitful area for future SLA research as new empirical evidence will need to elucidate whether formal constraints are in place before discursive ones. The current study addresses this question and, in particular, whether advanced learners show native-like, convergent knowledge of syntactic properties, yet divergent knowledge of discursive properties like focus. In order to test this expected trend, I examined the distribution of subject–verb (SV) and verb–subject (VS) word order in advanced L2 Spanish acquisition. Such alternations are determined by both a formal syntactic property, the Unaccusative Hypothesis (UH), and by a discursive constraint, presentational focus. A contextualized acceptability judgement task was administered to test sensitivity to these constraints by English-speaking and Greek-speaking advanced adult learners of L2 Spanish. Results confirm the expected trend that advanced learners' ILGs tend to converge with native grammars with formal syntactic properties, yet they diverge and show optionality at the syntax–discourse interface. In short, formal syntactic constraints appear to be in place before discursive constraints.

II Split intransitivity and word order

Learners of Spanish face the subtle task of discriminating among the rules governing free ‘subject inversion’ (the second property of the null-subject parameter) in seemingly optional word order alternations, (1) and (2), as the primary linguistic data underdetermines the constraints regulating them.

- | | | | | | | | |
|----|-----------|-----------|---------|---------|-----|-----------|------|
| 1) | Una mujer | gritó | (SV) | Gritó | una | mujer | (VS) |
| | A | woman | shouted | Shouted | a | woman | |
| 2) | Un vecino | vino | (SV) | Vino | un | vecino | (VS) |
| | A | neighbour | arrived | Arrived | a | neighbour | |

Under the Unaccusative Hypothesis (UH), or Split-intransitivity Hypothesis, intransitives are split into two distinct lexical classes, unergatives and unaccusatives, on the basis where the subject is base-generated (Burzio, 1986; Levin and Rappaport-Hovav, 1995; Rappaport-Hovav and Levin, 2000; for an overview of different versions of UH, see Mendikoetxea, 2000). While the [agent] subject of unergatives like *gritar* ‘to shout’ is base-generated preverbally in [Spec,VP] and then raises to [Spec,TP] to check nominative case, the [theme] subject of unaccusatives like *venir* ‘to arrive/come’ is base-generated postverbally in object position, [V,Comp].

To illustrate UH in the three languages under investigation (Spanish, Greek and English), consider the ‘out of the blue’ question, (3a), headed by *What happened?*, which requires an unfocused answer where the whole sentence is new information and no particular constituent is focused (Hertel, 2000; Domínguez, 2004)¹. The expected unfocused answer for an unergative like *shouted* (Spanish *gritó*, Greek *fonaxe*) is SV in English (3b i), Spanish (3b ii) and Greek (3b iii). By contrast, VS is ungrammatical in English (3c i) and pragmatically anomalous in both Spanish (3c ii) and Greek (3c iii), hence the double question marks.

- | | | | |
|----|----|---|------------------------|
| 3) | a. | ‘What happened last night in the street?’ | |
| | b. | (i) A woman shouted | English unergative: SV |

¹Out-of-the-blue questions are presented only in English for reasons of conciseness, as the Spanish and Greek counterparts (*¿Qué pasó anoche en la calle?* and *Ti sinaini hthes to vradi sto dromo?* ‘What happened last night in the street?’) would trigger identical lack-of-focus effects.

- | | | |
|--------|--|---------------------------|
| (ii) | Una mujer gritó | Spanish unergative: SV |
| (iii) | Mia ginaika fonaxe
'A woman shouted' | Greek unergative: SV |
| c. (i) | * Shouted a woman | English unergative: * VS |
| (ii) | ?? Gritó una mujer | Spanish unergative: ?? VS |
| (iii) | ?? Fonaxe mia ginaika
'Shouted a woman' | Greek unergative: ?? VS |

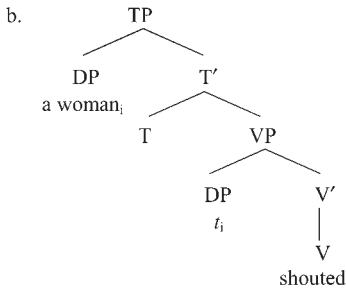
With an unaccusative like *arrived* (Spanish *llegó*, Greek *eftase*), a non-null subject language like English requires SV (4b i), as VS is ungrammatical (4c i).² By contrast, null-subject languages like Spanish and Greek require VS, (4c ii) and (4c iii), as SV is pragmatically odd, (4b ii) and (4b iii).

- | | | |
|--------|--|-----------------------------|
| 4) a. | 'What happened last night at the party?' | |
| b. (i) | The police arrived | English unaccusative: SV |
| (ii) | ?? La policía vino | Spanish unaccusative: ?? SV |
| (iii) | ?? I astinomia eftase | Greek unaccusative: ?? SV |
| | 'The police arrived' | |
| c. (i) | * Arrived the police | English unaccusative: * VS |
| (ii) | Vino la policía | Spanish unaccusative: VS |
| (iii) | Eftase i astinomia | Greek unaccusative: VS |
| | 'Arrived the police' | |

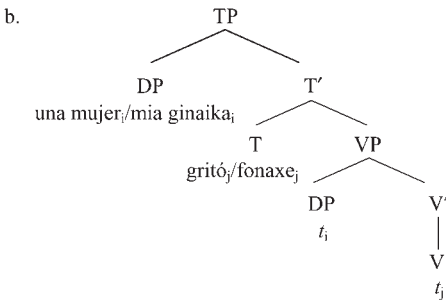
The exact derivation of unergatives vs. unaccusatives is crucial to the interpretation of the knowledge attained by the learners in the experimental section. The English unergative *shouted* in 5) base-generates in V, where it remains, as the English weak [V] feature of T cannot attract *shouted* to it. By contrast, Spanish and Greek strong [V] forces the verb *gritó/fonaxe* 'shouted' in (6) to raise to T (Zagona, 2002; Eguren and Fernández-Soriano, 2004). Under the VP-internal subject hypothesis, the subject *a woman / una mujer / mia ginaika* generates VP-internally in [Spec,VP] and then raises to [Spec,TP] to check nominative case in the three languages. The resulting surface word order is SV.

²A very small subset of English unaccusatives allow VS with expletive *there* insertion. Such behaviour is unpredictable, as it does not apply to all unaccusatives (Levin and Rappaport-Hovav, 1995).

- 5) a. A woman shouted (English unergative)

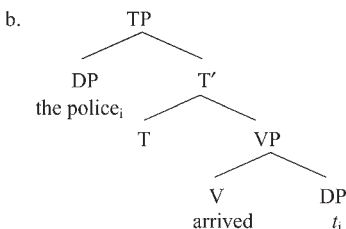


- 6) a. Una mujer gritó / Mia ginaika fonaxe (Spanish/Greek unergative)



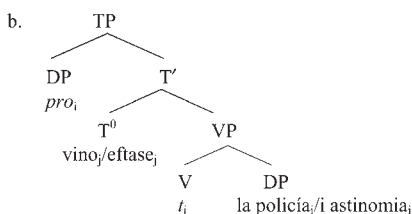
With unaccusatives, (7) and (8), the subject *the police/la policía/astinomia* generates VP-internally in object position, [VP,Comp], as required by UH. In English it then raises to [Spec,TP] to check nominative case. The resulting word order is SV, (7). By contrast, VS in (8) is the preferred order in Spanish and Greek (Ouhalla, 1991; Demonte, 1994; Rizzi, 1997a; Alexiadou and Anagnostopoulou, 1999; Zagana, 2002; Eguren and Fernández-Soriano, 2004). The subject can remain *in situ* in postverbal position since, crucially, the uninterpretable [D] and phi features on T license a null expletive subject (*pro*) in [Spec,TP], where it can check case.

- 7) a. The police arrived (English unaccusative)



8) a. *Vino la policía / Eftase i astinomia*

(Spanish/Greek unaccusative)



Apart from these syntactic diagnostics, UH is cross-linguistically supported by other morphosyntactic diagnostics (see, *inter alia*, Levin and Rappaport-Hovav, 1995; Rappaport-Hovav and Levin, 2000; Sorace, 2000a).

III The syntax–discourse interface and word order

Sentential information structure is cross-linguistically articulated into topic, the presupposed/known information shared between the speaker and the hearer and focus, the non-presupposed/new information in the sentence (Zubizarreta, 1998). Focus is not a unitary phenomenon, as two types can be distinguished (Gundel, 1998; Kiss, 1998): presentational focus (new information predicated about the topic) and contrastive focus (linguistic prominence for the purpose of contrast).³ While contrastive focus is a well researched left-peripheral phenomenon that holds cross-linguistically in several languages (for overviews, see Kiss, 1995; Breul, 2004), theoretical analyses of presentational focus are relatively recent. Only presentational focus is relevant for the current study (for semantic and syntactic differences of contrastive vs. presentational focus, see Kiss, 1998).

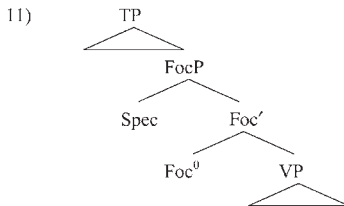
Given a relevant previous context, the presentationally focused constituent must appear in sentence-final position in Spanish, as left-peripheral (and, exceptionally, *in situ*) focus is necessarily interpreted as contrastive (Domínguez, 2004). In (9a) and (10a) the *wh*-question requires a presentationally focused subject as an answer. Such questions presuppose that the universe of discourse can contain an

³In the literature, contrastive focus is also termed narrow and identificational focus. Presentational focus is also termed wide focus and information focus and unfocused structures are also termed neutral focus.

unlimited set of entities unknown to speaker A. Speaker B's reply provides the new information, the presentationally focused subject *una mujer* 'a woman', which is a possible answer out of an unlimited set of entities. The expected word order is VS, where the focused subject appears in sentence-final position irrespective of verb type, either unergative, (9), or unaccusatives, (10), i.e. the surface syntactic reflex of UH is neutralized in presentational focus contexts.

- 9) a. ¿Quién gritó anoche en la calle?
 'Who shouted last night in the street'
- b. (i) ?? [UNA MUJER]_{Foc} gritó Spanish unergative: ?? SV
 'A woman shouted'
- (ii) Gritó [UNA MUJER]_{Foc} Spanish unergative: VS
- 10) a. ¿Quién vino anoche a la fiesta?
 'Who arrived last night at the party?'
- b. (i) ?? [LA POLICÍA]_{Foc} vino Spanish unaccusative: ?? SV
 'The police arrived'
- (ii) Vino [LA POLICÍA]_{Foc} Spanish unaccusative: VS

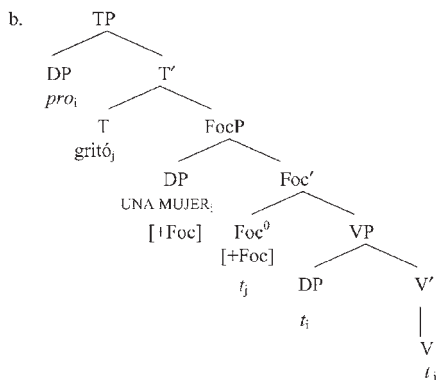
Belletti's (2000; 2003) and Belletti and Shlonsky's (1995) TP-internal presentational focus hypothesis captures the syntactic effects of presentational focus in Spanish.⁴ The functional head, Foc^0 , heads its own X-bar projection, Focus Phrase (FocP), analogous to other functional categories like T^0 and D^0 . Foc^0 merges with VP and, in turn, T^0 merges with FocP. FocP is located in a TP-internal position above VP and below TP, (11). Presentationally focused elements are displaced to [Spec,FocP].

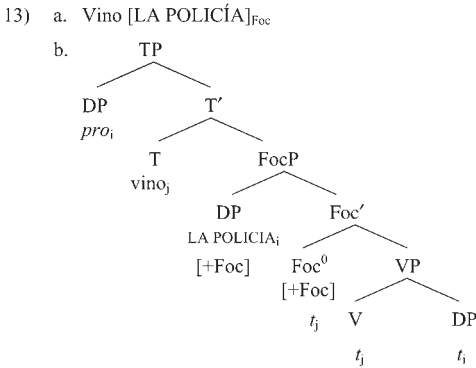


⁴Belletti's (2000; 2003) and Belletti and Shlonsky's (1995) analysis, originally proposed for Italian, is independently supported by an identical analysis proposed for a Bantu language (Ndayiragije, 1999). Additionally, IP-internal FocP also appears in Hungarian and Basque (Horvath, 1986), Chadic (Tuller, 1992) and Malayalam (Jayaseelan, 2001). This is in line with well-established syntactic analyses of focus (for overviews, see Kiss, 1995; Breul, 2004).

Feature checking triggers movement of the presentationally focused subject *una mujer* ‘a woman’ (or *la policía* ‘the police’) to [Spec,FocP], similarly to what occurs in the specifier of left-peripheral contrastive focus (for details, see Rizzi, 1997b). The focused subject contains an [+interpretable] focus feature, as focused elements are interpreted as new information by the conceptual-intentional system (CI). The strong focus head, Foc^0 , contains an uninterpretable [+Foc] feature whose only purpose is to attract the interpretable [+Foc] feature of the subject to its specifier for feature-checking purposes. Both features agree and the uninterpretable feature gets deleted. The interpretable feature proceeds to spell-out and is sent to LF (Logical Form). The derivation converges at LF. The CI system interprets the sentence-final subject as presentationally focused. More specifically, Spanish unergative *gritó* ‘shouted’, (12), and unaccusative *vinó* ‘arrived’, (13), cyclically raise (via Foc^0) to check T’s strong [V] feature. The subject *una mujer* ‘a woman’ generates in [Spec,VP] with the unergative verb, (12), but *la policía* ‘the police’ generates in [Comp,VP] with the unaccusative verb, (13), as the UH stipulates. The uninterpretable [+Foc] feature of Foc^0 attracts the interpretable [+Foc] subject *una mujer / la policía* to [Spec,FocP]. Crucially, *pro* in [Spec,TP] can check the subject’s nominative case. The resulting word order is VS for both verb types.

12) a. Gritó [UNA MUJER]_{Foc}



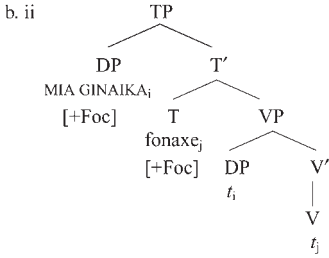
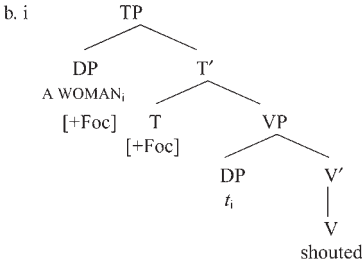


Presentational focus is marked *in situ* rather than syntactically in English (Kiss, 1998; Rochemont, 1998; Domínguez, 2004) and in Greek (Tsimpli, 1995; Kiss, 1998; Roussou and Tsimpli, 2002), although it can be also marked by prosody in spoken language.⁵ Recall that with unergatives like *shouted* (Greek *fonaxe*), the subject generates in [Spec,VP], (14b i,ii), yet with unaccusatives like *arrived* (Greek *eftase*) it generates postverbally in object position (15b i,ii), as stipulated by UH. In both languages and with both verb types the subject raises to [Spec,TP], where it can check case and focus.⁶ While the Greek verb raises to T, it remains under V in English, as argued earlier. The resulting word order for both verb types in both languages is SV.

- 14) a. 'Who shouted last night in the street?'
- | | | |
|--------|--|--------------------------|
| b. (i) | [A WOMAN] _{Foc} shouted | English unergative: SV |
| (ii) | [MIA GINAİKA] _{Foc} fonaxe | Greek unergative: SV |
| | 'A woman shouted' | |
| c. (i) | * Shouted [A WOMAN] _{Foc} | English unergative: * VS |
| (ii) | ?? Fonaxe [MIA GINAİKA] _{Foc} | Greek unergative: ?? VS |
| | 'Shouted a woman' | |

⁵Tsimpli (1995) argues that Greek focused elements can either raise to the left periphery (overt raising in the syntax) or remain *in situ* (covert raising at LF). Kiss' (1998) seminal work on contrastive vs. presentational focus reanalyses Tsimpli's (1995) proposal by clearly distinguishing between two types of focus in Greek: contrastive focus (overt raising to Spec,FocP in the left periphery) and presentational focus (an *in situ* phenomenon with no designated structural position). I follow Kiss.

⁶An interesting issue not addressed in the literature is why the subject of Greek unaccusatives checks focus in [Spec,TP] (Roussou and Tsimpli, 2002), and not *in situ*, [Comp,VP], since Greek presentational focus is marked *in situ* (Kiss, 1998). In a quick grammaticality judgement test, my Greek native informants preferred presentationally focused subject SV order with both unergatives and unaccusatives. Whatever the analysis of presentationally focused subjects for Greek unaccusatives, my claim that presentational focus has no designated structural position in Greek (Kiss, 1998) still holds, i.e. there is no strong presentational focus head in Greek, as will be clear later.



15) a. 'Who arrived last night at the party?'

b. (i) [THE POLICE]_{Foc} arrived

English unaccusative: SV

(ii) [I ASTINOMIA]_{Foc} eftase

Greek unaccusative: SV

'The police arrived'

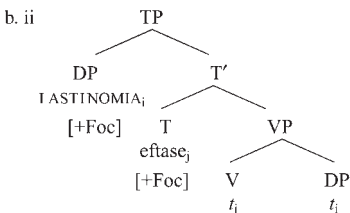
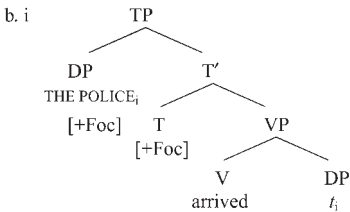
b. (i) * Arrived [THE POLICE]_{Foc}

English unaccusative: * VS

(ii) ?? Eftase [I ASTINOMIA]_{Foc}

Greek unaccusative: ?? VS

'Arrived the police'



Feature syncretism (*à la* Zubizarreta, 1998; Hill, 2002) can account for how the focus feature of the English and Greek subject gets checked in [Spec,TP]. Apart from tense and aspect, T can contain an uninterpretable [+Foc] feature. The specifier, [Spec,TP], hosts the focused element carrying the interpretable [+Foc] feature. The interpretable [+Foc] feature of the subject in the specifier, [Spec,TP], and the uninterpretable [+Foc] feature under T⁰ would agree, the uninterpretable feature is deleted and the interpretable feature proceeds to LF, where it is interpreted as new information. Note that [Spec,TP] would still contain its typical features such as a nominative case feature, a number feature, a person feature, etc. This is a syncretic solution, as presentational focus has no designated structural position in these languages, so there is no need to stipulate the existence of an extra projection.

Crucially, while the interpretive facts of presentational focus hold crosslinguistically, the feature strength of Foc⁰ is parametrizable (Table 1). A [+strong] focus feature forces the presentationally focused element to move to a TP-internal position, [Spec, FocP], in Spanish. By contrast, a [-strong] feature does not trigger movement but requires the focused element to remain *in situ* (Greek and English).

To summarize, word order distribution is constrained by UH in unfocused contexts and by presentational focus at the syntax–discourse interface (Table 2).

Table 1 Feature strength of the presentational Foc⁰ head

	Feature strength
English	[-strong]
Greek	[-strong]
Spanish	[+strong]

Table 2 Surface word order in unfocused and presentational focus contexts

	Unfocused contexts		Presentationally focused subjects	
	Unergatives	Unaccusatives	Unergatives	Unaccusatives
English	SV	SV	SV	SV
Greek	SV	VS	SV	SV
Spanish	SV	VS	VS	VS

IV The L2 acquisition of unaccusative and unergative word order alternations

Converging evidence indicates that learners of L2 Spanish are sensitive to the syntactic effects of UH by preferring VS with unaccusatives over unergatives but SV with unergatives over unaccusatives. De Miguel (1993) found that American English learners of L2 Spanish prefer VS with unaccusatives (>92%) more than with either transitives (<58%) or unergatives (<66%) at advanced levels. Hertel and Pérez-Leroux' (1999) obtained similar results at two extreme levels of proficiency (beginner and advanced). Both groups manifested preference for VS with unaccusatives, yet SV with unergatives, a result which has been replicated at various levels (Lozano, 2004; *in press*). Similar results have been observed at four proficiency levels (beginner, low intermediate, high intermediate and advanced) by Hertel (2000). VS was significantly preferred with unaccusatives vs. unergatives for the advanced (84% vs. 64%) and the high intermediate learners (59% vs. 40%), who showed convergent knowledge with Spanish natives (76% vs. 29%). The low intermediate and beginner group also showed preference for VS with unaccusatives over unergatives, although their intuitions were statistically different from natives. In language production VS is also significantly produced more with unaccusatives than unergatives at all levels of proficiency (except beginner level), although only advanced learners' production converges statistically with natives' (Hertel, 2003).

Such converging evidence confirms that advanced learners do favour SV with unergatives but VS with unaccusatives and, therefore, are sensitive to the syntactic effects of UH even from early stages of acquisition. This is further corroborated by the fact that:

- availability of positive evidence underdetermines what the learner must acquire as SV and VS alternate in the input and learners cannot rely on overt cues such as morphology to differentiate between unaccusative SV/VS or unergative SV/VS;
- word order transfer from L1 English can be safely discarded as English is a strict SV(O) language; and
- some of these authors found that VS inversion with unaccusatives is never explained in textbooks or in class, hence instruction can be ruled out as a source of knowledge.

Further empirical support for knowledge of the UH in SLA comes from a series of studies testing aspects of unaccusativity other than SV/VS alternations, *inter alia*, Sorace (1993) for auxiliary selection in L2 Italian; Balcom (1997) for overpassivization in L2 English; Montrul (1999) and Toth (2000) for causative errors in L2 Spanish; and Hirakawa (1999) and Sorace and Shomura (2001) for the interpretation of quantifiers in L2 Japanese.

To summarize, knowledge of the syntactic effects of split-intransitivity is readily attained at advanced proficiency levels.

V The L2 acquisition of discourse word order alternations

Hertel's (2003) seminal work investigated the production of presentational focus VS order in L2 Spanish by American English natives at four competence levels (beginner, low intermediate, high intermediate, advanced). Beginner and low intermediate learners showed no sensitivity to the fact that presentationally focused subjects are marked syntactically with VS order, as they hardly produced it with either unergatives or unaccusatives (<5%). She argues that knowledge of discourse is acquired late as only high intermediate learners (15% for unaccusative VS and 13% for unergative VS) and advanced learners (54% and 36%) showed statistically convergent knowledge with natives of Spanish (36% and 33%). These results, if compared against unfocused contexts (see the same study by Hertel, 2003, previous section) reveal that production of split-intransitivity word order is displayed somewhat later (advanced stages) than production of presentational focus word order (high intermediate and advanced stages). This observed pattern is unexpected, even for Hertel, whose predictions are in line with the general trend discussed in the current paper, namely, that acquisition of a formal property like split-intransitivity word order should precede the acquisition of discursive word order. Importantly, Hertel (2003) does not provide an explanation for this unexpected finding. However, we can see that:

- production rates of unergative VS was 13% for high intermediates vs. 33% for natives, a rather considerable difference of 20%, though not statistically significant according to Hertel;
- similarly, the difference for unaccusative VS is considerable (15% high intermediate vs. 36% advanced), though not significant.

Advanced learners statistically differed from all learner groups but not from natives, yet the difference is again quite remarkable: advanced (54%) vs. natives (36%). This analysis reveals that intermediate learners are underproducing presentational VS with both verb types, as their rates are rather low if compared to natives, while advanced learners are overproducing VS with unaccusatives. This can be taken as an indication that acquisition of VS at the syntax–discourse interface is not completely fine-tuned at advanced stages of acquisition by English natives (Lozano, 2004). A similar finding is reported in a study of presentational focus VS order in L2 Italian, a language where sentence-final presentational focus is governed by the TP-internal focus phrase hypothesis, as in Spanish. Belletti and Leonini (2004) tested learners of Italian with different L1s. Overall, results indicate that the discursive constraint of presentationally focused subjects in VS constructions is acquired rather late at high proficiency levels, although the learners' L1 could be also responsible for the results.⁷ Interestingly, all learners (irrespective of their L1) produced null subjects to a native-like extent, which confirms the emerging view that the grammatical properties of the null-subject parameter are readily acquired, while its discursive properties could be persistently problematic.

Earlier studies on L2 Spanish also suggest that the acquisition of word order distribution is acquired rather late (or perhaps never acquired to a native-like extent) when constrained by discourse. Ocampo (1990) found that English-speaking intermediate learners of L2 Spanish always produced VO structures with transitives (never OV), irrespective of their discursive function, which suggests that intermediate learners are not sensitive to the discursive properties encoded in different word orders. In a study of Peruvian Quechua native learners of L2 Spanish, Camacho (1999) found that they pro-

⁷Unfortunately, Belletti and Leonini (2004) do not provide standardized measures of their learners' proficiency. This is complicated by the fact that what they consider as their most proficient learners (who showed native-like convergent knowledge) happened to be natives of L1s where presentationally focused subjects appear in sentence-final position (Greek, Russian, Albanian, etc.), as in their L2 Italian. By contrast, their less proficient learners (who showed divergent knowledge) happened to be natives of L1s (German, French) that use mechanisms other than VS to mark presentationally focused subjects. This is a classic example of a confounded experimental design, as we cannot be totally sure of whether their results are due to the learners' proficiency level or to their L1.

duced a considerable proportion of left-peripheral displaced objects without overt clitics in unfocused environment, which is necessarily interpreted as contrastive focus in native Spanish but represents the neutral word order in their L1 Quechua. This suggests that they were unaware of the interpretive effects of left peripheral contrastive focus in L2 Spanish despite their length of residence of around three years in Lima, Peru (a Spanish-speaking country) and their age of onset to L2 Spanish being pre-critical period (between 4 and 7 years), i.e. highly proficient, pre-critical period L2 learners with abundant exposure to the L2 may not be totally sensitive to discursive factors in their L2.

In short, acquisition of word order distribution in discursive environments appears to be acquired rather late or perhaps never acquired in a native-like fashion, which typically results in divergent knowledge.

VI The L2 acquisition of syntactic vs. discursive properties

More compelling evidence supporting our predicted trend comes from Spanish L2 acquisition of the first property of the null-subject parameter, namely, pronominal subject. While it is well known that the distribution of null and overt pronominal subjects in finite clauses in null subject languages like Spanish is constrained by purely formal uninterpretable properties (a licensing mechanism, *à la* Rizzi, 1997a), it is also constrained by discursive topic and focus, since null pronouns encode continuity in the discourse and are thus required as topics, but overt pronouns encode contrastive focus (e.g. Luján, 1999). Two stable acquisitional patterns can be found in the acquisition of L2 Spanish by English-speaking natives:

- They master obligatory null expletive pronominal subjects (which serve a purely syntactic function, given their lack of referential, semantic and pragmatic content) from very early stages, before null referential pronominal subjects (which are constrained by discursive factors, as they encode topic). This has been observed from beginning to advanced levels of proficiency (Phinney, 1987; Liceras, 1989; Al-Kasey and Pérez-Leroux, 1998; Sauter, 2002).
- While the syntactic mechanism licensing null referential pronouns is acquired very early (Phinney, 1987; Liceras, 1989; Lozano, 2002a), the pragmatic conditions regulating null and overt pronouns are either

acquired late or, in some cases, never acquired in a native-like fashion (Pérez-Leroux and Glass, 1997; 1999; Licerias and Díaz, 1999; Pérez-Leroux *et al.*, 1999; Lozano, 2002b, 2002c; Montrul and Rodríguez-Louro, 2004). In other words, these learners know from very early that null and overt subjects can alternate in Spanish, yet they do not readily know the pragmatic conditions regulating their distribution. Similar patterns have been reported in the L1 attrition of bilinguals with Spanish/Italian/Greek – English pairings (Satterfield, 2003; Montrul, 2004; Sorace, 2004; Tsimpli *et al.*, in press) and even in L1 specific language impairment (Tsimpli, 2001). Additionally, attrition effects have been found in the second property of the pro-drop parameter, namely, word order alternations in Catalan, a language with sentence-final presentational focus, as Spanish. Catalan near-native speakers of English license both preverbal and postverbal subjects in Catalan to a native-like extent, yet they show divergent knowledge when pre- and post-verbal subjects are constrained by discursive presentational focus (Helland, 2004).

These are two of the most robust acquisitional findings in L2 Spanish illustrating learners' convergent knowledge at narrow syntax but divergent knowledge at the syntax–discourse interface. I show below that this finding not only applies to the acquisition of overt/null pronoun alternations, but it can also be extended to the acquisition of SV/VS alternations. A broader picture of the acquisition of the null-subject parameter will emerge, which could additionally reveal whether syntactic constraints are in place before discursive constraints. But let us first assess the two attainment patterns discussed throughout the article.

VII Defining patterns of advanced L2 attainment: convergence and divergence

Sorace (1993) proposes three attainment patterns:

- native-like, when learner representations converge with native representations;
- divergent, when the learner representations diverge from native representations (optionality is a subtype here); and
- incomplete, when learners show indeterminate intuitions.

Papp (2000) presents a working definition of divergence and incompleteness (Figure 1). The lightly shaded bars represent a grammatical construction (henceforth *a*) and the darkly shaded bars its ungrammatical counterpart (henceforth *b*). Values range from 10 (completely acceptable) to 0 (completely unacceptable sentence). Crucially, natives must significantly prefer *a* to *b* for the construction to be categorical in the native grammar. In scenario (1) learners' acceptance of both *a* and *b* leads to optionality. In (2) they reject both *a* and *b*. In (3) they behave in a manner diametrically opposed to natives, accepting *b* but rejecting *a*. In (4) they show indeterminate (incomplete) intuitions, as they accept both *a* and *b* around the mean (chance level).

Non-native optionality, scenario (1), appears in both developmental and end-state ILGs (Sorace, 2000b) and can be defined as the co-existence in the learner's interlanguage of two phonological forms (π_1 , π_2) for one logical form (λ_1), (16).

16) Optionality in L2 grammars:

$$\lambda, \left\{ \begin{array}{l} \pi_1 \\ \pi_2 \end{array} \right\}$$

where π_1 and π_2 make use of the same lexical resources.

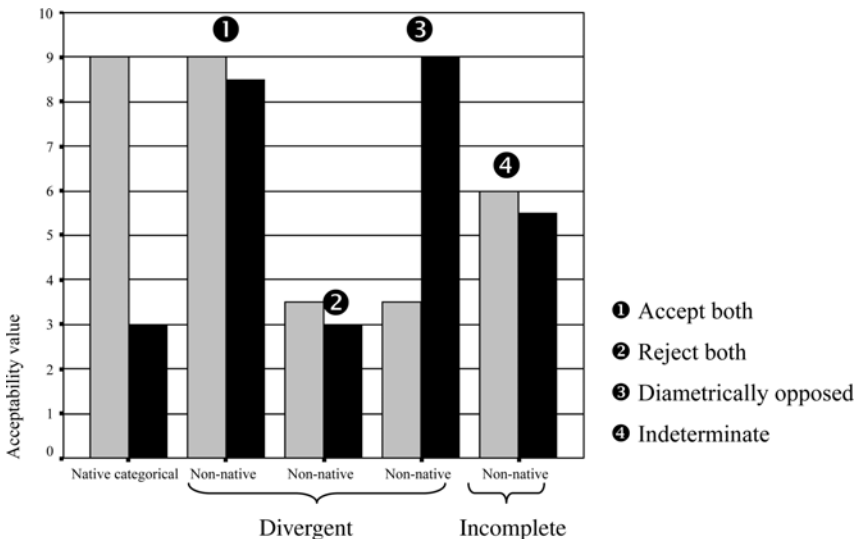


Figure 1 Papp's (2000: 81) divergent vs. incomplete representations

Current L2 research (Beck, 1998; Yuan, 1999; Prévost and White, 2000; Robertson, 2000; Parodi, 2001; Hawkins and Liszka, 2003; Osborne, 2004) uses the term ‘optionality’ indiscriminately to refer to different non-native attainment patterns, such as indeterminate intuitions (scenario 4), truly optional behaviour (scenario 1) or even scenario (6) in Figure 2 below, which is discussed later. Given that optionality (a subtype of divergence) and convergence are crucial attainment patterns in the current study, I refine Papp’s (2000) definitions. Statistical analyses of two types are needed: within group and between groups. For optionality to occur in the non-native grammars, we need a native benchmark for comparative purposes. First, a within-group categorical and statistically significant distinction in the native grammar is required, i.e. natives’ high acceptance of *a* but low acceptance of *b* (Figure 1). Learners would then show truly optional behaviour, scenario (1), when their acceptance of grammatical *a* is not significantly greater than their acceptance of ungrammatical *b* (within-group analysis) and, crucially, learners’ similar acceptance of both *a* and *b* must not significantly differ from natives’ acceptance of *a*

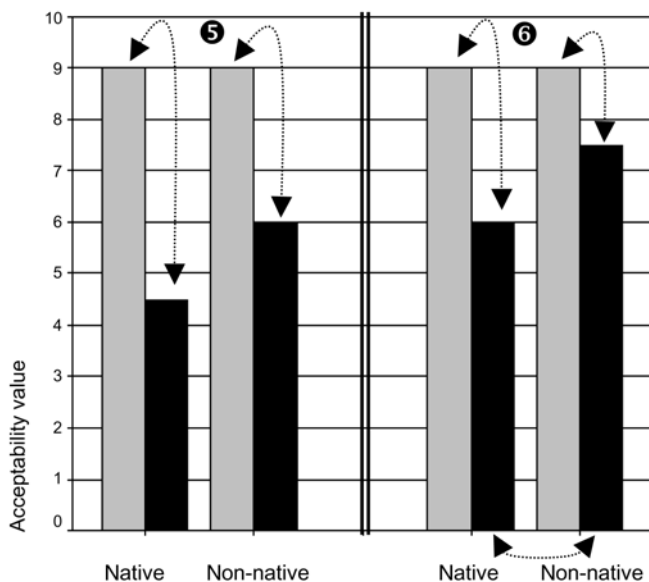


Figure 2 Two additional patterns of attainment

(between-group analysis). Simply showing that learners positively accept both *a* and *b* could be interpreted as truly optional behaviour (scenario 1) or simply indeterminate behaviour (scenario 4). Hence the need of within-group and between-group analyses.

Figure 2 shows two additional attainment patterns not discussed in Papp (2000), which are crucial to interpret our results. In scenario (5) (first half of the chart), natives prefer *a*, but reject *b*, as expected for a categorical rule. The within-group difference is statistically significant, as indicated by the dotted arrows. Learners' *a* is also statistically preferred over *b*. No between-group differences are detected in this scenario, i.e. natives' *a* is statistically not different from learners' *a*. The same applies to *b*. We can safely conclude that scenario (5) represents a typical case where learners show native-like intuitions, despite learners' acceptance of *b* being slightly but not significantly higher than natives' *b*.

Consider scenario (6) which, *prima facie*, appears to be a borderline case of non-native optionality, since learners' acceptance rates of *a* and *b* appear not to be dramatically different. For natives, a within-group analysis reveals that sentence *a* is significantly preferred over *b*, as expected again for categorical rules. Learners show a similar within-group behaviour by significantly accepting *a* over *b*. Importantly, there is a significant between-group difference here as the lower arrow shows, i.e. learners' *b* is significantly higher than natives' *b* (though learners' *a* is similar to natives' *a*).

Given scenario (6), a dilemma arises. A purely within-group analysis would support a native-like, convergent view, since learners significantly prefer *a* to *b*, as natives do. However, a between-group analysis reveals a less clear-cut case as learners differ from natives with respect to *b*. Crucially, recent SLA studies (implicitly or explicitly) treat both scenarios (5) and (6) as representing the same attainment pattern, namely, native-like competence, e.g. Pérez-Leroux and Glass, 1997; 1999; Sorace, 1993; Yuan, 1999; Papp, 2000; Parodi, 2001; White, 2002. For these authors, native-likeness occurs simply when learners significantly prefer *a* to *b*, as natives do (within-group analysis). Indeed, for Grimshaw and Rosen (1990) and White (2002) a within-group difference is sufficient to postulate learners' sensitivity to UG. I follow these authors in assuming that learners' knowledge is convergent with

natives' in both scenarios (5) and (6). This assumption will be crucial for the interpretation of the data in the experimental section.

VIII Methodology

1 Predictions

Given previous findings in SLA and L1 attrition, two hypotheses were formulated:

- Hypothesis 1: Unfocused contexts: In contexts constrained by formal syntactic properties (Unaccusative Hypothesis), advanced learners of Spanish will show native-like (convergent) knowledge irrespective of whether the construction under investigation is instantiated in their L1.
- Hypothesis 2: Presentational focus contexts: In contexts constrained by properties at the syntax–discourse interface (presentational focus), advanced learners of Spanish will show divergent intuitions, as these properties can be persistently problematic.

2 Subjects

The experimental groups consisted of Greek and English natives. The British English natives ($n = 17$) were students of Spanish at the University of Essex (UK), where they were tested. The Greek natives ($n = 18$) were studying Spanish at the University of Athens and in other private institutions (Estudio Español and Centro de Lengua Española). A standardized placement test was used to measure learners' proficiency (University of Wisconsin, 1998). Learners were administered form '96M-section 1 grammar', which consists of multiple-choice questions and a gap-filling task, with a maximum score of 43. Scores were then transformed into percentages for clarity. Both groups of learners had achieved an advanced proficiency level (range 80–100%) with a mean of 90% for the English group and 92% for the Greek group (see Appendix 1).

The control group consisted of Spanish natives ($n = 14$), mostly peninsular Spanish natives and some native American Spanish speakers (Argentina, Mexico, Venezuela). They were postgraduate students in the UK at the time of testing.

3 Instrument

Following Hertel (2000), the instrument employed was a contextualized acceptability judgement test with paired target sentences. Each stimulus consists of a context, (17), which biases for either of the two target replies, (17a) or (17b), each representing a different word order (SV vs. VS). Crucially, both target sentences (*a* and *b*) would be grammatical in adult Spanish if no context were provided. Target sentences are followed by a 5-point Likert rating scale, where value +2 corresponds to completely acceptable and value -2 completely unacceptable (Montrul, 1999; Yuan, 1999; Hertel, 2000). This methodology allows the learner to display a wide range of combinations, including optionality.

17) Tú estás en una fiesta con tu amiga Laura. Laura sale de la habitación y en ese momento llega la policía porque hay mucho ruido en la fiesta. Cuando Laura vuelve, te pregunta: '¿Quién llegó?' Tú contestas:

a. La policía llegó. -2 -1 0 +1 +2

b. Llegó la policía. -2 -1 0 +1 +2

[Translation of (17)]

You are at a party with your friend Laura. Laura leaves the room and at that moment the police arrive because the party is too noisy. When Laura comes back, she asks you: 'Who arrived?' You answer:

a. The police arrived. -2 -1 0 +1 +2

b. Arrived the police. -2 -1 0 +1 +2

The test consisted of 24 target stimuli (unfocused contexts: 6 unergatives, 6 unaccusatives; presentational contexts: 6 unergatives, 6 unaccusatives). Training stimuli as well as distracters were included in the test ($n = 7$). The choice of these unergative and unaccusative verbs was based on a preliminary pilot test administered to natives. The test used what most authors consider 'core' unergatives ($n = 8$) and change-of-location unaccusatives ($n = 8$) (De Miguel, 1993; Sorace, 1993; 2000a; Hertel and Pérez-Leroux, 1999; López-Meirama, 1997; Mendikoetxea, 2000). After an item analysis was performed, the two least representative verbs of each class were removed and only 6 unergatives and 6 unaccusatives were selected as the most representative candidates (Table 3).

Several measures were taken to avoid unwanted test effects: First, order-of-presentation effects were controlled for by:

- using SV order 50% of the time in sentence *a*, and 50% of the time in sentence *b*; and

Table 3 List of unergatives and unaccusatives used in the test

Unergatives	Unaccusatives
<i>estornudar</i> 'to sneeze'	<i>llegar</i> 'to arrive'
<i>bailar</i> 'to dance'	<i>entrar</i> 'to enter/come in'
<i>gritar</i> 'to shout'	<i>venir</i> 'to come'
<i>dormir</i> 'to sleep'	<i>volver</i> 'to come back/return'
<i>reír</i> 'to laugh'	<i>escapar</i> 'to escape'
<i>llorar</i> 'to cry'	<i>salir</i> 'to leave'

- administering two versions of the test with the same sentences but different randomized sequential order following Cowart's (1997) 'blocking' procedure.

Second, contexts were presented in the subjects' native language (either English, Greek or Spanish) to ensure a full understanding of the context (for a similar procedure, see Hertel, 2003). The eliciting question (*¿Qué pasó? ¿Quién llegó/gritó/etc?*) was always presented in Spanish. Both target sentences were always presented in Spanish, containing only beginners' vocabulary based on the Spanish beginners textbook by González *et al.* (1995).

4 *Experimental design*

A 2×3 factorial design was used. The first factor is word order (with two levels: SV/VS). The second factor is L1 (with 3 levels: English/Greek/Spanish). Context type (unfocused/presentational) and verb type (unergative/unaccusative) were made constants, which resulted in four conditions:

- unergatives unfocused contexts;
- unaccusatives unfocused contexts;
- unergatives focused contexts; and
- unaccusatives focused contexts.

5 *Data analysis*

The values of the 6 stimuli for each condition were averaged for each subject, as measured in the Likert positive–negative scale, in the

statistical package SPSS (version 9.0). The resulting mean value was subsequently transformed into a percentage value:

$$\frac{(\text{mean} + 2) \times 100}{4} = \text{percentage - value}$$

The normality of distribution for our sample was assumed (Kolmogorov–Smirnov one-sample fit test, $p > 0.05$ for each condition in each group). Two types of analyses were performed: within groups and between groups, as argued in Section VII. A mixed two-way ANOVA checked the main effect of word order, the main effect of L1 and the interaction of the two factors, word order \times L1. Further analyses were performed to check significant pairs: a paired-samples *t*-test for the within-group comparisons and a between-group one-way ANOVA with *post hoc* Scheffé for the between-group comparisons.

IX Results

1 Unfocused context (unergatives)

The context (unfocused) and the verb type (unergative) are constants. The word order (SV/VS) and the L1 (English/Greek/Spanish) are the independent variables. Descriptive statistics are presented in Appendix 2. A mixed two-way ANOVA (word order \times L1) reveals a highly significant main effect of word order ($F(1, 46) = 77.90, p < 0.01$), a significant main effect of L1 ($F(2, 46) = 5.10, p = 0.01$) and a significant interaction of word order by L1 ($F(2, 46) = 7.83, p < 0.01$) (see Figure 3).

As just stated, the main effect of word order is significant for all groups. Further within-group comparisons with a paired-samples *t*-test clearly indicates that SV and VS do not alternate freely in native Spanish grammars as natives categorically prefer SV to ??VS with unergatives in unfocused contexts ($t(13) = 7.63, p < 0.01$). The difference between SV and ??VS is also significant for the English group ($t(16) = 3.80, p = 0.002$) and the Greek group ($t(17) = 3.56, p = 0.002$), which indicates that both groups categorically prefer SV to ??VS with unergatives in unfocused contexts, as predicted by Hypothesis 1.

Between-group comparisons tested the direction of the L1 main effect with a one-way between-group ANOVA with *post hoc* Scheffé. Each non-native word order was compared against the native norm. The

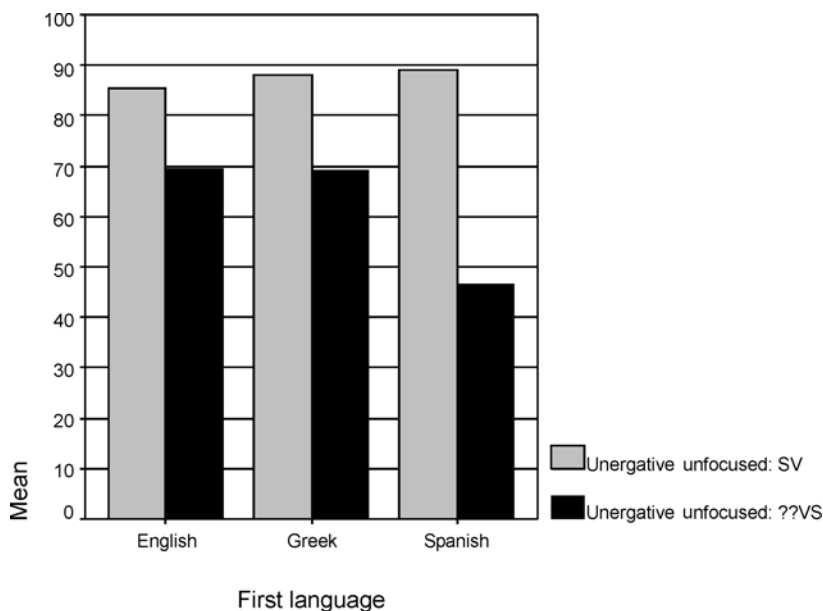


Figure 3 Unergatives, unfocused context

acceptance of SV does not differ between groups: English and Spanish groups ($p = 0.66$); Greek and Spanish groups ($p = 0.97$). In other words, learners prefer SV with unergatives to the same extent as natives do. However, the acceptance of ??VS does differ between groups: English and Spanish groups ($p = 0.002$); Greek and Spanish groups ($p = 0.002$).

Note that the L1 main effect is relatively small ($\eta^2 = .18$), which implies that only 18% of the variation between groups is due to L1, compared to the variation within groups ($\eta^2 = .63$), which implies that 63% of the variation within groups is due to word order, as expected.

To summarize, each group significantly prefers SV to ??VS with unergatives, as predicted by Hypothesis 1. Both groups of learners behave identically to the Spanish group, except for the pragmatically odd condition. The pattern of attainment here is similar to scenario (6) in Figure 2, which represents native-like convergent knowledge in SLA.

2 Unfocused contexts (unaccusatives)

Unaccusatives and unfocused context are now the constants, the word order (SV/VS) and the L1 (English/Greek/Spanish) are the independent variables or factors. Descriptive statistics are presented in Appendix 2. A mixed two-way ANOVA (word order by L1) shows a highly significant main effect of word order ($F(1, 46) = 30.89, p = 0.001$), no main effect of L1 ($F(2, 46) = 2.68, p = 0.08$) and no interaction of word order by L1 ($F(2, 46) = .81, p = 0.45$). Results are graphically represented in Figure 4.

Within-group comparisons with a paired-samples t-test confirms that the alternation between ??SV and VS with unaccusatives in native Spanish is not free, but rather categorical and significantly different, VS being preferred over ??SV ($t(13) = -2.88, p = 0.01$). Learners also show sensitivity to this distinction, significantly preferring VS to ??SV: English group ($t(16) = -2.57, p = 0.021$) and Greek group ($t(17) = -4.26, p = 0.001$), which supports Hypothesis 1.

The lack of L1 main effect implies that there are no between-group differences for either condition. In other words, the acceptance of the

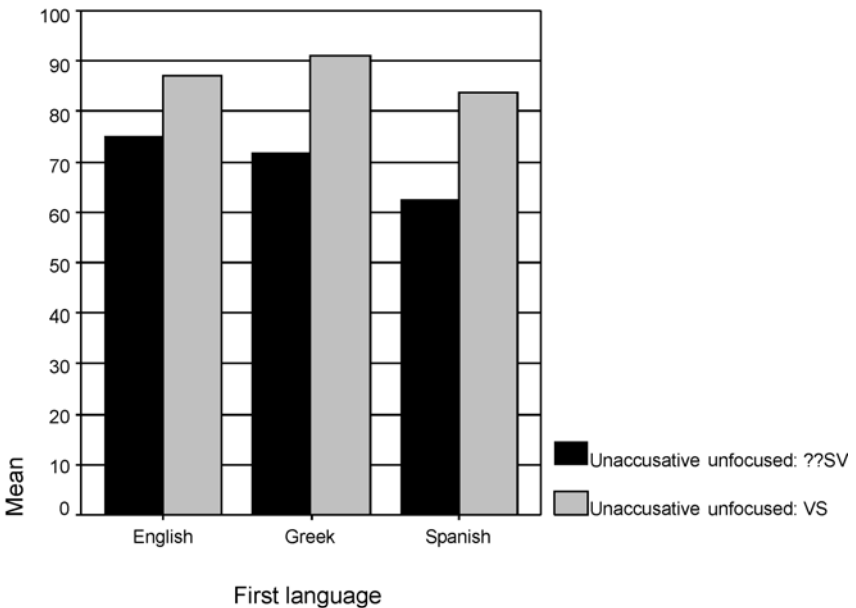


Figure 4 Unaccusatives, unfocused context

grammatical condition (unaccusative unfocused: VS) does not differ between groups: English and Spanish groups, and Greek and Spanish groups. Learners therefore correctly prefer VS with unaccusatives to the same extent as natives do. The same holds for the acceptance of ??SV: there are no between-group differences (English–Spanish, Greek–Spanish).

The above findings are corroborated by the eta square values. Word order accounts for 40% of the variation within groups ($\eta^2 = .40$), hence the significant main effect of word order. However, only 10% of the variation between groups ($\eta^2 = .10$) can be accounted for by L1, hence the lack of L1 main effect.

To summarize, within-group analyses reveal that each group significantly prefers VS to ??SV with unaccusatives, as predicted by Hypothesis 1. Between-group analyses show that both groups of learners behave identically to the Spanish group in the grammatical and ungrammatical conditions, supporting Hypothesis 1. Clearly, this scenario represents convergent, native-like knowledge, as in scenario (5) in Figure 2.

3 *Presentational focus contexts (unergatives)*

Given unergative and presentational context as the constants, the word order (SV/VS) and L1 (English/Greek/Spanish) are the independent variables. Recall that in presentational contexts, VS is the preferred order (irrespective of verb type), due to TP-internal presentational focus. Descriptive statistics are shown in Appendix 2. A mixed two-way ANOVA (word order by L1) reveals a non-significant main effect of word order ($F(1, 46) = 1.91, p = 0.174$), a just about significant main effect of L1 ($F(2, 46) = 3.29, p = 0.046$) and a significant interaction of word order by L1 ($F(2, 46) = 8.50, p = 0.001$), as shown in Figure 5.

Further within-group comparisons (paired-samples *t*-test) reveal that the Spanish native group clearly prefers VS to ??SV ($t(13) = -4.20, p = 0.001$), as expected, since the presentationally focused subject appears in sentence-final position. The English group does not distinguish between ??SV and VS ($t(16) = 0.33, p = 0.746$), accepting both constructions around 80%. The Greek group does not differentiate

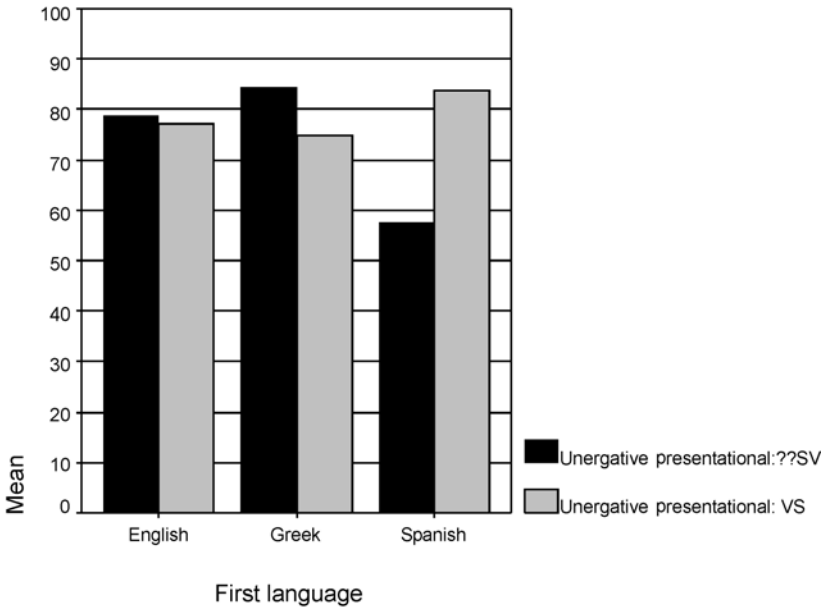


Figure 5 Unergatives, presentational focus context

between the two conditions either ($t(17) = 1.38$, $p = 0.184$), their pattern being somewhat opposed to the Spanish trend by slightly (but not significantly) preferring ??SV to VS.

Between-group comparisons (one-way between-group ANOVA with *post hoc* Scheffé) show that for the ??SV condition, the English group behaves differently from the Spanish group ($p = 0.003$), and the Greek group also behaves differently from the Spanish groups ($p < 0.001$). As Figure 5 shows, this implies that learners are tolerating ??SV more than Spanish natives. Comparisons for the VS condition show no differences between the acceptance rates between the English and Spanish groups ($p = 0.505$) and the Greek and Spanish groups ($p = 0.28$), i.e., the learners are accepting grammatical VS to the same extent as the natives do.

To summarize, learners are simultaneously accepting both ??SV and VS, yet the Spanish group clearly prefers VS to ??SV. Learners' behaviour is a reflection of optionality, as predicted by Hypothesis 2. This scenario represents true non-native optionality, as argued for scenario (1) in Figure 1 above.

4 *Presentational focus contexts (unaccusatives)*

The dependent variables are word order (SV/VS) and L1 (English/Greek/Spanish). The constants are unaccusative and presentational focus context. Recall that VS is again the expected order. Descriptive statistics are shown in Appendix 2. A mixed two-way ANOVA (word order by L1) shows a significant main effect of word order ($F(1, 46) = 25.53, p < 0.001$), a significant main effect of L1 ($F(2, 46) = 4.38, p = 0.018$) and a significant interaction of word order by L1 ($F(2, 46) = 7.20, p < 0.002$), as illustrated in Figure 6 below.

Within-group comparisons (paired-samples *t*-test) show that, as expected, the Spanish native group clearly prefers the VS to ??SV ($t(13) = -5.51, p < 0.001$). The learner groups do not statistically differentiate between ??SV and VS, preferring both to the same extent: English group ($t(16) = -1.98, p = 0.065$), a marginally non-significant difference; Greek group ($t(17) = -0.85, p = 0.409$). These results are similar to the previous section with unergatives in presentational context, as learners tolerate both ??SV and VS with unaccusatives in presentational environments, which results in optionality.

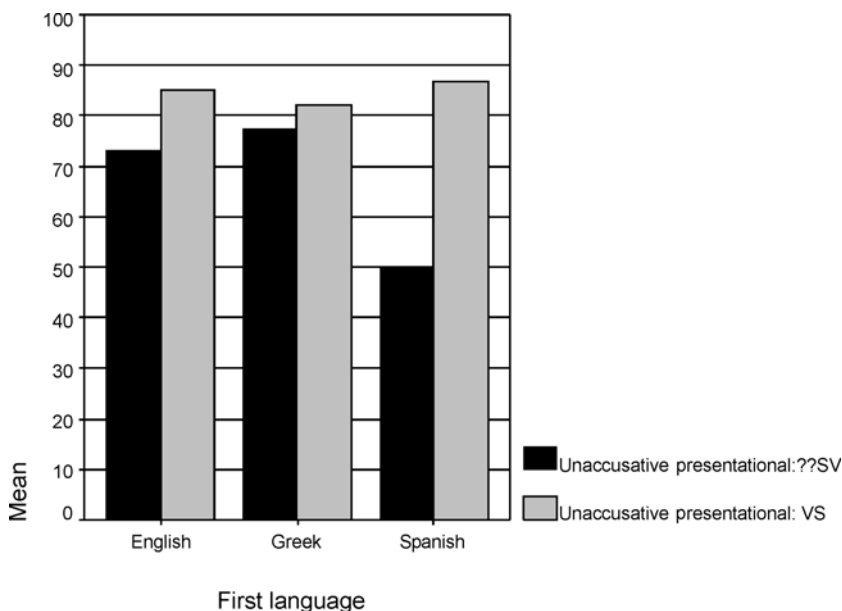


Figure 6 Unaccusatives, presentational focus context

Between-group comparisons (one-way between-group ANOVA with *post hoc* Scheffé) reveal a similar pattern to unergatives in presentational contexts. Learners prefer the grammatical unaccusative VS to the same statistical extent as Spanish natives do: English–Spanish ($p = 0.933$) and Greek–Spanish ($p = 0.661$). However, learners greatly differ from natives in their acceptance of ??SV: English–Spanish ($p = 0.006$) and Greek–Spanish ($p = 0.001$), as a result of their optional behaviour.

To summarize, learners' preference of both ??SV and VS with unaccusatives in presentational focus contexts leads to optionality (the same is true for unergatives in presentational contexts). This scenario is statistically similar to scenario (1) in Figure 1, which also represents non-native optionality.

X Discussion

In unfocused contexts, Spanish natives as well as Greek and English natives treat the SV/VS alternation categorically by significantly preferring SV to ??VS with unergatives, yet VS to ??SV with unaccusatives, as predicted by Hypothesis 1. This finding supports the claim that formal grammatical properties (UH) constrain knowledge of word order alternations in native Spanish. These results are in line with previous findings (Hertel and Pérez-Leroux, 1999; Hertel, 2000; 2003; de Miguel, 2003).

The Greek group's categorical distinction could be argued to be an effect of their L1, as the surface effects of UH are identical in Greek and Spanish. However, it would then be difficult to explain the English group's categorical distinction, as the surface effects in English are different from Spanish. Additionally, current textbooks of Spanish do not address the issue of word order with unaccusatives or unergatives (at most, they simply state that word order is relatively free in Spanish) and the language instructors of our learners were unaware that word order is constrained by a verb's membership in either the unergative or unaccusative verb class. Hence, both instruction and L1 can be safely discarded as the source of learners' knowledge.

Interestingly, learners appear to have mildly overgeneralized the unaccusative VS order to unergatives, which is pragmatically odd in

unfocused contexts, although they still prefer SV to VS with unergatives, as expected. De Miguel (1993), Hertel and Pérez-Leroux (1999) and Hertel (2000) report similar overgeneralization patterns for English learners of Spanish. While it is well known that in their initial states learners treat unaccusatives as unergatives, hence SV is preferred with both verb types: Oshita's (2001) unaccusative trap. It seems that in later stages they display the opposite behaviour, as they treat unergatives as unaccusatives.

In presentational focus contexts, Spanish natives significantly prefer VS to ??SV with both unergatives and unaccusatives, as predicted by the TP-internal presentational focus hypothesis. The English and Greek groups accept optionally both VS and ??SV, which results in optionality (a type of divergence), as predicted by Hypothesis 2. The observed optionality cannot be due to learners' random behaviour as, for example, they equally prefer unergative ??SV and VS in presentationally focused contexts, yet significantly prefer unergative SV to ??VS in unfocused contexts. In short, English and Greek natives' ILGs in Spanish seem to make use of two Phonological Forms (π_1/π_2) with the same lexical resources, ??SV/VVS, to express one LF (λ_1), a presentationally focused subject. This is in line with Sorace's (1993; 2000b) theoretical proposals on optionality presented in Section VII. Whether the observed optionality is temporary or permanent is a matter of future research on end-states, although Sorace (2000: 98) suggests that:

what can be observed for L2 optionality ... is that, as in L1 acquisition, the pattern of preferences for one option over the other changes over time, until a potentially permanent stage is reached at which the target option is strongly, but not categorically, preferred, and the dispreferred non-target option is never completely expunged.

Optionality is not desirable from a generative theoretical point of view, yet it is a well known cross-linguistic phenomenon in L1 acquisition (e.g. Optional Infinitive Stage) and in the L2 acquisition of several properties: verb raising (Beck, 1998), focus raising (Papp, 2000), clitics (Parodi, 2001), articles (Robertson, 2000) and auxiliary choice with unaccusatives (Sorace, 1993). While optionality is a pervasive phenomenon in SLA whose etiology is far from clear, recent theories envisage it as a deficit affecting formal features, feature strength or even feature-form mapping.

Under Schwartz and Sprouse's (1994; 1996) Full Transfer/Full Access (FT/FA) L1 lexical and functional categories are fully transferred to the L2 in the initial state of SLA. ILGs restructure on the basis of L2 input when the L1-based analysis fails to accommodate the L2 input. Convergence with native grammars is possible yet not guaranteed in advanced ILGs since the input could be accommodated to either the L1-based grammar or subsequent UG-constrained ILGs. This claim entails that our English/Greek learners would transfer in their initial state the weak syncretic focus feature from their L1s, which could be retained until advanced stages, resulting in their acceptance of ??SV, as observed in the results. Given that new UG-constrained parametrizable features can be acquired in the L2, our advanced learners could be also argued to have acquired the strong value of Foc^0 , which would result in acceptance of correct VS, as observed in the data. Assuming this to be the case, it would then be difficult to explain why they still retain their weak L1 setting at advanced stages of competence. In short, under FT/FA we would expect that, once advanced learners have acquired the strong value of Foc^0 as a result of restructuring, their initial-state L1-based weak value would be lost. This is contrary to fact, as our advanced learners appear to be allowing both [\pm strong] values simultaneously.

Hawkins and Chan's (1997) Failed Functional Features Hypothesis (FFFH) predicts that new parametrizable uninterpretable formal features absent in the L1 but present in the L2 will be unacquirable in SLA. It is this acquisition failure which results in fossilization. The implication here is that English/Greek learners of L2 Spanish will fail to acquire the uninterpretable strong feature of the presentational focus head. This would entail that they will retain their L1 (weak) feature, accepting ??SV order in presentational contexts, as the results indicate. However, it is not entirely clear how FFFH would account for learners' acceptance of correct VS order, as it would imply that they have acquired the uninterpretable strong feature of Spanish, which clearly runs against the tenets of FFFH.

A proposal on the precise etiology of optionality can be found in Beck's (1998) Local Impairment Hypothesis (LIH). The 'local' impairment affects the strength value of functional heads, which ceases to operate after a critical period in SLA and results in a permanent state of

unconstrained optionality. Since the strong functional head triggers raising, an impairment to this feature would cause raising to become optional. *Prima facie*, LIH appears to account for the observed results in presentational focus contexts. Assuming the strength value of the presentational focus head (Foc⁰) in L2 Spanish to be impaired, we would expect learners to be in a state of uncertainty as to its [\pm strong] value, which would predict optional raising of the presentationally focused subject to [Spec, FocP], i.e. learners would optionally accept both VS (where the focused subject has raised to [Spec, FocP]), and, at the same time, ??SV (where it does not raise to [Spec, FocP], but rather to [Spec, TP]). Note, however, that LIH would overpredict⁸, as T's strong [V] feature would be also impaired and verb raising would become optional. Additionally, T's strong case feature would be impaired too and subject raising would become optional too. Clearly, under the LIH the expected word order in non-native grammars is unclear.

A new line of research on the L1 attrition of bilinguals has focused on narrow syntax and the syntax–discourse interface of the distribution of overt and null pronominal subjects in the attrited L1s of near-native bilingual speakers with L1 Spanish/Italian/Greek – L2 English (Sorace, 2000c; 2004; Montrul, 2004; Tsimpli *et al.*, in press). Results show what appears to be a robust acquisition pattern, based on Chomsky's (1995) theoretical [\pm interpretable] feature distinction. L1 attrition spares the uninterpretable features of T and Agr, which are ultimately responsible for the formal licensing of null subjects. By contrast, interpretable features like Topic and Focus, which are responsible for the discursive distribution of overt and null subjects, are more vulnerable to attrition. In short, these bilinguals know that overt and null subjects alternate freely by showing native-like, convergent knowledge, yet they show divergent knowledge of the conditions regulating their use in the discourse.

In terms of the current study, null pronominal subjects (*pro*) and postverbal subjects arise from the same source, the null subject parameter (*inter alia*, Ouhalla, 1991; Rizzi, 1997a). Strong uninterpretable [D] and phi features on T license a pre-verbal null expletive subject (*pro*), which crucially allows the possibility of overt postverbal subjects (VS). I take it as uncontroversial that our advanced learners have acquired the

⁸I am grateful to one anonymous SLR reviewer for bringing this to my attention.

uninterpretable features that license *pro*, as shown in previous studies (see Section VI). It follows that advanced learners' allowance of postverbal subjects is the result of their early acquisition of the uninterpretable features licensing *pro*. As the results show, English and Greek advanced learners of Spanish do indeed allow postverbal subjects in unfocused contexts. In particular, their licensing of postverbal subjects with unaccusatives is a result of their having acquired the formal uninterpretable licensing properties of the null-subject parameter and the lexical class distinction (unaccusative vs. unergative). In short, learners' knowledge converges with natives' when word order distribution is governed by uninterpretable formal syntactic features.

By contrast, our learners equally allow both word orders (SV/VS) in presentational focus contexts. Sorace and associates argue that learners are expected to show divergent knowledge when interpretable features like focus are involved at the syntax–discourse interface and that such feature may somehow become underspecified at the interfaces since 'interfaces, because they are more complex than narrow syntax, are inherently more difficult to acquire' (Sorace, 2004: 144). Our results indeed indicate that learners display optional knowledge (a subtype of divergence, as argued in Section VII) by allowing the interpretable [+Foc] subject to appear both in a preverbal position when it raises to [Spec,TP] (similar to what occurs in their L1) and in a postverbal position when it raises to [Spec, FocP] (which is the correct option in native Spanish). In other words, in Sorace and associates' view, when the interpretable focus feature is introduced, learners are at a loss, as they appear not to recognize the information status of the focused subject, which necessarily appears in sentence-final position.

While Sorace and associates' proposal can account for the current data and previous research on attrition, we must be cautious as it remains to be explained why it is precisely the interpretable focus feature that remains persistently problematic. The implication is that adult L2 learners are insensitive to information packaging, i.e. to the fact that the presentationally focused subject is interpreted as new information by the systems of thought (CI). The question is then why would learners fail to interpret a focused constituent as new information? There is no principled reason in the literature to assume that they are unable to do so for two main reasons. First, information packaging into

topic/focus is universal (Vallduví, 1995), though different languages select different devices (syntax, morphology, intonation) to express it. This entails that adult L2 learners must somehow know from their L1 the information value of presentational focus, i.e. that a presentationally focused subject is interpreted as new information. Additionally, our test stimuli contained a previous question on the subject (e.g. *¿Quién gritó?* 'Who shouted?') which necessarily requires a focused/new subject in the reply. It is difficult to see why learners should be insensitive to the focused subject representing new information. Additionally, Belletti and Leonini (2004: 112) argue that the fact that some of their learners transfer VS from their L1s to express presentationally focused subjects in L2 Italian 'indicates that second language subjects do not have any problem in identifying the informational value of the elicited construction. Rather, their difficulty must be grammatical in nature'. Second, it is standardly assumed (Chomsky, 1998) that:

- the interfaces are fully developed in adult grammars, hence our adult learners' syntax–discourse interface must be fully developed; and
- the system of thought of adults (CI system) is in its final, fully fledged state, hence our learners' CI must be fully fledged too and must be able to interpret presentationally focused constituents as expressing new information.

This suggests that there is no principled reason preventing an explanation other than the interpretable discursive feature approach as being the source of advanced learners' deficits. It is then plausible to assume that learners are insensitive to the fact that different word orders (syntax) convey different information values, as found in the Ocampo and Camacho studies cited above. As suggested by Belletti and Leonini (2004), the deficit could be grammatical in nature. In particular, I argue that it may be the case that learners go through a developmental temporary phase of optionality *à la* Eubank (1996) rather than a permanent phase *à la* Beck (1998), where, crucially, they are insensitive to the uninterpretable strong feature of the functional focus head, which is ultimately responsible for displacing the focused element to a sentence-final position, where it can then be interpreted as new information. In short, learners' deficits at the syntax–discourse interface are the result of their inability to encode focus syntactically (and not the result of

underspecification of interpretable discursive features, as proposed by other authors). We could preliminary term this phenomenon 'Impaired Syntax–discourse Functional Features', although future SLA research will need more fine-grained methods to evaluate this proposal.

What remains unproblematic is the emerging view that properties at the syntax–discourse interface are persistently more problematic than purely formal/grammatical properties. This is not a random observation, as it is well documented in previous studies of pronominal distribution in L2 acquisition (Polio, 1995; Pérez-Leroux and Glass, 1997; 1999; Al-Kasey and Pérez-Leroux, 1998; Pérez-Leroux *et al.*, 1999), in L1 acquisition (Chien and Wexler, 1990; Grodzinsky and Reinhart, 1993; Thornton and Wexler, 1999; Tsimpli, 2001; Serratrice, 2004), in specific language impairment (Tsimpli, 2001), in L1 attrition already discussed (Satterfield, 2003; Montrul, 2004; Sorace, 2004; Tsimpli *et al.*, in press) as well as in Catalan word order attrition (Helland, 2004) and L2 German word order distribution (Hopp, 2004). It would be an oversimplification, however, to assume that all formal syntactic properties are readily acquirable in SLA and that they are not persistently problematic for learners, as a series of studies on the acquisition of formal properties have shown that learners' intuitions can diverge from natives' even after long exposure to the target language, which can result in optionality (Sorace, 1993; Parodi, 2001), in impaired functional feature strength (Beck, 1998), in persistent selective fossilization of functional features (Hawkins and Chan, 1997; Hawkins and Liszka, 2003) and in deficits in the feature-morphophonology mapping (Lardiere, 2000; Prévost and White, 2000). Our claim is rather that when constructions are simultaneously governed both by formal-syntactic constraints and by discursive constraints at the syntax–discourse interface, it appears that the acquisition of core properties precedes the acquisition of discursive properties, whose acquisition could well be delayed until end-states. Still, future research on the syntax–discourse interface will need to elucidate crucial questions like: are discourse-related constraints persistently more problematic for advanced and end-state learners than purely formal constraints? If so, why is discourse in place after grammar? In particular, are some discursive properties more vulnerable to delay and/or divergence than others (presentational focus vs. contrastive focus vs. topic)?

XI Conclusions

Results are in line with recent research on L1 attrition. In advanced SLA, knowledge of grammatical properties results in native-like, convergent knowledge, yet knowledge of discursive focus results in near-native, optional knowledge. This suggests that syntactic constraints are in place before discursive ones.

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Appendix 1 Learners' biodata

L1 English			L1 Greek		
Subject's id	Age (year)	Placement (%)	Subject's id	Age (year)	Placement (%)
mf	51	100	mb	25	100
cmb	22	98	ks	25	95
ecr	21	98	kc	20	95
dsj	19	98	mv	19	95
mjr	23	95	pf	21	95
lt	21	93	ac	25	95
jh	21	93	ga	21	93
ec	22	88	da	30	93
kc	20	84	ga	21	93
hjc	19	81	el	24	93
mwl	18	81	fk	23	93
gfs	19	80	hb	22	93
ld	18	80	vr	25	91
cd	19	80	ja	33	88
ob	21	93	cl	21	88
lt	22	95	ct	25	88
rb	45	91	ag	19	86
			dp	23	86
Mean:	23.58	89.88	Mean:	23.44	92.22

Appendix 2 Descriptive statistics

L1	Construction	<i>n</i>	Mean	Standard deviation
<i>Unergative unfocused:</i>				
English	SV	17	85.3	8.98
	??VS	17	69.7	16.35
Greek	SV	18	87.9	9.45
	??VS	18	69.2	18.83
Spanish	SV	14	89.0	14.77
	??VS	14	46.7	14.81
<i>Unaccusative unfocused:</i>				
English	??SV	17	75.0	15.40
	VS	17	87.0	12.92
Greek	??SV	18	72.0	15.90
	VS	18	91.2	9.80
Spanish	??SV	14	62.5	23.11
	VS	14	83.9	15.15
<i>Unergative presentational:</i>				
English	??SV	17	78.9	12.96
	VS	17	77.2	16.49
Greek	??SV	18	84.3	16.33
	VS	18	74.8	17.29
Spanish	??SV	14	57.7	19.54
	VS	14	83.9	12.87
<i>Unaccusative presentational:</i>				
English	??SV	17	73.3	19.33
	VS	17	84.9	14.50
Greek	??SV	18	77.3	14.73
	VS	18	82.2	15.08
Spanish	??SV	14	50.0	23.67
	VS	14	86.9	13.57