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**UNACCUSATIVITY AND WORD ORDER IN MEXICAN SPANISH:  
AN EXAMINATION OF SYNTACTIC INTERFACES  
AND THE SPLIT INTRANSITIVITY HIERARCHY**

A Dissertation in

Spanish

by

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## ABSTRACT

Recent research in language contact has investigated bilingual deviations from monolingual norms where syntax interfaces with the lexical and discourse components of the grammar (e.g. Iverson & Rothman 2008; Lozano 2006; Montrul 2004, 2005; Sorace & Filiaci 2006; Tsimpli et al. 2004). Such studies generally show that the ‘external’ syntax-discourse interface displays more optionality in language contact and is more vulnerable to attrition than the ‘internal’ syntax-lexicon interface, and this is termed the ‘Interface Vulnerability Hypothesis’ (see Dominguez, 2009; Montrul, 2011). This dissertation further investigates the syntax-lexicon and syntax-discourse interfaces through a study of word order with unaccusative and unergative predicates in different focus contexts for native speakers of Bajío Mexican Spanish.

The factors that constrain subject-verb or verb-subject word order in Spanish have been the subject of previous studies (e.g. Bolinger, 1991; Delbecque, 1988; Silva-Corvalán, 1982), and the word order of intransitive verbs has recently received attention in studies using variationist approaches (e.g. Rivas, 2008; Mayoral Hernández, 2006; Ocampo, 2005) and structuralist approaches (e.g. Hertel, 2000; Hertel & Pérez-Leroux, 1998; Lozano, 2003, 2006a; Montrul, 2005a, 2005b, 2006). A number of lexical and discourse-related factors have been reported to constrain the variable use of preverbal or postverbal subjects with intransitive verbs, but they are often overlooked in studies of word order, and other relevant factors, such as the ‘Auxiliary Selection Hierarchy’ (Sorace, 2000, 2004), a continuum of lexico-semantic notions underlying unaccusativity, have not been thoroughly investigated.

The purpose of this dissertation is to investigate language-internal and language-external factors that may constrain word order variation at the syntax-lexicon and syntax-discourse interfaces in Bajío Mexican Spanish. For this study, an oral production task and an acceptability

judgment task were administered to native speakers of Bajío Mexican Spanish residing near Irapuato, Mexico, and the results for 29 participants were included in the analyses. The results of these tasks reveal instability at both the syntax-discourse and syntax-lexicon interfaces and show that focus type, definiteness, subject NP weight, the position of adverbial phrases, and the verb categories of the ‘Auxiliary Selection Hierarchy’ significantly favor particular word orders. Previously unnoticed verbal constructions that relate to word order are identified, and it is also suggested that cyclical migrants may influence the word order of Bajío Mexican Spanish.

This dissertation is an important addition to current research because it identifies, tests, and ranks several language-internal and language-external variables for their effects on word order at the syntax-lexicon and syntax-discourse interfaces. In addition, the Interface Vulnerability Hypothesis is shown to be relevant for native speakers of Spanish living in Mexico because more word order variation is found to occur for these speakers at the syntax-discourse interface than at the syntax-lexicon interface in the production task. The results of this study do lend support for the Interface Vulnerability Hypothesis, but also show times in which ‘external’ interfaces may show less word order variation than ‘internal’ interfaces.

This research makes a significant contribution to studies of unaccusativity in Spanish by comparing and reanalyzing the results of previous studies of unaccusativity in Spanish and by noticing parallels with historical changes and contact Spanish. This study also demonstrates that the ‘Auxiliary Selection Hierarchy’ can help to explain word order in Spanish and should be termed the ‘Split Intransitivity Hierarchy’ because of its cross-linguistic application. A ‘cutoff point’ or transition zone between unergativity and unaccusativity is found for Spanish that situates Spanish crosslinguistically as being similar to Italian, but not yet like Dutch or French. A list of twenty proposed tests for unaccusativity in Spanish is also compiled for future research.

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# **Chapter 1**

## **Introduction**

### **1.0 Introduction**

The purpose of this dissertation is to investigate the language-internal and language-external factors that influence the subject-verb or verb-subject word orders of intransitive predicates in Bajío Mexican Spanish. The factors that constrain word order in Spanish have been the focus of previous variationist studies (e.g. Bolinger, 1991; Delbecque, 1988; Silva-Corvalán, 1982), and the word order of intransitive predicates has recently received particular attention (e.g. Mayoral Hernández, 2006; Ocampo, 2005; Rivas, 2008). While a number of syntactic and discourse-pragmatic factors have been observed to constrain the variable use of preverbal or postverbal subjects with intransitive verbs, other relevant factors, such as Sorace's (2000b, 2004) continuum of lexico-semantic notions, have not been thoroughly investigated. In addition, studies of Spanish-English bilinguals show that when lexical and discourse factors influence word order at such syntax-lexicon and the syntax-discourse interfaces, there are more deviations from monolingual norms at the syntax-discourse interface (Lozano, 2006a; Zapata, Sánchez & Toribio, 2005). Monolinguals may also show more variation at the syntax-discourse interface, but additional research is needed. The present study investigates several language-internal and language-external factors that constrain word order variation in Bajío Mexican Spanish, a variety of Spanish spoken in the central highlands of Mexico where cyclical migrants returning from the U.S. are reported to influence the Spanish of the area (Matus-Mendoza, 2002a, 2002c, 2004).

This chapter will show that recent research in language contact is focused on investigating the syntactic interfaces to explain deviations from monolingual norms, and a study

of the interfaces may also help explain linguistic variation in Mexican Spanish. A proposal will be made for investigating the syntax-lexicon and syntax-discourse interfaces in Bajío Mexican Spanish by examining the word orders of intransitive predicates and research questions will be outlined. This chapter will conclude with a summary of the other chapters in this dissertation.

## 1.1 Interfaces

Recent research in second language acquisition and bilingual L1 attrition has centered on the syntactic ‘interfaces’ as loci of non-target forms (see, for example, Dominguez, 2009; Montrul, 2009; Rothman, 2008; Sorace & Serratrice, 2009; White, 2009). ‘Interfaces’ are connections between different modules of the grammar (e.g. syntax, phonology, discourse, etc.) where knowledge of both components must be coordinated. Although not all researchers agree on how independent such modules are from each other, most would agree that the grammar includes a lexicon, a core syntax, a phonology component, and a discourse component. Just how to schematize the interfaces of the different modules is also debated (see one review of such proposals in Jackendoff, 2002), but many researchers have appeared to assume that the modules interface with each other in the way that is shown in Figure 1.1:

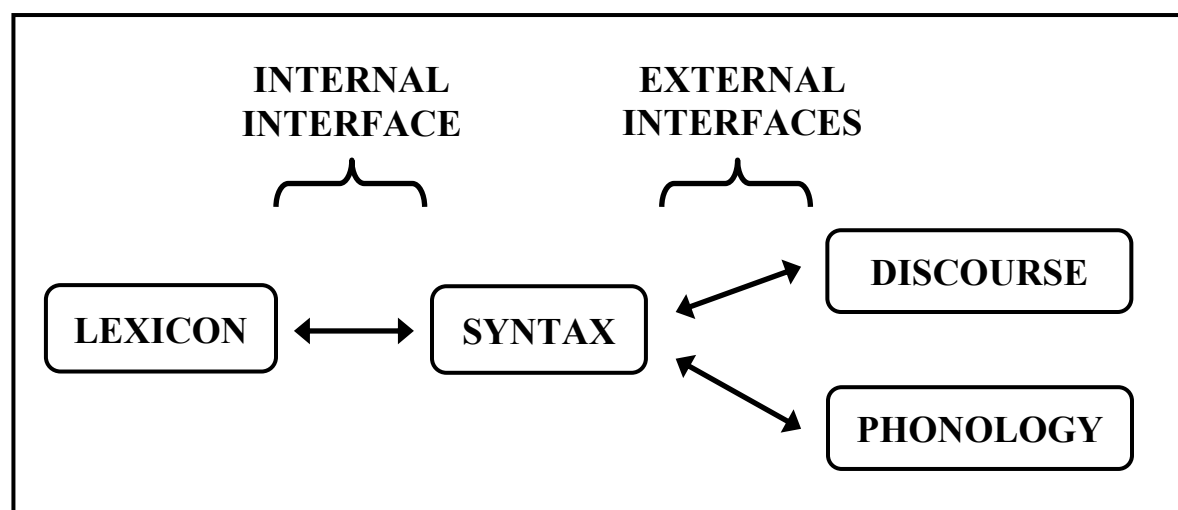


Figure 1.1 Examples of Internal and External Interfaces

Figure 1.1 depicts the idea of some researchers that there are both ‘internal’ and ‘external’ interfaces with the core syntax.<sup>1</sup> The syntax-lexicon interface has been considered to be an ‘internal interface’ while the syntax-discourse and syntax-phonology interfaces are considered ‘external interfaces’.<sup>2</sup> Although researchers typically speak of a few ‘internal’ and ‘external’ interfaces, there are many modules, interfaces, and an apparent gradient of interface levels. The most ‘internal’ interfaces are where the lexicon interfaces with syntax, morphology, and semantics. The interfaces that may be considered slightly less ‘internal’ include the syntax-morphology interface and the syntax-semantics interface. The most ‘external’ interfaces are the syntax-discourse and syntax-phonology interfaces. There may also be other interfaces between these or other modules and between sub-modules (see Sorace & Serratrice, 2009; White, 2009; Zubizarreta, 1998), so the idea that there are separate ‘internal’ and ‘external’ interfaces is somewhat problematic (Montrul, 2011).<sup>3</sup> One of the problems with some interface studies is that researchers often assume that a certain phenomenon pertains to a particular interface without explaining why it pertains to that interface and not another. The present study will concentrate on what are often considered to be syntax-lexicon and syntax-discourse interface phenomena.<sup>4</sup>

A growing number of studies investigate syntactic interfaces and find that the syntax-discourse interface is more difficult for L2 mastery, acquired later in L1 acquisition, and is more

---

<sup>1</sup> The syntax component is also often referred to in the literature as the ‘narrow syntax’, the ‘core syntax’, the ‘syntax proper’, and the ‘computational system.’ The term ‘peripheral syntax’ generally refers to the syntax governed by discourse-pragmatic constraints at the syntax-discourse interface.

<sup>2</sup> For a discussion of ‘internal’ and ‘external’ interfaces, see Montrul (2011) and White (2009, 2011). In Minimalist Theory, there are also internal and external interfaces: the lexicon interfaces with the computational system syntax, which then interfaces with Phonetic Form (PF) and Logical Form (LF) before interfacing with the Articulatory-Perceptual (A-P) and Conceptual-Intentional (C-I) systems (see Chomsky, 1995).

<sup>3</sup> In addition to interfaces with other modules of the grammar, the grammar interfaces with the parser, the production system, and other non-linguistic systems (see Jackendoff, 2002; White, 2009).

<sup>4</sup> There has often been no consensus in the literature about how to determine the interface to which a particular phenomenon belongs or how to label the interfaces. For example, the terms ‘syntax-semantics’ and ‘syntax-lexicon’ are often used interchangeably as are ‘syntax-pragmatics’, ‘syntax-information structure’, and ‘syntax-discourse’. Additionally, the order of the words (e.g. ‘lexicon-syntax’ or ‘syntax-lexicon’) is significant for some and not for others. There are various labels attributed to the interfaces, and in following much of the literature, I will refer to the interfaces addressed in this study as the syntax-lexicon and syntax-discourse interfaces.



vulnerable to bilingual L1 attrition than the core syntax or internal interfaces (see, for example, Grinstead, 2004; Iverson & Rothman, 2008; Lozano, 2006a; Montrul, 2005b; Sorace & Filiaci, 2006; Sorace et al., 2009; Tsimpli et al., 2004; Valenzuela, 2006). The syntax-discourse interface is typified by ‘softer’ grammatical constraints than the core syntax (Sorace & Keller, 2005) and studies of this interface in language contact tend to show persistent optional acceptance of deviant forms or judgments that are less categorical than those of native speakers. Such results have lead to what is called the ‘Interface Vulnerability Hypothesis’ (see Dominguez, 2009; Iverson, 2009; Montrul, 2011). This hypothesis is that purely syntactic phenomena and internal interfaces are more ‘target-like’ in language contact than external interfaces.

While most studies concur that the syntax-discourse interface has proven to be more vulnerable to contact-induced deficits than the internal interfaces or the narrow syntax, there is still much discussion as to the source of such deficits. Some explanations focus on possible representational or processing deficits. For example, the problems at the syntax-discourse interface may be due to impaired functional features (Lozano, 2006b; Tsimpli et al., 2004), a processing overload resulting in the use of a default strategy (Sorace et al., 2009), or to the inherent complexity of coordinating multiple components of the grammar (Guijarro-Fuentes & Marinis, 2007; Rothman, 2008). Other explanations for interface deficits make recourse to the age of L2 acquisition of the participants (Kraš, 2005, 2006), to the influence of the dominant language of the community (Sorace et al., 2009), to crosslinguistic influence favoring one of multiple options (Hulk & Müller, 2000; Müller & Hulk, 2001; Serratrice, Sorace & Paoli, 2004), or to a contact-induced expansion of a form already present in the L1 (Lapidus & Otheguy, 2005). Although much has recently been done to investigate the effects of language contact on the internal and external interfaces of the grammar of bilinguals, the variation present at each of

the interfaces has yet to be thoroughly studied in monolinguals. A study of language-external and language-internal variables will help to shed light on the sources of variation at the interfaces.

The present study tests the instability of the syntax-lexicon interface and the syntax-discourse interface in Bajío Mexican Spanish through an examination of word order patterns. The syntax-lexicon interface may be studied by comparing the word orders of ‘unergative’ and ‘unaccusative’ classes of intransitive verbs. The traditional difference between these verbs is that the lone NP argument is linked to either the subject or object position depending on the lexical semantics of the verb. This is known as ‘split-intransitivity’ or the ‘Unaccusative Hypothesis’ (see Burzio, 1986; Perlmutter, 1978). Recent studies show that these verbs fall along a continuum of lexico-semantic notions called the ‘Split Intransitivity Hierarchy’ (Sorace, 2000b, 2004; Sorace & Shomura, 2001), and more needs to be done to study this continuum in Spanish. The continuum ranges from the more telic unaccusative or ‘presentational’ verbs (e.g. *llegar* ‘to arrive’) to the more agentive unergative verbs (e.g. *hablar* ‘to speak’). The syntax-lexicon interface is studied by monitoring the word orders of these intransitive verbs that have different underlying lexico-semantic related to argument linking in the core syntax (e.g. Montrul, 2005a, 2005b). To probe the syntax-discourse interface, sentences are contextualized by placing narrow presentational focus on the subject NP or broad focus on the entire sentence and then the word orders are compared (e.g. Lozano, 2006a; Zapata et al., 2005). The present investigation of word order with intransitive verbs is guided by several research questions.

## **1.2 Research Questions**

To investigate the syntax-lexicon and syntax-discourse interfaces, native speakers of Bajío Mexican Spanish were tested in Mexico using an oral production task and an acceptability judgment task. The research questions that guide the present study ask (i) if there is variation at

the syntax-lexicon and syntax-discourse interfaces in Bajío Mexican Spanish, (ii) if the syntax-discourse interface shows more variation than the syntax-lexicon interface in monolingual Spanish, (iii) what the sources of the possible interface variation may be, (iv) if the Split Intransitivity Hierarchy can account for Spanish word order data, (v) if there is a difference between perception and production in word order preferences, and (vi) which language-external variables best help to explain word order variation at the interfaces. This dissertation will not only shed light on the previously unstudied word order patterns in Bajío Mexican Spanish, but will also inform current research on the Interface Vulnerability Hypothesis and provide a basis for further studies of the interfaces.

### **1.3 Organization**

The chapters of this dissertation will include a review of the syntax-lexicon and syntax-discourse interfaces as they pertain to word order, an explanation of language-external variables relevant to Bajío Mexican Spanish, a description of the instruments used to collect the data, an analysis of the data, a discussion of the results, and a conclusion.

In Chapter 2, we review literature pertinent to the syntax-lexicon interface. First, the diagnostics used to test for unaccusativity in Spanish are exemplified and the lexico-semantic notions underlying unaccusativity are reviewed. It will be shown that both the inherent lexico-semantics of the verb and the compositional semantics of the sentence can affect the ‘agentivity’ and ‘telicity’ of the sentence to change the unaccusative or unergative behavior of some verbs. We also review studies of the Split Intransitivity Hierarchy and show that it can account for language-internal variation, cross-linguistic variation, diachronic variation, dialectal variation, and trends in L2 acquisition and bilingual incomplete acquisition or attrition. It will also be shown that previous studies of the Split Intransitivity Hierarchy in Spanish both support and

contradict the hierarchy and that more are needed to better determine the applicability of the hierarchy to Spanish.

In the third chapter, studies related to the syntax-discourse interface are reviewed. The syntax-discourse interface will be shown to exhibit more variation in Spanish language contact than the internal interfaces. The discourse-pragmatic concepts that regulate the syntax-discourse interface will also be reviewed, and the Spanish means by which ‘new’ or ‘unpredictable’ information may be focused for the hearer will also be addressed. A review of functionalist studies of word order in Spanish will identify a number of variables that relate to word order, including the identifiableness of discourse referents, the position of adverbial phrases with respect to the verb, the definiteness of subject NPs, and the heaviness of subject NPs.

Experimental studies of Spanish word order will also be reviewed to show that native speakers of Spanish tend to prefer VS order for unaccusative verbs and SV order for unergative verbs in broad focus contexts and VS order for both verb types in narrow focus contexts, although this is not always the case. The chapter will also demonstrate that there may be word order differences between perception and production that should be investigated further.

The fourth chapter will describe the language-external variables pertinent to Bajío Mexican Spanish. The results of a language history questionnaire will be used to describe the participants of this study as coming from the Bajío zone of the central highlands dialect of Mexican Spanish. It will be shown that they had the opportunity to acquire this variety of Mexican Spanish from their parents, that they have spent most of their life in the cities and small towns where Bajío Mexican Spanish is spoken, and that their current social networks are comprised of almost all speakers of Bajío Mexican Spanish. The gender, ages, and education levels of the participants and their parents will also be addressed. It will also be shown that the

participants have had minimal contact with indigenous languages and that first language of all of the participants is Spanish, although everyone has studied English in school to some degree. The contact that these participants have with relatives who are cyclical migrants that return yearly from working in the U.S. will also be described in this chapter.

In Chapter 5, the instruments and procedures for a study of split-intransitivity in Spanish will be described. First, the language-internal and language-external variables that may explain word order in Bajío Mexican Spanish are summarized and then the research questions are revisited. The oral production task and the acceptability judgment task that are used to answer the research questions are also described in this chapter. The variables related to the syntax-lexicon and syntax-discourse interfaces that are considered in the design of the study and the coding scheme used for the analysis of the data will also be explained.

In the sixth chapter, the results of the present study are described. In this chapter, the influence of several language-internal and language-external variables on word order will be illustrated, including focus, unaccusativity, the Split Intransitivity Hierarchy, and the possible influence of contact with cyclical migrants in Mexico. Both regression analyses and ANOVAs using SPSS will be performed to analyze the results of the production task and the acceptability judgment task.

Chapter 7 discusses the research questions regarding the syntax-lexicon interface, the syntax-discourse interface, and language-external variables in Bajío Mexican Spanish. For the syntax-lexicon interface, we will see that the oral production task and the acceptability judgment task show that there is variation at this interface in Bajío Mexican Spanish due to both the inherent complexity of the interface and to individual factors. The Split Intransitivity Hierarchy will be shown to be able to account for the Spanish word order data at the syntax-lexicon

interface through a cutoff point between unaccusative and unergative behavior, a core-periphery distinction, and the possibility of collapsing categories of the hierarchy. Just as with the syntax-lexicon interface, it will be shown that the syntax-discourse interface displays variation due to the inherent complexity of the interface as well as individual factors. We will see that these results for native speakers of Spanish are similar to the data reported in other studies of Spanish word order and language contact and that some speakers may be expanding on the SV word order (which is theoretically non-target in narrow focus) that is already present in the grammar.<sup>5</sup> The results from the production task and the acceptability judgment task will also show that there are differences in perception and production. It will be shown that the oral production task in this study does support the unaccusative/unergative distinction and the broad/narrow focus distinction, unlike some other studies. The possible influence of language-external factors will also be explored. After this discussion in the seventh chapter, a final chapter will highlight the findings of this study and propose directions for further research.

We now turn to Chapter 2 for a review of the syntax-lexicon interface and unaccusativity as they relate to word order in Spanish.

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<sup>5</sup> When ‘target’ or ‘non-target’ is used in this dissertation to speak of variation among native speakers, we refer to the assumed, theoretical ‘target’, from which native speakers often deviate. For example, some accounts of unaccusativity would lead us to believe that native speakers of Spanish always use VS order with unaccusative verbs and SV order with unergative verbs in broad focus, but it will be shown that native speakers frequently deviate from this theoretical ‘target’.

## Chapter 2

### The Syntax-Lexicon Interface

#### 2.0 The Syntax-Lexicon Interface

The syntax-lexicon interface is often considered to be the area of the grammar in which lexical-semantic knowledge is fed into the computational system before the computational system generates a result that is sent to the syntax-discourse and syntax-phonology components of the grammar (see Chapter 1, Fig. 1.1). Because the syntax-lexicon interface is said to precede the other interfaces, it is often referred to as an ‘internal’ interface, but no clear distinction is often made between the interface of the syntax with lexico-semantics and what is termed the ‘syntax-semantics’ interface. While I will not attempt to distinguish between what pertains to the syntax-semantics and syntax-lexicon interfaces, there have been several studies that have been conducted of semantics interfacing with the syntax and a review of them would prove beneficial.

Studies involving semantics at an interface with syntax generally indicate that L2 learners can acquire the syntax-semantics mappings at this interface, unlike what has been reported for the syntax-discourse interface where even the most near-native L2 speakers often fail to achieve target norms. For example, Dekydtspotter, Sprouse, and Anderson (1997) find that English L2 learners of French can become as sensitive as French native speakers to the semantic notions of ‘process’ and ‘result’ that relate to the felicitous use of prepositional phrases that accompany nominals in French. Another example of non-native speakers achieving native-like success at this interface comes from a study of English L2 learners of Portuguese conducted by Iverson and Rothman (2008). Iverson and Rothman find that L2 learners can achieve native-like knowledge of the semantic notion of ‘genericity’ and how it constrains inflected infinitives in Portuguese.

These studies show that non-native speakers are able to perform like native speakers and do not fossilize in a state of optionality for interface phenomena associated with semantics.

The syntax-semantics interface in Spanish has also been studied recently. For example, Borgonovo et al. (2006) find that ‘specificity’ encoded in Spanish clitic left dislocation can be acquired by Portuguese L2 learners of Spanish. This conclusion is contrary to that of Valenzuela (2006), who finds that English near-native speakers of Spanish do not achieve native-like behavior in their knowledge of ‘specificity’ and clitic left dislocation, but instead fossilize in a state of optionality. Differential object marking in Spanish (the personal *a*) has also been studied as a syntax-semantics interface phenomenon because accurate knowledge of ‘animacy’ is necessary for target-like behavior. Guijarro-Fuentes & Marinis (2007) investigate ‘specificity’ and ‘animacy’ in differential object marking and find that the most advanced English L2 learners of Spanish can acquire differential object marking, although only the least complex instantiations of it. Differential object marking has also been problematic for heritage speakers of Spanish, and it appears to be more affected than the semantically-based aspectual meanings underlying the difference between the Spanish preterite and imperfect (Montrul, 2004b, 2008), a fact indicating that not all phenomena at a syntactic interface may be alike. These studies collectively show that semantic interface phenomena are difficult to acquire and are vulnerable to attrition or incomplete acquisition, although target behavior can be attained, retained, or acquired.

The interface of syntax with the lexico-semantic notions that underlie Spanish intransitive predicates, of interest here, has also been investigated. In the following sections, I will address the notion of ‘split-intransitivity’ (2.1), present diagnostics used to identify the two verb types in Spanish (2.1.1), review the lexico-semantic notions underlying split-intransitivity (2.2), and describe a hierarchy that accounts for variation in split-intransitivity (2.3). I will conclude the



chapter with relevant research questions to be addressed in this dissertation (2.4). We now turn to an introduction of ‘split-intransitivity’ at the syntax-lexicon interface.

## 2.1 Split-intransitivity and the Syntax-Lexicon Interface

The syntax-lexicon interface is profitably studied by comparing two classes of intransitive verbs referred to today as ‘unergative’ verbs and ‘unaccusative’ verbs. The term ‘split-intransitivity’ refers to the classification of intransitive verbs into these two groups. Under the ‘Unaccusative Hypothesis’, unergative verbs are considered to have a lone argument that behaves like the subject of a transitive verb, while unaccusative verbs have a single argument that is comparable to the direct object of a transitive verb. Since the works of Perlmutter (1978), Burzio (1986), and Levin and Rappaport Hovav (1995), linguists have uncovered a wealth of syntactic evidence for distinguishing these two verb types in many languages.<sup>6</sup>

The abundant cross-linguistic evidence for split-intransitivity shows that it is a universal phenomenon, although there is much cross-linguistic variation.<sup>7</sup> There is cross-linguistic variation in both the lexico-semantics that underlie unaccusativity and in their syntactic mappings. The lexico-semantic features that generally underlie characterizations of split-intransitivity are ‘telicity’ and ‘agentivity’, but an individual language may base the distinction to a greater or lesser degree on one of these two notions or upon on a number of other related ones such as ‘agentive control’ or ‘movement.’ There is also cross-linguistic variation in the way the unaccusative/unergative distinction is encoded in the syntax. For example, languages such as

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<sup>6</sup> These languages include Dutch (Perlmutter, 1978), German (Shannon, 1990), at least 17 Amerindian languages (Davies, 1986; Gerdts, 1991; Mithun, 1991; Rex, 2001), Georgian (Harris, 1982; van Valin, 1990), Japanese (Miyagawa, 1987; Sorace & Shomura, 2001), Chinese, (Shan & Yuan, 2007; Yuan, 1999), French (Lahousse, 2006; Legendre, 1989), Italian (Burzio, 1986; Perlmutter, 1989; van Valin, 1990), Spanish (Montrul, 2005b; Rex, 2001), Sanskrit (Rosen, 1984), Acehnese (van Valin, 1990), Russian (Batsiukova, 2004; Harves, 2002), Middle Welsh (Manning, 1995), and Latin (Cennamo, 1999), to name a few.

<sup>7</sup> The unaccusative/unergative distinction has also been shown to be subject to dialectal variation (for example, see Cennamo & Sorace, 2007, for Italian and Keller & Sorace, 2003, for German) and diachronic variation (for example, see Mithun, 1991, for Amerindian languages; Aranovich, 2003, for Spanish; and Sorace, 1993b, for other Romance languages).

French and Italian encode this distinction in the selection of the ‘have’ auxiliary (French *avoir*, Italian *avere*) or the ‘be’ auxiliary (French *être*, Italian *essere*):

(1) French Auxiliary Selection (Legendre, 1989, p. 147)

a. L’enfant est tombé de sa chaise. (unaccusative)

‘The child fell from his/her chair.’

b. Pierre a travaillé toute la nuit. (unergative)

‘Peter worked all night long.’

(2) Italian Auxiliary Selection (Burzio, 1986, p. 53)

a. Giovanni è arrivato. (unaccusative)

‘Giovanni has arrived’

b. Giovanni ha telefonato. (unergative)

‘Giovanni has telephoned.’

As shown in (1) and (2), the French and Italian unaccusative verbs select the ‘be’ auxiliary and the unergative verbs select the ‘have’ auxiliary. Auxiliary selection cannot be used as a diagnostic of unaccusativity in every language, but there are other ways in which other languages do encode split-intransitivity. Russian and Choctaw, for example, use other methods:

(3) Russian Genitive of Negation (Harves, 2002, p. 34)<sup>8</sup>

a. Otveta                ne                prišlo.                (unaccusative)

Answer-GEN        NEG        came

‘No answer came.’

b. \*Ni    odnoj    devuški    ne        pelo.        (unergative)

not   single   girl-GEN   NEG       sang

‘Not a single girl sang.’

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<sup>8</sup>In these examples, GEN refers to ‘genitive’, NEG is ‘negation’, and PST is ‘past’.

(4) Choctaw Case Marking (Davies, 1986, pp. 24, 36)

- a. Sa-                    ttola                    -tok                    (unaccusative)
- IACC*                    *fall*                    *PST*
- ‘I fell.’
- b. Hilha                    -li                    -tok                    (unergative)
- dance*                    *INOM*                    *PST*
- ‘I danced.’

In Russian, the subject *otveta* ‘answer’ of the unaccusative predicate *prišlo* ‘came’ in (3a) receives genitive case when negated, but the subject of the unergative *pelo* ‘sang’ in (3b) cannot. In (4), the Choctaw subject is case marked with the nominative affix *-li* or the accusative affix *sa-* depending on whether the verb is unaccusative or unergative. These are two examples of how languages may distinguish the two verb types without making recourse to auxiliary selection.

In addition to crosslinguistic variation, a single language may have a number of diagnostics for unaccusativity, but these tests often do not distinguish verb classes with equal precision (see Levin & Rappaport Hovav, 1995; Rex, 2001; Sanz, 1996, 2000). These individual unaccusative diagnostics often only identify subsets of unaccusative or unergative verbs, but collectively the subsets overlap to more clearly distinguish between the two verb types (see Legendre, 1989). In English, for example, *-er* nominalization provides some evidence for a distinction between unaccusative and unergative verbs, but also admits several exceptions:

(5) *-er* nominalization (Rex, 2001, pp. 72-80)

- a. runner, swimmer, jumper (unergative)
- b. \*dier, \*appearer, \*exister (unaccusative)
- c. slider, sinker, early arriver, moviegoer (unaccusative exceptions)

Examples (5a-b) show that *-er* nominalization is easily used with unergative verbs but is ungrammatical with unaccusative verbs. (5c) shows that this diagnostic does not work completely because a number of unaccusative verbs are grammatical in this construction. Explanations for such exceptions are often found in the history of the language and through the process of lexicalization. Although *-er* nominalization is not a consistent test for unaccusativity, there are at least three reliable tests in English: the resultative construction, the pseudopassive construction, and the cognate object construction (from Montrul, 2006, pp. 40-41):

(6) Resultative construction

- a. The book broke apart. (unaccusative)
- b. \*At his wedding, Peter sang sore. (unergative)

(7) Pseudopassive construction

- a. \*This airport was arrived at by many planes. (unaccusative)
- b. This hall has been lectured in by three Nobel laureates. (unergative)

(8) Cognate object constructions

- a. \*This time, the plane arrived a timely arrival. (unaccusative)
- b. I dreamed a scary dream last night. (unergative)

The resultatives in (6) are predicated on the object and are thus only possible with unaccusative verbs. The pseudopassive and cognate object constructions in (7) and (8) function only with unergatives. The examples in (5)-(8) show that English maintains an unaccusative/unergative distinction, but that not all diagnostics clearly make the distinction with all verbs.

In summary, a great number of languages have two kinds of intransitive verbs—‘unaccusatives’ and ‘unergatives’. The lexico-semantic bases and the syntactic realizations of these two verb types vary cross-linguistically and intra-linguistically. In Section 2.1.1, we list

many of the diagnostics used in the literature to identify these verb types in Spanish. Then, in Section 2.1.2, we will study the lexico-semantics underlying split-intransitivity.

### **2.1.1 Diagnostics for Split-intransitivity in Spanish**

Like English and other languages, many diagnostics for split-intransitivity have been reported as evidence for the unaccusative/unergative distinction in Spanish. Because these diagnostics have often been reported in disparate studies, they are united and categorized in the present study to provide a more comprehensive list of them in one location. As far as I am aware, a list of reported Spanish diagnostics that is more complete than the one I offer in this section has not been previously made in the literature. These twenty diagnostics will be illustrated and categorized in support for an unaccusative/unergative distinction in Spanish, but an evaluation of the effectiveness of each of the diagnostics will be reserved for later work. We will see that both tests for unaccusativity and tests for unergativity are reported for Spanish.

#### **2.1.1.1 Diagnostics Favoring Unaccusative Verbs in Spanish**

Most tests reported in the literature are grammatical for unaccusative verbs. The most frequently cited diagnostics that are felicitous with unaccusative verbs include participial absolute constructions (Batsiukova, 2004; Bosque, 1990, 2007; Campos, 1999; De Miguel Aparicio, 1992; Demonte, 1985; Mendikoetxea, 1999; Sanz, 2000; Sanz, Bever & Laka, 1992), postverbal bare plural subjects (Batsiukova, 2004; Demonte, 1985; Mendikoetxea, 1999; Sanz, 2000; Suñer, 1982; Torrego, 1989), and participial adjectives (Bosque, 2007; Mendikoetxea, 1999; Rex, 2001; Sanz, 2000). The following examples are illustrative:

(9) Participial absolute constructions (De Miguel Aparicio, 1992, p. 63)

a. Muerto el perro, se acabó la rabia. (unaccusative)

‘With the dog dead, the rabies are finished.’

- b. \*Nadado Juan, se sintió mejor. (unergative)

‘With John swam, he feels better.’

(10) Postverbal bare plural subjects (Torrego, 1989, p. 254)

- a. Crecen flores. (unaccusative)

grow flowers

‘Flowers grow.’

- b. \*Han dormido animales. (unergative)

have slept animals

‘Animals have slept.’

(11) Participial adjectives (Rex, 2001, p. 129)

- a. Los políticos recién llegados tienen una reunión mañana. (unaccusative)

‘The recently arrived politicians have a meeting tomorrow.’

- b. \*Los empleados trabajados pasan mucho tiempo en la oficina. (unergative)

‘The worked employees spend a lot of time in the office.’

Examples (9-11) show that participial absolute constructions, postverbal bare plural subjects, and participial adjectives are acceptable with unaccusative verbs but not with unergative verbs.

Additional diagnostics of unaccusativity in Spanish include the *quedar-por* construction (Aranovich, 2000), the floating *entero* construction (Sanz et al., 1992), object-to-subject raising (Gonzalez, 1988; Rex, 2001), interrogatives headed by the complement of the object noun phrase (Campos, 1999), and the use of *se* as a marker of telicity (Montrul, 2004a):

(12) *Quedar-por* construction (Aranovich, 2000, p. 167)

- a. Quedan pocos trenes por llegar. (unaccusative)

‘There remain few trains to arrive.’

- b. \*Quedan dos perros por ladrar. (unergative)  
 ‘There remain two dogs to bark.’
- (13) Floating *entero* construction (Sanz et al., 1992, p. 405)
- a. Después del accidente, la niña llegó entera. (unaccusative)  
 ‘After the accident, the girl arrived whole.’
- b. \*Después del accidente, la niña lloró entera. (unergative)  
 ‘After the accident the girl cried in one piece.’
- (14) Object to subject raising (Gonzalez, 1988, pp. 35-37)
- a. i. No es fácil que las cicatrices de la viruela desaparezcan.  
 ‘It’s not easy for smallpox scars to disappear.’
- ii. Las cicatrices de la viruela no son fáciles de desaparecer. (unaccusative)  
 ‘Smallpox scars are not easy to disappear.’
- b. i. Es fácil que los niños rían con el payaso.  
 ‘It is easy for the children to laugh with the clown.’
- ii. \*Los niños son fáciles de reír con el payaso. (unergative)  
 ‘The children are easy to laugh with the clown.’
- (15) Interrogatives headed by the object NP complement (Campos, 1999, p. 1567)
- a. ¿De qué equipo vendrán [los jugadores \_\_\_\_\_]? (unaccusative)  
 ‘The players from what team will come?’
- b. \*¿De qué equipo correrán [los jugadores \_\_\_\_\_]? (unergative)  
 ‘The players from what team will run?’

(16) Telicity marker *Se* (Montrul, 2004a, p. 264)

- a. Caerse, morirse (unaccusative)  
‘fall’, ‘die’
- b. \*trabajarse, \*llorarse (unergative)  
‘work’, ‘cry’

As illustrated in examples (12-16), unaccusative and unergative verbs may also be identified using the *quedar-por* construction, the floating *entero* construction, object to subject raising, interrogatives headed by the object NP complement, and the fact that *se* tends to be used as a marker of telicity with unaccusative verbs but not with unergative verbs. These are also examples of tests that are typically grammatical with unaccusative verbs, but not with unergative verbs and lend additional support to the unaccusative/unergative distinction.

Other diagnostics that favor unaccusatives in Spanish involve the use of nominals. These include the formation of nominals with determiners; abstract nouns formed with *-ada/ida*, *-ión*, or *-aje* (Bosque, 2007; Demonte, 1985; Sanz, 2000; Sanz et al., 1992); and nominals following *acabado de* or *estar al* (Batsiukova, 2004; Bosque, 2007):

(17) Nominals formed by Determiner + Past Participle (Sanz et al., 1992, p. 402)

- a. los llegados. (unaccusative)  
‘the arrived’
- b. \*los llorados. (unergative)  
‘the cried’

(18) Abstract nouns formed with *-ada/ida*, *-ion*, or *-aje* (Sanz et al., 1992, p. 403)

- a. la caída (unaccusative)  
‘the fall’



b. \*la caminada

‘the walk’

(19) Nominals with *acabado de* (Batsiukova, 2004, pp. 21-22)

a. ¿Sabías que se producen más accidentes cuando

la nieve está mejor y acabada de caer? (unaccusative)

‘Did you know that more accidents are produced when  
the snow is better and has just fallen?’

b. \*Acabado de caminar, se fue a casa. (unergative)

‘Having just walked, he went home.’

(20) Nominals with *estar al* (Batsiukova, 2004, pp. 21-22)

a. Tu marido está al venir. (unaccusative)

‘Your husband is about to come.’

b. \*No creo que tu hermano esté al volar. (unergative)

‘I don’t believe that your brother is about to fly.’

All of the preceding 12 tests show examples in which unaccusatives are favored and unergatives are ungrammatical and provide evidence for an unaccusative/unergative distinction in Spanish.

Although these tests all favor unaccusative verbs, there are other tests for split-intransitivity that favor unergative verbs.

### 2.1.1.2 Diagnostics Favoring Unergative Verbs in Spanish

There are at least seven tests reported in the literature that favor unergative verbs. These include the impersonal *se* construction (Campos, 1999; De Miguel Aparicio, 1989; De Miguel Aparicio & Fernández Soriano, 1988), the arbitrary plural construction (in which only unergative verbs can have arbitrary reference with a null subject) (Bosque, 2007; Jaeggli, 1986), and the use

of imperatives, adverbs of intention, and object control (De Miguel Aparicio, 1989). The following examples illustrate these diagnostics:

- (21) Impersonal *Se* (De Miguel Aparicio & Fernández Soriano, 1988, pp. 648-649)
- a. *Se esquía poco en España.* (unergative)  
'They ski little in Spain.'
  - b. \**Se nace mucho en África.* (unaccusative)  
'They are born a lot in África.'
- (22) Arbitrary Plural Construction (Jaeggli, 1986, pp. 45, 50)
- a. *Lllaman a la puerta.* (unergative)  
'They are/someone is knocking at the door.'
  - b. *Llegan cansados después de un viaje tan largo.* (unaccusative)  
'They arrive tired after such a long trip.'  
\**'Someone arrives tired after such a long trip.'*
- (23) Imperative constructions (19b from De Miguel Aparicio, 1989, p. 755)
- a. *¡Canta!* (unergative)  
'Sing!'
  - b. \**¡Llega!* (unaccusative)  
'Arrive!'
- (24) Object Control (19b from De Miguel Aparicio, 1989, p. 755)
- a. *Obligué a Juan a cantar.* (unergative)  
'I obligated Juan to sing.'
  - b. \**Obligué a Juan a llegar.* (unaccusative)  
'I obligated Juan to arrive.'

Other diagnostics that favor unergatives and disfavor unaccusatives relate to nominals. These include nominals with *por parte de* phrases (Sanz et al., 1992), *–ante/ente* (Montrul, 2005a), and *–dor* nominalization (Campos, 1999; Montrul, 2005a; Rex, 2001; Sanz, 2000):

- (25) Nominals with *por parte de* phrases (10b from Sanz et al., 1992, p. 403)
- a. el trabajo por parte de Juan. (unergative)  
‘the work by Juan’
  - b. \*la aparición por parte del enemigo. (unaccusative)  
‘the appearance by the enemy’
- (26) *–ante/ente* nominalization (Montrul, 2005a, p. 1157)
- c. El cantante de óperas. (unergative)  
‘The singer of operas’
  - d. \*El muriente (unaccusative)  
‘the dying man’
- (27) *–dor* nominalization (Rex, 2001, pp. 85-89)
- a. hablador (unergative)  
‘talkative, talker’
  - b. \*moridor (unaccusative)  
‘dier’

As shown in examples (25-27), nominals with *por parte de* phrases and nominals formed by *–ante/ente* or *–dor* favor unergative verbs and disfavor unaccusative verbs. These tests also support the fact that there is split-intransitivity in Spanish.

Taken together, the 19 tests in examples (9-27) show that Spanish does differentiate unergative verbs from unaccusative verbs. Empirical studies of some diagnostics, however, show

that not all Spanish diagnostics distinguish the two verb types to the same degree (e.g. Montrul, 2005b). This is not unusual because, as Legendre (1989) shows for French, a language may have several diagnostics for unaccusativity that select only subsets of unaccusative or unergative verbs, but the subsets of verbs will overlap to identify the verb classes. More needs to be done to study the degree to which each Spanish diagnostic effectively differentiates the verb types. In the next section, another diagnostic for unaccusativity—word order—is presented.

### 2.1.1.3 Word Order as a Diagnostic of Unaccusativity

Another diagnostic of unaccusativity in Spanish that is of particular importance to this dissertation is that of word order. A number of early studies observed that VS order was the common word order for what we now call unaccusative verbs (Contreras, 1978; Fernández Soriano, 1993; Hatcher, 1956; Suñer, 1982), but it was not until later that word order was used as a diagnostic to distinguish unaccusative verbs from unergative verbs in Spanish (Alonso-Cortés, 2001; De Miguel Aparicio, 1993; Demonte, 1985). In neutral contexts, postverbal subjects are preferred with unaccusative verbs and preverbal subjects are the most felicitous with unergative verbs, as the following examples show (from Hertel, 2003, p. 274 and Montrul, 2006, p. 41):

(28) VS order

a. Llegó mi nieto. (unaccusative)

Arrived my grandson

‘My grandson arrived.’

b. ?Habló Juan. (unergative)

Spoke John

‘John spoke.’

(29) SV order

a. Juan habló. (unergative)

John spoke

‘John spoke.’

b. ?Mi nieto llegó. (unaccusative)

My grandson arrived

‘My grandson arrived’

Example (28) shows that unaccusative verbs are more felicitous than unergative verbs when the subject is postverbal. Unergative verbs, on the other hand, are more acceptable with preverbal subjects than unaccusative verbs, as seen in (29). This test of unaccusativity will be explored in greater detail in the sections and chapters that follow.

#### **2.1.1.4 Summary of Spanish Diagnostics for Unaccusativity**

To summarize, there are a number of tests in Spanish, including the word order diagnostic, that provide evidence for split-intransitivity in Spanish. Further studies are needed to investigate the effectiveness of each reported diagnostic. Individually, these tests may not distinguish all unaccusative verbs from all unergative verbs, but collectively they do give evidence for the unaccusative/unergative distinction in Spanish. One explanation for why not all tests may function with equal precision is that the lexico-semantics that affect the diagnostics vary and there are some verbs that sometimes behave as unaccusatives or as unergatives depending on the semantics of the predicate. The following section will address this issue by reviewing the lexico-semantics that underlie split-intransitivity.

## 2.2 Lexico-semantics Underlying Split-intransitivity

Researchers have proposed a number of categories to classify unaccusative and unergative verbs, but the notions of ‘agentivity’ and ‘telicity’ (along with the compositional semantics of the subject and predicate) more clearly explain the behavior of the verbs. In this section, these lexico-semantic notions that underlie split-intransitivity will be addressed.

Previous attempts to categorize intransitives have focused on grouping verbs by their lexical meanings. For example, Levin and Rappaport Hovav propose the following classification for intransitive verbs in English (1995, p. 281-283):

(30) Intransitive Verb Classes in English	Examples:	Behavior:
a. Emission	<i>beam, sweat</i>	unergative
b. Inherently directed motion	<i>arrive, rise</i>	unaccusative
c. Manner of motion	<i>jump, run</i>	unergative
d. Existence and appearance	<i>live, appear</i>	unaccusative
e. Spatial configuration	<i>fly, kneel</i>	unaccusative
f. Disappearance	<i>die, disappear</i>	unaccusative
g. Externally-caused change of state	<i>break, cook</i>	unaccusative
h. Internally-caused change of state	<i>rust, wilt</i>	unaccusative

Levin and Rappaport Hovav explain that not all of the verbs in these classes act as unaccusatives or unergatives all of the time, but that the classes do reflect general tendencies. A similar approach to identifying unaccusative and unergative verbs has been used in Spanish (see Alonso-Cortés, 2001; Hatcher, 1956; Mendikoetxea, 1999; Morales de Walters, 1982; Suñer, 1982). The following classes have been proposed for unaccusative verbs (from Hatcher, 1956):

(31)	Unaccusative Verb Classes in Spanish	Examples:
a.	Existence-presence	<i>vivir</i> ‘to live’
b.	Absence	<i>faltar</i> ‘to lack’
c.	Beginning	<i>empezar</i> ‘to begin’
d.	Continuing-remaining	<i>quedar</i> ‘to remain’
e.	Production	<i>brotar</i> ‘to sprout’
f.	Occurrence	<i>suceder</i> ‘to occur’
g.	Appearing	<i>aparecer</i> ‘to appear’
h.	Coming	<i>llegar</i> ‘to arrive’
i.	Rise/extension/arrangement	<i>surgir</i> ‘to arise’
j.	Crystallized movement	<i>nadar</i> ‘to swim’
k.	Pure state	<i>colgar</i> ‘to hang’

Hatcher (1956) also identifies the following unaccusative verb classes in Spanish, but lists them separately because they relate less to the idea of ‘existence’ than the previous categories:

(32)	Other Unaccusative Classes in Spanish	Examples:
a.	Bursting/pouring	<i>estallar</i> ‘to explode’
b.	Sound	<i>sonar</i> ‘to sound’
c.	Visibility	<i>descollar</i> ‘stand out’
d.	Color/brightness	<i>titular</i> ‘to twinkle’
e.	Process	<i>dormir</i> ‘to sleep’
f.	Union	<i>chocar</i> ‘to collide’
g.	Dominance	<i>reinar</i> ‘to reign’
h.	Passing/disappearance	<i>transcurrir</i> ‘to pass’

The previous examples show that there are a large number of verb classes proposed for unaccusative verbs in Spanish. Unergative verbs, on the other hand, have only been classified into the following four groups in Spanish (from Alonso-Cortés, 2001, pp. 196-197):

(33)	Unergative Verb Classes in Spanish	Examples:
a.	Movement	<i>correr</i> ‘to run’
b.	Human or animal vocalization	<i>hablar</i> ‘to speak’
c.	Feeling	<i>llorar</i> ‘to cry’
d.	Physiological actions	<i>respirar</i> ‘to breathe’

While these classes are descriptively helpful in identifying verbs that might be unaccusative or unergative, this approach is problematic in that not all of the verbs in each class act alike and a principled explanation for unaccusative and unergative verb behavior would be ideal.

A more precise view of the semantics underling unaccusativity relies on a number of semantic notions that characterize agents, patients, and movement. In this view, there are two important aspects of semantics that influence split-intransitivity: (1) the semantic notions inherent in the verb and (2) the compositional semantics derived from the verb and its arguments (Cennamo & Sorace, 2007; Keller & Sorace, 2003).<sup>9</sup> Each factor will now be addressed in turn.

First, the semantic notions inherent in the verb that are frequently cited as underlying split-intransitivity are ‘agentivity’ and ‘telicity’ (see, for example, Dowty, 1991; Kishimoto, 1996; Randall et al., 2004; Sorace, 2000b). One way to study agentivity is to examine the agent-like or patient-like characteristics that a verb may entail on its subject. These characteristics can be summarized as follows (from Dowty, 1991, pp. 572-574):

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<sup>9</sup> It is also reasonable to assume that other contextual factors may affect the perceived agentivity or telicity of intransitive verbs.



(34)	Proto-Agent Characteristics	Examples:
a.	Volition alone:	<u>John</u> is being polite to Bill.
b.	Sentience/Perception alone:	<u>John</u> knows the statement.
c.	Causation alone:	<u>Unemployment</u> causes delinquency.
d.	Movement alone:	<u>He</u> accidentally fell.
e.	Independent Existence:	<u>John</u> needs a new car.
(35)	Proto-Patient Characteristics	Examples:
a.	Change of State:	John moved <u>the rock</u> .
b.	Incremental Theme:	John crossed <u>the driveway</u> .
c.	Causally Affected:	Smoking causes <u>cancer</u> .
d.	Stationary relative to other participant:	The bullet entered <u>the target</u> .
e.	Existence Not Independent of Event:	John built <u>a house</u> .

These characteristics are entailments that the lexical meaning of the verb imposes on the subject argument. Depending on the number of these clustering properties, an argument is selected as a subject or object—two fuzzy categories (Dowty, 1991). With respect to intransitives, if the subject NP has more proto-patient characteristics it is most likely unaccusative, and if it has more proto-agent entailments, it will act as unergative. Verbs that are between the two show variable behavior. For example, the Spanish verb *morir* ‘to die’ generally entails that the subject has undergone a change of state that was not willed by the subject. Because of this, we may consider *morir* ‘to die’ as unaccusative. The verb *hablar* ‘to talk’ usually implies that the subject has chosen to speak and was not acted upon to speak, so it is unergative. Some verbs like *estornudar* ‘to sneeze’ and *crecer* ‘to grow’ sometimes involve volition and sometimes do not, so they may be either unaccusative or unergative, depending on the context. In Spanish, intransitive verbs that

entail a subject in control of the action tend to have preverbal subjects while verbs that do not entail such control often have postverbal subjects (López Meirama, 1997).

In addition to ‘agentivity’, the lexical aspect of the verb or its ‘telicity’ is another lexico-semantic notion that underlies split-intransitivity. ‘Telicity’ is the notion that an action has a starting point or endpoint. For example, a Spanish verb like *llegar* ‘to arrive’ has an implicit endpoint because one arrives at a certain place and therefore the verb is unaccusative. On the other hand, a verb like *bailar* ‘to dance’ would be unergative because it implies movement, but that movement does not necessarily have a specified endpoint. A verbs’ telicity, then, is another important notion that underlies split-intransitivity. Previous studies of Spanish word order have often not carefully accounted for the gradient differences in verbs’ entailments of telicity or agentivity. Sometimes verbs of very different agentive or telic properties are grouped together and the failure to more carefully account for the lexico-semantics of the verbs may have influenced the results of some previous studies. These two notions—telicity and agentivity—are present in the lexico-semantics of the verb and underlie the unaccusative/unergative distinction.

Second, the arguments of the intransitive verb may affect the telicity and the agentivity of the predicate. These arguments include the subject NP and any prepositional phrases or adverbial phrases that may be present. The presence of temporal or locative prepositional phrases or adverbial phrases can telicize or detelicize the predicate (see Aranovich, 2007; Randall, 2007; Sorace, 2000b, 2004).<sup>10</sup> Languages like Dutch, English, and Italian allow prepositional phrases to telicize an intransitive predicate, but, according to some, Spanish does not (Sanz, 2000; Sanz & Bever, 2001). Locatives in Spanish, however, are reported to improve the grammaticality of postverbal bare plural subjects with unergatives (Mendikoetxea, 1999; Montrul, 2005a; Torrego,

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<sup>10</sup> The presence of a prepositional or adverbial phrase can also give rise to additional semantic distinctions including ‘locomotion’ (i.e. ‘travelling motion’), ‘directed change’, and ‘inferred eventual position or state’ (Randall et al., 2004, pp. 336-337).

1989), and in order to do so, the locatives must be preverbal and specific (Torrego, 1989). For example (from Montrul, 2005a, p. 1170):

- (36) a. ?Hablaron políticos  
           ‘Politicians spoke’  
       b. Aquí hablaron políticos.  
           ‘Here spoke politicians’

This example shows that the presence of the specific, preverbal locative *aquí* ‘here’ makes the postverbal bare plural subject *políticos* ‘politicians’ grammatical with the unergative verb *hablar* ‘to speak’. The affect of prepositional phrases on the telicity of the predicate can also be seen in the following example from Dutch auxiliary selection (Randall et al., 2004, p. 335):

- (37) (De)telicization of the predicate<sup>11</sup>  
       a. John heeft urenlang door de zaal rondgedanst.  
           John AUX for hours through the room dancing around  
           ‘John has been dancing around the room for hours.’  
       b. John is in twee seconden de kamer in gedanst.  
           John AUX in two seconds into the room danced  
           ‘John danced into the room in two seconds.’

In (37a), the Dutch *gedanst* ‘danced’ is atelic with the phrase ‘around the room for hours’ and requires the ‘have’ auxiliary. In (37b), it is telic with the phrase ‘into the room in two seconds’, which causes a change to the ‘be’ auxiliary. The presence of such prepositional or adverbial phrases can affect the telicity of the predicate.

Not only may the compositional semantics affect the telicity of a sentence, but it also may further agentify or deagentify the subject, resulting in a change between unergative and

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<sup>11</sup> AUX is ‘auxiliary verb’.

unaccusative behavior. Alterations in the perceived ‘control’, ‘intentionality’, or ‘animacy’ of the subject may change the agentivity of the subject.<sup>12</sup> For example, some studies of Spanish show that animate or human subjects of intransitive verbs tend to be preverbal while the inanimate subjects of intransitives are more frequently postverbal, particularly in writing (López Meirama, 1997; Rivas, 2008). López Meirama (1997) reports that 71.1% (355/499) of the animate subjects in his written corpus are preverbal, and the same can be said of only 38.2% (292/764) of the inanimate subjects (p. 219). Rivas (2008) reports similar numbers in his study of Spanish intransitives: 82.8% of the human or animate subjects are preverbal (284/343), while only 34.4% (149/234) of the inanimate subjects are preverbal (p. 905). The following examples show that animate subjects have a tendency to be preverbal in Spanish, despite the unaccusative verb *morir* ‘to die’ (López Meirama, 1997, p. 214):

- (38) a. Clementina murió en 1914.  
           ‘Clementina died in 1914’  
       b. Tu padre murió por eso, por defender la justicia.  
           ‘That’s why your father died, for defending justice.’

In (38), *morir* ‘to die’, which is considered unaccusative and thus should prefer postverbal subjects, allows for preverbal subjects when the subjects are animate, making *morir* act as an unergative verb. Thus, the agentivity and the animacy of the subject NP are important factors that affect the unergative or unaccusative behavior of verbs.

The presence of some adverbial phrases can also alter the agentivity of the sentence. Spanish adverbs like *deliberadamente* ‘deliberately’, *astutamente* ‘astutely’, or *voluntariamente* ‘voluntarily’ alter a sentence’s agentivity (examples from De Miguel Aparicio, 1989, p. 763):

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<sup>12</sup> Such changes have been reported for some verbs in Italian (Rosen, 1984; Sorace, 2000b, 2004), Dutch (Perlmutter, 1978), Eastern Pomo (McLendon, 1978), Choctaw (Davies, 1986), and other Amerindian languages (Mithun, 1991).

(39) a. El cliente ha entrado voluntariamente.

The client has entered voluntarily

‘The client has entered voluntarily.’

b. ??Ha entrado un cliente voluntariamente.

Has entered a client voluntarily

‘A client has entered voluntarily.’

This example shows that the unaccusative verb *entrar* ‘to enter’, which normally prefers postverbal subjects, will prefer preverbal subjects in the presence of an adverbial that further agentifies the subject. Because such agentivizing phrases may alter the behavior of intransitives, it is vital to account for their presence in our studies.

This section has shown that a large number of classes have been proposed to categorize unaccusative and unergative verbs, but that the gradient semantic notions of ‘agentivity’ and ‘telicity’ provide a more principled categorization of these verbs. We also have seen that the lexical semantics inherent in the verb and the compositional semantics of the subject NP and any prepositional or adverbial phrases affect the ‘agentivity’ or ‘telicity’ underlying split-intransitivity and influence the syntactic results. This points to a problem with some previous studies of unaccusativity in Spanish—there is a need to control for the effects of the different prepositional phrases, adverbial phrases, and subject NPs on the aggregate telicity or agentivity of the sentence. In the next section, we examine a proposal that better explains cross-linguistic and language-internal variation in split-intransitivity and then inspect its application to Spanish.

### 2.3 Sorace’s Split Intransitivity Hierarchy

To account for the fact that some verbs are almost invariably unaccusative or unergative while others show variable behavior both cross-linguistically and language-internally, Sorace

(2000b, 2004) proposes a hierarchy of semantic notions that underlie unaccusativity. This section will give a description of the hierarchy and then show its ability to explain language-internal and cross-linguistic variation in split-intransitivity.

### 2.3.1 Description of the Split Intransitivity Hierarchy

Recent research of unaccusativity has utilized a hierarchy of lexical-semantic concepts to better predict the unaccusative and unergative behavior of verbs (see Cennamo, 1999; Manning, 1995; Sorace, 1993a, 1993b, 1995). Sorace proposes an ‘Auxiliary Selection Hierarchy’ (Sorace, 2000b) to better account for the variation in auxiliary selection for intransitive verbs in Italian, German, Dutch, and French. Although originally created for auxiliary selection, the ‘Auxiliary Selection Hierarchy’ has also been proposed as a ‘Split Intransitivity Hierarchy’ for its possible use in explaining split-intransitivity in general, but this needs to be tested with diagnostics other than auxiliary selection in other languages (Sorace, 2004; Sorace & Shomura, 2001). Figure 2.1 shows that the verbs in the hierarchy fall along a continuum, from those that are always unaccusative to those that are always unergative, with verbs that are less so between the two (see Cennamo & Sorace, 2007; Sorace, 2000b).


VERB CATEGORY	UNACCUSATIVITY	EXAMPLES
CHANGE OF LOCATION		Arrive, come, fall
CHANGE OF STATE		Rise, die, appear
CONTINUATION OF STATE		Stay, last, remain
EXISTENCE OF STATE		Exist, sit, belong
UNCONTROLLED PROCESS		Tremble, cough
MOTIONAL PROCESS		Run, jump, swim
NON-MOTIONAL PROCESS		Work, play, talk
	Unergative Core	

Figure 2.1 Split Intransitivity Hierarchy

‘Agentivity’ and ‘telicity’ are the two main semantic notions that underlie the Split Intransitivity Hierarchy. Figure 2.2 below shows that the telicity and agentivity inherent in the verb are inversely proportional due to the nature of the continuum—the core unaccusatives are

the most telic and least agentive and the core unergatives are the most agentive and least telic.

This figure also shows that the peripheral categories are the most sensitive to changes in the agentivity and telicity of the arguments of the verbs. We now turn to a description of each of the categories in the hierarchy.

SPLIT INTRANSITIVITY HIERARCHY		INHERENT TELICITY	INHERENT AGENTIVITY	SENSITIVITY TO COMPOSITIONAL SEMANTICS	
CHANGE OF LOCATION	Unaccusative Core ↕ Unergative Core	Telic ↑	Least ↓	Least ↓ Most ↑ Least	
CHANGE OF STATE					
CONTINUATION OF STATE					
EXISTENCE OF STATE					
UNCONTROLLED PROCESS		Atelic ↑	↓ Most		
MOTIONAL PROCESS					
NON-MOTIONAL PROCESS					

Figure 2.2 Telicity and Agentivity in the Split Intransitivity Hierarchy

The unaccusative and unergative categories of the hierarchy that was originally created to explain auxiliary selection will now be explained in greater detail with examples of auxiliary selection in Italian. The most unaccusative categories in the hierarchy are mainly characterized by the degree of change (dynamicity) and the degree of telicity of the event described by the verb (Sorace, 2000b), but abstract or concrete states also underlie these unaccusative verbs to a lesser degree. The four verb categories closest to the unaccusative core of the hierarchy are the following (in order from core unaccusatives to peripheral unaccusatives): (1) change of location, (2) change of state, (3) continuation of a pre-existing state, and (4) existence of state.

‘Change of location’ verbs are the most core unaccusative verbs and imply a concrete displacement in space (e.g. *come, arrive, fall*). These verbs are very dynamic and telic and are almost always unaccusative. Detelicization of the predicate or increased agentivity of the subject does not affect their behavior. As (40) shows, such changes in the compositional semantics do not change *essere* ‘to be’ as the auxiliary for these verbs in Italian (Sorace, 2000b, p. 864):

- (40) a. Sono arrivati ospiti per ore e ore  
           are arrived guests for hours and hours  
           ‘Guests arrived for hours.’
- b. Maria è caduto apposta per farci spaventare.  
           Maria is fallen on purpose to make us scare.  
           ‘Maria fell on purpose to scare us.’

In (40a), the detelicization of the predicate with the phrase *per ore e ore* ‘for hours and hours’ does not change the auxiliary from *essere* to *avere*. The increase in agentivity and intentionality of the subject in (40b) with the adverb *apposta* ‘on purpose’ also does not affect the auxiliary.

Next are the ‘change of state’ unaccusatives which often entail an indefinite change, such as verbs of directed motion without a specified endpoint (e.g. *rise*) and internally-caused verbs of change of state (e.g. *wilt*). Most of these verbs have telicity that is inferable but not overt. Although these verbs are not sensitive to the agentivity of the subject, they are sensitive to detelicization. This is shown in the following example (Sorace, 2004, p. 259):

- (41) L’albero ha fiorito due volte quest’anno.  
           The tree has blossomed twice this year  
           ‘The tree blossomed twice this year’

The example in (41) shows that although *fiorire* ‘to blossom’ normally selects *essere*, it is now acceptable with the auxiliary *avere* because *due volte quest’anno* ‘twice this year’ indicates that the final goal of the blossoming event has not been reached. In other words, unaccusative verbs in the ‘change of state’ category will act as unergatives when the predicate is detelicized.

The third category of unaccusative verbs is the ‘continuation of preexisting state’ verbs (e.g. *remain*, *survive*, *persist*). These verbs involve the negation of change and imply a state with



a beginning that is not the final stage of an event. Unlike the previous two categories of unaccusative verbs, these ‘continuation of state’ verbs are sensitive to changes in the agentivity of the subject. These unaccusative verbs prefer to select *essere*, but they become acceptable with *avere* when the subject is more agentive (Sorace, 2000b, p. 868):

- (42) a. ?La guerra ha durato a lungo  
the war has lasted for long  
‘The war lasted a long time.’  
b. Il presidente ha durato in carica due anni.  
The president has lasted in post two years  
‘The president lasted in post for two years’

Example (42a) shows that the verb *durare* ‘to last’ is marginally acceptable with *avere* (which is preferred by unergative verbs) because the subject *la guerra* ‘the war’ is not agentive, but it becomes completely acceptable with *avere* because the subject *il presidente* ‘the president’ is agentive (42b). Verbs of this peripheral category are thus more variable and may act as unergative verbs when there are changes in the agentivity of the subject.

A fourth and most peripheral category of unaccusative verbs is the ‘existence of state’ verbs (e.g. *exist*, *sit*, *belong*). These verbs imply simple existence and do not indicate any change. This category allows the most optionality in Italian auxiliary selection (Sorace, 2004, p. 260):

- (43) La villa ha appartenuto / è appartenuta alla mia famiglia.  
The villa has belonged / is belonged to my family  
‘The villa belonged to my family.’

Example (43) shows that either *essere* or *avere* is acceptable with an ‘existence of state’ verb. Because ‘existence of state’ verbs may behave like unaccusative or unergative verbs, they are found in the periphery of the hierarchy.

In summary, the four most unaccusative categories of the hierarchy range from core unaccusative categories to peripheral unaccusative categories, and this is shown in Table 2.1.

Table 2.1 Verb Categories near the Unaccusative Core

VERB CATEGORY	HIERARCHY	TELICITY	DYNAMICITY
CHANGE OF LOCATION	Core	Specified endpoint	Definite change
CHANGE OF STATE	Less core	Inferable endpoint	Indefinite change
CONTINUATION OF STATE	Periphery	Implicit beginning	Negation of change
EXISTENCE OF STATE	Periphery	Stative	No change component

Table 2.1 shows that the unaccusative categories nearest to the core are the most telic, involve the most change, and are the most insensitive to changes in the agentivity or telicity of the sentence. The categories nearest to the periphery are the most stative, least dynamic, and the most sensitive to the compositional semantics of the predicate. Having examined the most unaccusative categories of the hierarchy, we will now attend to the most unergative categories.

The three most unergative categories in the hierarchy are categorized according to the agentivity of the subject, whether or not the subject is affected by the action of the verb, and according to the ‘density’ or relative homogeneity of the subsections of each process entailed by the verb.<sup>13</sup> The first and most ‘core’ category of unergatives are verbs of controlled, non-motional processes (e.g. *work*, *chat*, *play*). The subjects of verbs of this class are in control of the processes that they entail and are not affected by them. These verbs are atelic and they represent processes that generally consist of multiple parts which are not necessarily homogeneous. They

<sup>13</sup>‘Density’ and ‘homogeneity’ refer here to the idea that processes can be divided into segments which each represent an instance of the predicate to different degrees (see Legendre, 2007b, p. 158; Sorace, 2000b, p. 862). For example, ‘trembling’ is a more homogeneous process than ‘playing’ because each segment of the ‘trembling’ process is basically identical to the meaning of ‘trembling’, but each segment of the ‘playing’ process may differ from the meaning of ‘playing’.

also continue to be unergative in spite of telicization of the predicate or the presence of a non-agentive subject. The following example of auxiliary selection in Italian shows that these verbs are resistant to changes in the compositional semantics of the sentence (Sorace, 2000b, p. 874):

- (44) a. I poliziotti hanno lavorato fino all'alba.  
The policemen have worked until the dawn  
'The policemen worked until dawn.'
- b. Il cibo inviato dall'ONU ha funzionato solo come palliativo.  
The food sent by the UN has functioned only as palliative  
'The food sent by the UN worked only as a palliative.'

Example (44a) shows that although the verb *lavorare* 'to work' is telicized with the phrase *fino all'alba* 'until dawn', the auxiliary selected is *avere* (preferred by unergative verbs) and does not change to *essere* (preferred by unaccusative verbs). (44b) shows that even when the subject becomes the non-agentive *il cibo* 'the food', the auxiliary is still *avere*. Such verbs of the 'non-motional process' category do not change when the compositional semantics change.

The second category of unergative verbs includes those of controlled, motional processes (e.g. *run, swim, dance*). These verbs imply the volitional, non-directional movement of a subject that is also affected by the action. The processes described by these verbs can be divided into parts that are generally homogeneous. These unergative verbs will often act as unaccusatives in the presence of non-agentive subjects or the telicization of the predicate. Their vulnerability to telicization can be seen in the following example (Sorace, 2004, p. 261):

- (45) Piera è corsa al supermercato.  
Piera is run to the supermarket  
'Piera ran to the supermarket.'

In (45), the phrase *al supermercato* ‘to the supermarket’ telicizes the action of running and results in *essere* being the auxiliary selected for *correre* ‘to run’ rather than *avere*. This category of motional process verbs is farther from the unergative core and is affected more by changes in the telicity or agentivity of the sentence.

The third unergative category is comprised of verbs of uncontrolled processes (e.g. *tremble, sneeze, shine*). These verbs imply involuntary actions that affect the subject. The processes implied by these verbs have high density and can generally be divided into identical, homogeneous sections. These verbs of uncontrolled process tend to act as other unergatives, but may sometimes behave as either unaccusatives or unergatives. The following example shows a case in which either *essere* or *avere* is acceptable as an auxiliary (Sorace, 2004, p. 261):

(46) Il mendicante ha rabbrivido / è rabbrivido dal freddo.

The begger has shivered / is shivered from the cold

‘The begger shivered from the cold’

In this example, the verb *rabbrivire* ‘to shiver’ is acceptable with either *essere*, the auxiliary typical for unaccusatives, or *avere*, the auxiliary typical for unergatives. Such uncontrolled process verbs comprise the most peripheral unergative category and alternate the most between unaccusative and unergative behavior.

The non-motional process, motional process, and uncontrolled process verb categories are the nearest to the unergative core and their characteristics are summarized in Table 2.2.

Table 2.2 Verb Categories near the Unergative Core

VERB CATEGORY	HIERARCHY	AGENTIVITY	SUBJECT AFFECTEDNESS	DENSITY
NON-MOTIONAL PROCESS	Core	Volitional	Unaffected	Heterogeneous
MOTIONAL PROCESS	Less core	Volitional	Affected	Homogeneous
UNCONTROLLED PROCESS	Periphery	Involuntary	Affected	Homogeneous

As shown in Table 2.2, these verbs range from the core unergatives (with subjects that are the most agentive and least affected by the processes that they entail) to the peripheral unergatives (with subjects that are the least agentive and most affected by their processes). The processes denoted by these verbs can also be divided into subparts that are more heterogeneous in the unergative core and more homogeneous in the peripheral categories.

The gradient unaccusative and unergative categories just described allow the Split Intransitivity Hierarchy to account for both language-internal and cross-linguistic variation. It accounts for language-internal variation through a gradient core-periphery distinction. The hierarchy predicts that the core category verbs of a particular language are more likely to clearly prefer unergative or unaccusative behavior, while verbs in the periphery are more likely to show weaker or optional unergative or unaccusative behavior in the language (Keller & Sorace, 2003). Examples of how the hierarchy accounts cross-linguistic and language-internal variation are given in the next section.

### **2.3.2 Cross-linguistic and Language-Internal Variation and the Hierarchy**

The Split Intransitivity Hierarchy can account for cross-linguistic variation and language-internal variation. Sorace (2004) proposes that each language has a cutoff point between the verb classes in the hierarchy that divides unaccusative behavior from unergative behavior, and the location of this cutoff point varies cross-linguistically.<sup>14</sup> This helps to explain why languages may also prefer unergative or unaccusative syntax for different peripheral verb classes to different degrees (Keller & Sorace, 2003). The gradient cross-linguistic differences in auxiliary selection between Canadian French, French, Dutch, and Italian can be described by referencing such cutoff points (see Sorace, 1993b), and this is shown in Figure 2.3:

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<sup>14</sup> See Legendre, 2007a, b, and Shannon, 1990, for other explanations of the gradient cross-linguistic differences.

VERB CATEGORY	LANGUAGE			
	CANADIAN FRENCH	FRENCH	DUTCH	ITALIAN
CHANGE OF LOCATION	Unacc.	Unacc.	Unacc.	Unacc.
CHANGE OF STATE		↑	↑	↑
CONTINUATION OF STATE				
EXISTENCE OF STATE				
UNCONTROLLED PROCESS				
MOTIONAL PROCESS				
NON-MOTIONAL PROCESS	Unerg.	Unerg.	Unerg.	Unerg.

Figure 2.3 Crosslinguistic Cutoff Points for Auxiliary Selection

Figure 2.3 gives examples for cross-linguistic differences in auxiliary selection. Instances of ‘unaccusative mismatches’ (i.e. instances in which a verb is unaccusative in one language but unergative in another language) are predicted to occur more frequently in the periphery than in the core and depend on where the cutoff points lie. Compare, for example, the ‘continuation of state’ verbs in French and Italian (Legendre, 2007b, p. 148):

- (47) a. La discussione è / ?ha durato a lungo.  
the discussion is / has lasted a long time.  
‘The discussion lasted for a long time’
- b. La discussion a duré pendant longtemps.  
the discussion has lasted for long  
‘The discussion lasted for a long time’

The Italian example in (47a) shows that Italian ‘continuation of state’ verbs prefer the ‘be’ auxiliary, but the French example in (47b) shows that French prefers the ‘have’ auxiliary for the same verb class. This difference is illustrated in Figure 2.3 where ‘continuation of state’ verbs appear below the French cutoff point and above the Italian cutoff point. Thus, cross-linguistic variation can be accounted for through the establishment of cutoff points along the hierarchy.

Cross-linguistic variation is also captured by allowing categories along the hierarchy to collapse or subdivide—while still maintaining the general order of the hierarchy—depending on language-specific lexico-semantic notions that underlie split-intransitivity (e.g. Keller & Sorace, 2003; Liu, 2007; Shan & Yuan, 2007; Sorace & Shomura, 2001). Although the hierarchy is primarily based on ‘telicity’ and ‘agentivity’, other important concepts for explaining cross-linguistic variation have been identified and may explain variation in the non-core verb classes. Legendre (2007b, pp. 156, 161) asserts that the concepts necessary for distinguishing split-intransitivity in the Romance and Germanic languages are ‘inherent displacement’, ‘inherent event homogeneity’, ‘telicity’, ‘directed change’, ‘state’, ‘inherent volitionality’, and ‘internal motion’. To further account for cross-linguistic variation, the notion of ‘agency’ may be subdivided into ‘internal cause’, ‘agent/actor’, and ‘volition’; while ‘telicity’ may be further divided into ‘telic’, ‘inferred eventual position or state’, ‘directed change’, and ‘locomotion’ or ‘motion involving displacement’ (Randall, 2007, pp. 224-225). Collapsing or subdividing the peripheral categories of the hierarchy according to such semantic distinctions may help to better explain the crosslinguistic differences in split-intransitivity. The Split Intransitivity Hierarchy predicts that not all languages will differentiate between its proposed peripheral categories, but that there should also not be a reversal of the general order of categories in the hierarchy (Keller & Sorace, 2003; Sorace, 2004; Sorace & Shomura, 2001).<sup>15</sup> Language-internal variation is also predicted to occur in the peripheral categories of the hierarchy.

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<sup>15</sup> Some individual verbs that may appear to evidence a reversal may be explained through the historical processes of grammaticization and lexicalization. For example, in the Amerindian language Caddoan, the verb meaning ‘to die’ does not behave as we would expect. In Caddoan, unaccusative verbs receive the affected pronominal prefix *ci-* and unergatives receive the agentive prefix *ku-*. We would then expect the verb ‘to die’ to receive the *ci-* prefix because a person is very affected by death, but this is not the case (Mithun, 1991, p. 528):

(i) Hákihakyúysa?  
‘We (AGENT) die.’

The hierarchy accounts for cross-linguistic and language-internal variation through the core-periphery distinction, by positing an adjustable cutoff point between unaccusative and unergative preferences, and by allowing peripheral verb categories to collapse or subdivide according to the underlying lexico-semantics of the language. In the next section, we will see that several studies support this hierarchy.

### **2.3.3 Studies of the Split Intransitivity Hierarchy**

A growing number of studies of different syntactic reflexes of unaccusativity in different languages support the Split Intransitivity Hierarchy (Balcom, 2006; Bentley & Eythórsson, 2003; Cennamo & Sorace, 2007; Hirakawa, 2000, 2006; Keller & Sorace, 2003; Kinder, 2004; Kraš, 2005, 2006; Liu, 2007; Mateu, 2006; Montrul, 2003, 2004a, 2005a, 2005b, 2006; Sorace, 1993a, 1993b, 1995; Sorace & Shomura, 2001). These studies have primarily investigated the hierarchy in diachronic variation, dialectal variation, L2 acquisition, and bilingualism.

#### **2.3.3.1 Studies of Diachronic Variation and the Hierarchy**

In diachronic variation, the hierarchy predicts stability for the core verb categories and possible movement of the unaccusative/unergative cutoff point over time. One example of how unaccusativity has changed over time in many languages comes from the use of auxiliary selection. The general pattern of diachronic change is that the cutoff point between unergative and unaccusative behavior has gradually shifted from the periphery to the core of the unaccusative verbs so that the auxiliary equivalent of ‘be’ (favored by unaccusatives) is gradually overtaken by the auxiliary equivalent of ‘have’ (favored by unergatives) (Sorace, 1993a). This appears to be the historical direction of movement for the cutoff point for auxiliary selection in English, Spanish, Catalan, Portuguese, Canadian French, and European French

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The reason for this is that the Caddoan verb ‘to die’ originally meant ‘one goes home’ and it takes the agentive prefix *ki-* because one is typically in control of going home (p. 528). Although the meaning changed, the original pronominal prefix was maintained.



(Sorace, 1993b). Languages such as English, Spanish, Portuguese, and Romanian have allowed the auxiliary ‘have’ to entirely replace the auxiliary ‘be’ (Kinder, 2004). There are, however, a few dialects of Italian that are reported to show the opposite trend, that is, the ‘be’ auxiliary has replaced the ‘have’ auxiliary (Kinder, 2004; Tuttle, 1986).

The movement of the cutoff point helps to explain the development of the Romance languages. For example, Old French was once like modern Italian, with the cutoff point for auxiliary selection near the middle of the hierarchy, and European French today only allows the ‘be’ auxiliary with ‘Change of Location’ and ‘Change of State’ verbs near the end of the continuum. Canadian French goes a step further by only allowing the ‘be’ auxiliary with ‘Change of Location’ verbs in the core of unaccusativity (Bentley & Eythórsson, 2003; Sorace, 1993b). Such diachronic variation is accounted for by positing a moving cutoff point in the periphery of the hierarchy, and as previously mentioned, the trend is for the unaccusative/unergative distinction to be gradually neutralized in favor of only the unergative auxiliary, although some Italian dialects have changed to favor only the unaccusative auxiliary.

### **2.3.3.2 Studies of Dialectal Variation and the Hierarchy**

For dialectal variation, the hierarchy predicts that the locus of variation will also occur in the peripheral verb categories and this is what studies have shown. For example, the Split Intransitivity Hierarchy can account for cross-dialectal variation in German (Keller & Sorace, 2003) and some dialects of Italian (Cennamo & Sorace, 2007) through the peripheral categories. For northern and southern German dialects, most properties of core unaccusatives and core unergatives are shared, but dialectal differences emerge in the non-core categories of ‘continuation of state’ and ‘existence of state’ (Keller & Sorace, 2003). In these non-core categories, the different dialects prefer unaccusative or unergative syntax to different degrees, as

the hierarchy predicts. When comparing Paduan Italian and standard Italian, the dialectal differences are again found in the periphery and not in the core verb classes of the hierarchy, and it appears that the cutoff point has shifted (as it has for other Romance languages) to expand the use of the ‘have’ auxiliary (Cennamo & Sorace, 2007).

### **2.3.3.3 Studies of Language Contact and the Hierarchy**

Studies of L2 acquisition and bilingualism also use the Split Intransitivity Hierarchy to account for variation in L2 acquisition or L1 incomplete acquisition/attrition. The hierarchy predicts that learners should be able to first acquire (or maintain) the core unaccusatives and unergatives and have more difficulty in learning (or show attrition in or have less determinate judgments for) the peripheral categories, and this is generally the case. Studies that support the hierarchy include a diverse number of language pairings. These include Japanese acquirers of English (Hirakawa, 2000, 2003, 2006), Italian acquirers of French (Sorace, 1993b), French acquirers of Italian (Sorace, 1993a, 1993b), and Croatian acquirers of Italian (Kraš, 2005, 2006, 2009). There are also studies of English acquirers of French (Balcom, 2006), Japanese (Sorace & Shomura, 2001), Chinese (Shan & Yuan, 2007; Yuan, 1999), Italian (Sorace, 1993a, 1995), and Spanish (Montrul, 2003, 2004a, 2005a, 2005b). These studies of L2 learners primarily make use of grammaticality judgment tasks and generally show that (1) L2 learners more strongly accept grammatical forms (and more strongly reject ungrammatical forms) in the core categories of the hierarchy, (2) L2 learners gradually accept deviant forms more in categories closer to the periphery, and (3) L2 learners acquire the core categories at earlier stages of acquisition and the periphery at later stages of acquisition. The peripheral categories of L2 learners are generally characterized as being where more deviations from the norms of the target language occur. In the peripheral categories, L2 learners undershoot the target language preferences, overshoot the

target preferences, allow for optionality, or reverse preferences in ways that are contrary to the hierarchy's predictions. Studies of Spanish-English bilinguals (Montrul, 2003, 2005b, 2006) and Croatian-Italian bilinguals (Kraš, 2005) show similar patterns. In these studies of bilinguals, incomplete acquisition or attrition occurs more in the non-core categories while performance in the core categories is more target-like. Results for L2 learners and bilinguals that go against the hierarchy have also occasionally been found (Deguchi & Oshita, 2004; Montrul, 2004a, 2006; Sorace, 1993b, 1995; Sorace & Shomura, 2001). Such studies show instances in which either there is no clear gradient from core to periphery or where non-core verbs perform better than core verbs. These studies indicate a need for the hierarchy to be tested further.

In sum, the Split Intransitivity Hierarchy is a continuum of categories based primarily on telicity and agentivity and it predicts not only language-internal and cross-linguistic variation, but also diachronic variation, dialectal variation, L2 acquisition, and bilingual incomplete acquisition/attrition. The growing number of studies of the hierarchy generally show that the core categories are the last to change historically, are the least subject to dialectal variation, are the first to be acquired, and are the most impervious to attrition. The non-core verb categories of the hierarchy are the locus of historical and dialectal variation, are the most difficult to acquire, and are the most susceptible to bilingual L1 attrition or incomplete acquisition. In the next section, Spanish applications of this hierarchy will be examined. As we will see, few studies of the Split Intransitivity Hierarchy in Spanish have been conducted and more are needed.

### **2.3.4 Studies of the Split Intransitivity Hierarchy in Spanish**

Studies of split-intransitivity in Spanish show support for the Split Intransitivity Hierarchy, but also raise questions that need to be resolved. The results of these studies generally show that the cutoff point between unergative and unaccusative behavior is somewhere nearer to

the unaccusative core, that the periphery is the most difficult part of the hierarchy to master, that unaccusative verbs are more difficult to master than unergative verbs, and that sometimes the hierarchy does not make the correct predictions to account for the data. Such studies make use of several diagnostics of split-intransitivity, including auxiliary selection in Old Spanish, the absolutive construction, postverbal bare plural subjects, ungrammatical passives, and word order.

#### 2.3.4.1 Old Spanish Auxiliary Selection and the Hierarchy

First, diachronic studies of split-intransitivity in Old Spanish investigate the historical selection of the *ser* and *haber* auxiliaries with different classes of intransitives (e.g. Aranovich, 2003; Benzing, 1931; Elvira, 2001; Mateu, 2009). Old Spanish made use of *ser* ‘to be’ with unaccusative verbs and *haber* ‘to have’ with unergative verbs. Aranovich (2003, p. 2) cites two examples from *El Conde Lucanor*, written by Don Juan Manuel early in the 14<sup>th</sup> century:

- (48) a. ...aquel omne, que fuera muy bien andante, era llegado a tan grand mengua  
que se sintia dello mucho. (unaccusative)  
‘That man, which had been in good position, had come to be in such need that  
he was very upset about it.’
- b. Saladin le dixo quanto avia trabajado por fallar repuesta cierta de la pregunta  
quel’ fiziera. (unergative)  
‘Saladin told her how much he had worked in order to find a true answer to  
the question she posed to him.’

Example (48a) shows that *ser* was used with unaccusatives like *llegar* ‘to arrive’, and (48b) shows that *haber* was used with unergative verbs like *trabajar* ‘to work’. From the 13<sup>th</sup> to 17<sup>th</sup> centuries, the *ser* auxiliary gradually lost ground to *haber*. In the 13<sup>th</sup> or 14<sup>th</sup> centuries, stative verbs like *quedar* ‘to remain’ begin to change; in the 15<sup>th</sup> century verbs like *aparecer* ‘to appear’

begin to change; in the 16<sup>th</sup> century verbs of manner of motion like *correr* ‘to run’ are lost; and then verbs of directed motion like *partir* ‘to leave’ are changed in the 17<sup>th</sup> century (Aranovich, 2003, p. 5). This gradual change in Old Spanish is in line with the Split Intransitivity Hierarchy (Legendre, 2007b; Mateu, 2006)—the changes from *ser* to *haber* appear to have begun first in the periphery and then extend to the cores with the unaccusative core being the last to change in favor of *haber*. Because of the loss of auxiliary selection as a possible diagnostic for unaccusativity in Spanish, studies of Spanish unaccusativity have made use of other diagnostics.

#### 2.3.4.2 Spanish Participial Absolute Constructions and the Hierarchy

One test used by researchers to investigate the Split Intransitivity Hierarchy in modern Spanish involves the participial absolute construction. Examples of this diagnostic from (9) are repeated here (from De Miguel Aparicio, 1992, p. 63):

- (49) Participial absolute constructions
- a. Muerto el perro, se acabó la rabia. (unaccusative)  
 ‘With the dog dead, the rabies are finished.’
  - b. \*Nadado Juan, se sintió mejor. (unergative)  
 ‘With John swam, he feels better.’

As (49) shows, the absolute construction is ungrammatical with unergatives but grammatical with unaccusatives. Montrul (2003, 2005a, 2005b, 2006) uses this diagnostic in a grammaticality judgment task to investigate the unaccusative behavior of the following Spanish verbs:

#### (50) Split Intransitivity Hierarchy

Change of Location: *llegar* ‘arrive’, *salir* ‘leave’, *caer* ‘fall’

Change of State: *morir* ‘die’, *desaparecer* ‘disappear’, *surgir* ‘emerge’

Existence of State: *existir* ‘exist’, *quedar* ‘remain’, *faltar* ‘lack’<sup>16</sup>

Uncontrolled Process: *temblar* ‘shiver’, *bostezar* ‘yawn’, *transpirar* ‘sweat’

Motional Process: *correr* ‘run’, *caminar* ‘walk’, *nadar* ‘swim’

Non-motional Process: *hablar* ‘speak’, *cantar* ‘sing’, *trabajar* ‘work’

Montrul finds that native Spanish speakers accept the absolutive construction with ‘change of location’ and ‘change of state’ unaccusatives, but strongly reject it with any of the other verb categories along the hierarchy. The English L2 learners of Spanish eventually reject it with the core unergatives also, but they have persistent problems with the verbs of the peripheral categories. They gradually accept more ungrammatical forms moving from the core unergatives to the peripheral unergatives and have the most difficulty with the ‘uncontrolled process’ unergatives in the periphery. The core ‘change of location’ and ‘change of state’ unaccusatives are grammatical in this construction, but the L2 learners have difficulty with accepting them as much as the native speakers do. Heritage speakers of Spanish show a similar pattern—they also accept the absolutive construction with the peripheral ‘uncontrolled process’ unergative verbs more than native speakers and do not accept the construction with ‘change of location’ and ‘change of state’ unaccusatives as much as the native speakers. In addition, and contrary to the hierarchy’s predictions, heritage speakers have more difficulty with the core ‘change of location’ unaccusatives than with the less-core ‘change of state’ unaccusatives. These results for L2 learners and heritage speakers do not appear to have a source in native speaker variation, but seem to stem from the difficulty of acquiring the syntax-lexicon interface itself.

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<sup>16</sup> Note that Montrul merges verbs from two of Sorace’s (2000b) categories: ‘continuation of a pre-existing state’ (e.g. *remain*) and ‘existence of state’ (e.g. *exist*) although the motivation for doing so is unclear.

### 2.3.4.3 Spanish Postverbal Bare Plural Subjects and the Hierarchy

The Split Intransitivity Hierarchy has also been studied with postverbal bare plural subjects (Montrul, 2003, 2005a, 2005b). These studies use the verbs and categories previously mentioned in (49). Postverbal bare plural subjects are grammatical with unaccusatives but not with unergatives as the following examples, repeated from (10), show (Torrego, 1989, p. 254):

(51) Postverbal bare plural subjects

- a. Crecen flores. (unaccusative)  
'grow flowers'
- b. \*Han dormido animales. (unergative)  
'have slept animals'

Montrul's studies show that native speakers of Spanish accept bare plural subjects with the top three unaccusative categories ('change of location', 'change of state', and 'existence of state'), and do not accept the construction as much with the more unergative categories. These native speakers also show a surprising trend with unergative categories that goes against the hierarchy: the core unergative 'controlled process' category is the most acceptable with postverbal bare plural subjects and the peripheral category of 'uncontrolled process' verbs is the least acceptable. The Split Intransitivity Hierarchy would predict a gradual trend in the opposite direction for these unergatives. L2 learners and heritage speakers show the same unexpected pattern for unergatives. In addition, the L2 learners and heritage speakers do not accept postverbal bare plural subjects as much as the native speakers for the 'change of location', 'change of state', and 'existence of state' unaccusative categories of the hierarchy. Advanced L2 learners have persistent problems with 'existence of state' verbs in the periphery, but they are more able to approximate native norms with the 'change of location' and 'change of state' unaccusatives

nearest to the core, as we would expect (Montrul, 2005a). Heritage speakers' judgments of postverbal bare plural subjects are closer to the native speakers' judgments than the L2 learners' judgments for the unaccusative categories, but non-core unaccusatives appear to be judged slightly better than core unaccusatives, contrary to the hierarchy (Montrul, 2005b). Some of the non-native deficits with the postverbal bare plural subjects appear to be due to the difficulty of acquiring the syntax-lexicon mappings of the interface itself, while other judgments mirror monolingual tendencies that have been assumed to be theoretically non-target.

#### **2.3.4.4 Spanish Ungrammatical Passives and the Hierarchy**

Another test of the hierarchy in Spanish comes from ungrammatical passives, which are commonly attested errors in L2 acquisition (Montrul, 2003, 2005a, 2005b, 2006). Passives in Spanish are ungrammatical with both unaccusatives and unergatives as shown in (52):

(52) Ungrammatical Passives (Montrul, 2005a, pp. 1167-1168)

- a. \*Los niños fueron cantados en el coro. (unergative)  
     'The children were sung in the choir'
- b. \*El barco fue llegado al puerto. (unaccusative)  
     'The ship was arrived to the port'

Native speakers, L2 learners, and heritage speakers in Montrul's studies all generally reject the ungrammatical passives of all categories of the hierarchy, but the L2 learners and heritage speakers accept ungrammatical passives more than native speakers (Montrul, 2005b). The L2 learners and heritage speakers in her study accept the passives more than the native speakers for the 'change of state', 'existence of state', and 'uncontrolled process' categories—all of which are non-core categories. For heritage speakers and L2 learners, 'uncontrolled process' unergatives in the periphery are accepted the most and the acceptance gradually declines moving toward the



‘controlled, non-motional process’ verbs in the unergative core. Heritage speakers also accept more ungrammatical passives with the less-core ‘change of state’ unaccusatives. The L2 learners acquire native-like judgments of the core unaccusative and unergative categories earlier than some of the non-core categories (i.e. ‘change of state’, ‘existence of state’, and ‘uncontrolled process’ verbs), which take longer to acquire. The ‘uncontrolled process’ verbs in the periphery appear to be the most problematic for both L2 learners and heritage speakers. The tests of the hierarchy with the ungrammatical passives show that L2 learners and heritage speakers have more categorical judgments in the core categories of the hierarchy and accept more ungrammatical forms in the non-core areas. The L2 learners also acquire native-like judgments in the core verb categories earlier than in the non-core areas. The deficits found in L2 learner and heritage speaker judgments of ungrammatical passives do not seem to stem from variation in native grammars, but appear to be due to the difficulty of the syntax-lexicon interface itself.

#### **2.3.4.5 Spanish Intransitive Word Order and the Hierarchy**

Other studies examine the Split Intransitivity Hierarchy in Spanish by investigating word order in processing tasks (Montrul, 2004a, 2006). The processing tasks in these studies use VS or SV order with unaccusatives and unergatives to see if the subjects of unaccusatives are recalled faster than subjects of unergatives (unaccusatives are hypothesized to be recalled faster because of the presence of a trace or copy which would occur last in the linear string). The results of these studies show that core unaccusatives induce faster processing than the core unergatives as the hierarchy would predict, but the ‘change of state’ unaccusatives and the ‘controlled motional process’ unergatives (both of which are nearest to the cores) are the reverse of what the hierarchy would predict. This pattern holds true for native speakers, heritage speakers, and L2 learners. In addition, the most peripheral unaccusative and unergative verb categories (i.e. ‘existence of

state’ and ‘uncontrolled process’ verbs) actually perform just like the core categories. In fact, the less-core ‘change of state’ unaccusatives induced markedly slower reaction times for heritage speakers. These results are in apparent conflict with the hierarchy, and possible explanations may be that the categories of the hierarchy should be re-ordered in Spanish or that there are unusual cutoff points in Spanish between unaccusative and unergative verbs (Montrul, 2004a), however neither explanation is ideal. Demoting the core unaccusative and core unergative categories to be less-core would go counter to patterns found in cross-linguistic variation, diachronic variation in Spanish, and the results of other unaccusative diagnostics in Spanish (absolute and postverbal bare plural subjects). A cutoff point would seem logical between the core and less-core unaccusatives, but another would be needed between the core and less-core unergatives. A more likely explanation of the results may be that the word order preferences in the periphery are always variable. So, rather than show a shifting cutoff point somewhere in the periphery, there may be categories of weakness in the periphery in Spanish that appear out of order as they did historically in Spanish. Another explanation may be that the presence of prepositional phrases in the stimuli may have influenced the word order and produced the unexpected results. In any case, the theoretically non-target behavior by the native speakers was mirrored by the L2 learners and the heritage speakers—pointing to the fact that the apparent deviations from assumed monolingual norms may have their origin in patterns already present in the native grammar.

In another study of word order in Spanish, Hinch Nava (2007) uses an oral production task to elicit utterances with intransitive verbs from Spanish monolinguals in Mexico and Spanish heritage speakers of Mexican origin in the U.S. The oral production task involved creating a story based on a series of drawings. The results of this task generally confirm the pattern of the Split Intransitivity Hierarchy, although there were very few tokens in the study for

each category of the hierarchy.<sup>17</sup> For the monolinguals, there appears to be an unaccusative/unergative cutoff point after ‘change of location’ and ‘change of state’ unaccusatives, and this is similar to the cutoff shown for the participial absolute construction in Montrul’s studies above. For the heritage speakers, the cutoff appears to be between the ‘change of location’ and ‘change of state’ unaccusatives—a shift to be nearer to the core of unaccusativity than the monolingual cutoff. This would be in keeping with the direction of diachronic change in Spanish, but it is unusual when compared with the results of other studies of the hierarchy just mentioned. With so few tokens for the various categories of the hierarchy, it is difficult to tell for sure what is happening. Another interesting finding in this study is that for native speakers not all ‘change of location’ verbs in the unaccusative core prefer VS order. Of these core verbs, 30.8% (36/117) occur with SV order—contrary to what might be predicted by the hierarchy and traditional assumptions of unaccusativity. One explanation for the use of SV order could be that although ‘change of location’ verbs constitute a core unaccusative category, prepositional phrases may be influencing the results. The heritage speakers in this study prefer preverbal subjects with 39.2% (85/217) of the ‘change of location’ verbs, an increase of 8.2% as compared to the native speakers. In spite of the limitations of the study, it does show that there may be an unexpected use of preverbal subjects in native Mexican Spanish and that heritage speakers may be expanding on the word order variation already present in monolingual Spanish.

#### **2.3.4.6 Summary of Studies of the Split Intransitivity Hierarchy in Spanish**

To summarize, the Split Intransitivity Hierarchy has been studied in Spanish using auxiliary selection in Old Spanish and the participial absolute construction, postverbal bare

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<sup>17</sup> The tokens were strongly skewed in favor of the ‘change of location’ unaccusatives—117 tokens were produced for this category for the native speakers, while each other verb category in the hierarchy only had from 21 to 3 tokens apiece. The heritage speakers’ productions were similar: 217 tokens were produced for ‘change of location’ unaccusatives and the other categories had from 24 to 4 tokens a piece.

plural subjects, ungrammatical passives, and word order in modern Spanish. These studies appear to show that there is a cutoff point for unaccusative/unergative behavior either between ‘existence of state’ verbs and the ‘uncontrolled process’ verbs or between ‘existence of state verbs’ and the ‘change of state’ verbs. These studies also show that different diagnostics produce different results, as we would expect. Overall, it appears that L2 learners and heritage speakers are more target-like with the core unergative verbs than with the core unaccusative verbs and acquire core categories before peripheral categories, as predicted by the hierarchy. The ‘uncontrolled process’ verbs in the periphery seem to be particularly problematic for L2 learners and heritage speakers. The results of these studies sometimes support the view that the deviations from monolingual norms that L2 learners or bilinguals exhibit at the syntax-lexicon interface stem from variation that is already present in monolingual grammars. At other times, however, the results show no variation inherent in monolingual grammars and support the idea that the source of the variation is the inherent difficulty of the syntax-lexicon interface itself. These studies of the Split Intransitivity Hierarchy in Spanish raise questions regarding the sources of theoretically ‘non-target’ word order variation in monolingual Spanish, the location of the cutoff point for the word order diagnostic in Spanish, and the degree to which the Split Intransitivity Hierarchy should be revised for Spanish. In the following section, research questions for the syntax-lexicon interface in Spanish are delineated.

## **2.4 Syntax-Lexicon Interface and Research Questions**

In the previous sections, we introduced the notion of split-intransitivity and gave evidence for the unaccusative/unergative distinction in Spanish with a number of diagnostics. We observed that some researchers attempt to assign various verb classes to unergative or unaccusative categories based on the meaning of the verbs, but that ‘agentivity’ and ‘telicity’ can

better explain variable unaccusative/unergative behavior. Both the inherent lexico-semantics of the verb and the compositional semantics of the sentence (including adverbial phrases and subject NPs) can affect the ‘agentivity’ and ‘telicity’ of the sentence and thus affect the unaccusative or unergative behavior of some verbs. These influential factors are often not considered in studies of unaccusativity and further studies are needed that do consider them.

We also found that the core-periphery distinction of the Split Intransitivity Hierarchy can account not only for language-internal variation, but for patterns in cross-linguistic variation, diachronic variation, dialectal variation, and trends in L2 acquisition and bilingual incomplete acquisition or attrition. The ‘Auxiliary Selection Hierarchy’ was originally formulated to account for variation in auxiliary selection, and studies have steadily shown that it also accounts for a variety of diagnostics for split-intransitivity in diverse languages, but additional studies are needed to establish that this hierarchy can account for split-intransitivity crosslinguistically. In particular, more research is needed to show that the hierarchy can account for split-intransitivity in languages without auxiliary selection (like Spanish) and that the core verbs satisfy more diagnostics than non-core verbs (Sorace, 2004). Previous studies of the Split Intransitivity Hierarchy in Spanish show results that both support and contradict the hierarchy, and more studies are needed to better determine the applicability of the hierarchy to unaccusativity in modern Spanish.

The studies of word order and the Split Intransitivity Hierarchy reviewed to this point motivate the following questions for a study of word order and split-intransitivity in Mexican Spanish:

(53) Research Questions

- a. Research Question 1: Is there variation at the syntax-lexicon interface in Mexican Spanish?
- b. Research Question 2: If there is variation at the syntax-lexicon interface, what is its source—(a) the inherent complexity of the interface itself, or (b) individual factors?
- c. Research Question 3: Can the Split Intransitivity Hierarchy account for Spanish word order data?
  - i. Do any categories of the hierarchy need to be collapsed for Spanish?
  - ii. Where is the cutoff point between unaccusatives and unergatives in Spanish?

In order to answer Research Question 1, the word order preferences for predicates in all of the categories along the Split Intransitivity Hierarchy will be examined. The core unaccusative and unergative verb categories should be where the lexico-semantics notions underlying split intransitivity have the most invariable mapping to the syntax. If there is word order variation at the syntax-lexicon interface, we would expect to see unaccusative verbs with preverbal subjects or unergative verbs with postverbal subjects in these core categories of the Split Intransitivity Hierarchy. Word orders at any of the peripheral categories that do not gradually approximate the word orders at the core categories would also be evidence of variation at this interface.

For Research Question 2, we will know that the variation is due to the inherent complexity of the interface if the peripheral categories are more variable than the core categories. An examination of individual factors such as gender, hometown, and exposure to languages other than Spanish would also indicate whether or not the variation is due to individual factors. A

comparison of different groups based on their individual factors will show if variation may be due to the expansion of variation already present in the grammar.

Research Question 3 may be answered by examining the hierarchy as a whole. If there is a cline of unaccusative-unergative behavior between verb categories then we will have found evidence for the Split Intransitivity Hierarchy in Spanish. If there is no cline or if core verbs show more variable behavior than peripheral verbs, then we will have found evidence against the predictions of the Split Intransitivity Hierarchy in Spanish. An examination of the word order preferences along the hierarchy in Spanish should show us where the unaccusative/unergative cutoff point is in Spanish and whether or not verb categories should be collapsed or reordered. The answer to Research Question #3 will contribute to the discussion of whether or not the ‘Auxiliary Selection Hierarchy’ should in fact be a ‘Split Intransitivity Hierarchy’ by using a diagnostic of unaccusativity in a language without auxiliary selection.

As previously mentioned, the core syntax and the syntax-lexicon interface have been reported to show less variation than the syntax-discourse interface. The following chapter will review studies of the syntax-discourse interface as it relates to split-intransitivity and present related research questions.

## Chapter 3

### The Syntax-Discourse Interface

#### 3.0 The Syntax-Discourse Interface

In the previous chapter, we examined word order and the syntax-lexicon interface. We discussed the lexico-semantics underlying split-intransitivity in Spanish and reviewed studies of the Split Intransitivity Hierarchy and its application to Spanish. In this chapter, we discuss the discourse-pragmatic factors that affect the word order of intransitive constructions in Spanish.

The syntax-discourse interface is the area of the grammar in which discourse-pragmatic knowledge is coordinated with the result generated after the lexicon has interfaced with the core syntax.<sup>18</sup> Because this interface occurs after the lexicon has interfaced with the computational system, it is termed an ‘external’ interface. The truth conditions and lexico-semantics established in the lexicon do not change at the syntax-discourse interface, but discourse-pragmatic meanings are added to them. This interface is typified by ‘softer’ grammatical constraints than the core syntax because violations of these constraints only trigger mild unacceptability rather than strong unacceptability (Sorace & Keller, 2005).

Many recent studies involving the syntax-discourse interface report that this interface is more problematic for speakers than the syntax-lexicon interface. For example, the syntax-discourse interface is more difficult for L2 mastery, is acquired later in L1 acquisition, and is more vulnerable to bilingual L1 attrition (see, for example, Grinstead, 2004; Iverson & Rothman, 2008; Lozano, 2006a; Montrul, 2005b; Sorace & Filiaci, 2006; Sorace et al., 2009; Tsimpli et al., 2004; Valenzuela, 2006).

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<sup>18</sup> In this study, no particular distinction will be made between the ‘syntax-discourse’, ‘syntax-pragmatics’, or ‘syntax-information structure’ interfaces which are terms often used synonymously in the literature.



The syntax-discourse interface is often characterized by ‘optionality’. ‘Optionality’ is the “existence of more than one realization of a given input” (Sorace & Keller, 2005, p. 1512) or “the existence of two or more variants of a given construction that are identical in meaning and have clear correspondence in form” (Sorace, 2003, p. 135). While optional constructions are well-formed according to the computational system, one of the two optional forms may not be well formed because it does not comply with discourse-pragmatic constraints. L2 learners often exhibit ‘residual optionality’ due to the persistent influence of the L1, and bilinguals show ‘emergent optionality’ as the L1 undergoes attrition due to L2 influence (Sorace, 2005). Although not reaching a state of optionality, the overproduction of deviant forms at the syntax-discourse interface also occurs (e.g. Rothman, 2008). Such deficits at the syntax-discourse interface are not frequently overcome.<sup>19</sup>

The source of the variation at the syntax-discourse interface has been the subject of much recent discussion. As mentioned in Chapter 1, various explanations have been proposed to account for the variation at the interfaces including (1) impaired functional features (Lozano, 2006b; Tsimpli et al., 2004), (2) a processing overload resulting in the use of a default strategy (Sorace, 2005; Sorace et al., 2009), (3) the inherent complexity of coordinating multiple components of the grammar at the interfaces (Guijarro-Fuentes & Marinis, 2007; Rothman, 2008), (4) the age of L2 acquisition of the participants (Kraš, 2005), (5) the influence of the dominant language of the community (Sorace et al., 2009), (6) crosslinguistic influence favoring one of multiple options (Hulk & Müller, 2000; Müller & Hulk, 2001; Serratrice et al., 2004), and (7) the contact-induced expansion of a form already present in the L1 (Lapidus & Otheguy, 2005; Silva-Corvalán, 1986; Hinch Nava, 2007).

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<sup>19</sup> There are a small number of studies that do show that the syntax-discourse deficits can be overcome (see, for example, Grinstead, 2004; Montrul & Rodríguez Louro, 2006; and Rothman, 2008).

The syntax-discourse interface has been studied with a number of constructions in many languages.<sup>20</sup> One very frequently used construction for testing knowledge of constraints in effect at the syntax-discourse interface is the pragmatically correct use of overt subjects (Argyri & Sorace, 2007; Belletti, Bennati & Sorace, 2007; Belletti & Leonini, 2004; Serratrice et al., 2004; Sorace, 2000a; Sorace et al., 2009; Tsimpli & Sorace, 2006; Tsimpli et al., 2004). Other phenomena used to study the syntax-discourse interface include the interpretation of anaphora (Belletti et al., 2007; Cowles, 2003; Sorace & Filiaci, 2006; Tsimpli et al., 2004) and object drop (Hulk & Müller, 2000; Müller & Hulk, 2001). Studies of the syntax-discourse interface in Spanish draw on many of the same diagnostics, including the omission versus expression of personal pronominal subjects (Grinstead, 2004; Lapidus & Otheguy, 2005; Lozano, 2003, 2009a, 2009b; Montrul, 2004b; Montrul & Rodríguez Louro, 2006; Paradis & Navarro, 2003; Rothman, 2008), anaphora resolution (Lozano, 2008; Perez-Leroux & Glass, 1999), and fronted objects (Grinstead, 2004; Muntendam, 2008a, 2008b).

Another frequently studied syntax-discourse phenomenon, and the subject of present consideration, is the relationship between word order and information structure. In the sections that follow, I will introduce ‘information structure’ (3.1) and then review studies of information status (3.1.1) and focus (3.1.2). I will continue with a review of functionalist studies that relate word order to information status (3.1.3) and structuralist studies that primarily use experiments to investigate word order and focus in Spanish (3.1.4). I then conclude with research questions for the syntax-discourse interface to be addressed in this dissertation (3.2). We now turn to information structure.

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<sup>20</sup> One of the problems with previous studies of syntactic interfaces is that not all researchers agree on whether or not a particular construction is actually testing a particular interface. However, there is general consensus among researchers as to the validity of the tests discussed here.

### 3.1 Information Structure

I will consider ‘information structure’ as the component of the syntax-discourse interface in which grammatical structures generated in the computational system are coordinated with discourse-pragmatic constraints.<sup>21</sup> Lambrecht (1994) identifies three important concepts that regulate information structure: (1) the speaker’s structuring of propositions according to assumptions about what the addressee does or does not know, (2) the speaker’s assumptions about the statuses of the mental representations in the mind of the addressee at the time of an utterance, and (3) a speaker’s assessment of the predictability of the relationship between the elements of a proposition in discourse. These concepts are at the core of what we will now discuss: ‘given’ and ‘new’ information and ‘focus’.

#### 3.1.1 Given/New Information Status

A speaker may presume that the listener will consider some parts of his or her utterances to be ‘given’ or ‘new’ information in the discourse at the time of the utterance.<sup>22</sup> For our purposes, we will assume that the part of a speaker’s utterance that constitutes ‘new information’ is that part which is not presupposed, not currently shared between speakers, and is not in the forefront of the speaker’s consciousness. On the other hand, ‘given information’ is that information which is presupposed, currently shared between speakers, and is already a central part of the speaker’s consciousness. For example:

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<sup>21</sup> Lambrecht (1994) defines ‘information structure’ in a way that points to its nature as a syntactic interface by saying that it is “that component of sentence grammar in which propositions as conceptual representations of states of affairs are paired with lexicogrammatical structures in accordance with the mental states of interlocutors who use and interpret these structures as units of information in given discourse contexts” (p. 5).

<sup>22</sup> Similar terms such as ‘topic’ and ‘comment’ have been used in studies of syntax, phonology, semantics, and pragmatics in a variety of ways (see Casilless Suárez, 2004, and Fant, 1984, for reviews).

(1) Given and New Information

a. Speaker A: ¿Quién comió la empanada?

‘Who ate the empanada?’

b. Speaker B: La comió Juan.

it ate John

‘John ate it.’

In (1b), the new information is *Juan* ‘John’, because it is not shared information between the speakers before Speaker B answers the question. The phrase *la comió* ‘ate it’ in (1b) is old information because it is presupposed, shared information between the speakers and simply refers back to *comió la empanada* ‘ate the empanada’, which was previously said by Speaker A.

Although this given/new dichotomy has often been used, the information status of individual constituents within an utterance appears to fall along a continuum (Chafe, 1987; Givón, 1983a; Prince, 1981; Silva-Corvalán, 1983). Three influential proposals for such a continuum are given by Chafe (1987), Prince (1981), and Lambrecht (1994). First, Chafe (1987) proposes a continuum of activation states. Chafe (1987) explains that pieces of information are activated and deactivated during communication and that states may be ‘active’ (when a concept is in the focus of a person’s consciousness), ‘semi-active’ (when a concept is in someone’s background awareness), or ‘inactive’ (when a concept is in long term memory but is not active). When a concept is ‘active’, it is considered ‘old information’ at the time of an utterance. When it is ‘inactive’, it will constitute ‘new information’ when it is first mentioned in discourse.

In the course of communication, the activation states naturally change (Chafe, 1987). For example, ‘active’ concepts may become ‘semi-active’ and then ‘inactive’ in the mind of the speaker as time passes after the concept’s first mentioning. When the concept is mentioned

again, it will again become ‘active’. The use of an ‘active’ or ‘semi-active’ concept in discourse will also activate other related—but not explicitly mentioned—concepts or ‘schema’ in the mind of the speaker. For example, using the word *class* activates the events and participants which are typically related to a class, such as students, an instructor, a classroom, a lecture, and so forth (Chafe, 1987). When these related concepts are activated, they have changed from an ‘inactive’ to a ‘semi-active’ state in the mind of the addressee.

These three activation states are exemplified below in (2). Chafe gives this example from an informal conversation at a dinner party in which someone had remarked that it is important for university teachers to have personal contact with their students. After hearing this remark, someone began to share the following story:

(2) Active, Semi-active, and Inactive States (Chafe, 1987, pp. 23, 32):

- a. ...I can recall ...uh--...a big undergraduate class that I had,
- b. ...where .. everybody loved the instructor,
- c. ...a--nd .. he was a ... real .. uh.. old world ... Swiss-- ... guy,
- d. .. this was uh .. a biology course...
- e. ...a--nd he--... left all of the-- sort of uh-- ...real contact with students.. up to  
his assistants.

In this example, Chafe identifies *loved*, *was a real old world Swiss*, *biology*, *left all of the real contact with*, and *up to* (all double underlined) as being ‘inactive’ in the mind of the listener at the time of their utterance and they thus constitute ‘new information’. The concepts *everybody*, *the instructor*, *students*, and *his assistants* (single underline) are in a semi-active state because when they are mentioned, the speaker may have access to them if the schema related to ‘the university’ is activated by the topic of conversation. Phrases such as *this*, *course*, *guy*, and *he* (in

italics) are ‘active’ because they refer to concepts which were recently mentioned in the previous discourse and can be considered ‘old information’. In (2d), the noun phrase *a biology course* shows a combination of an ‘active’ concept (‘a course’) and an inactive concept (‘biology’).

The fact that a single phrase may contain elements of both new and old information is accounted for in the continuums proposed by Prince (1981) and Lambrecht (1994). Prince (1981) proposes the taxonomy for states of ‘assumed familiarity’ between speakers. There are three main categories in this continuum: new entities, inferrable entities, and evoked entities, which roughly correspond to Chafe’s three activation states:

(3) Assumed Familiarity (Prince, 1981, p. 237):

- a. New
  - i. Brand new
    - 1. Brand-New Unanchored
    - 2. Brand-New Anchored
  - ii. Unused
- b. Inferrable
  - i. Noncontaining Inferrable
  - ii. Containing Inferrable
- c. Evoked
  - i. Textually
  - ii. Situationally

As we see in (3), ‘new’ information is subdivided into ‘brand new’ and ‘unused’. ‘Brand new’ entities are not present in the mind of the addressee and are further divided into ‘anchored’ and

‘unanchored’ entities. ‘Anchored’ entities are ‘brand new’ entities which contain some constituents that are not ‘brand new’. By way of illustration, consider Prince’s examples in (4):

(4) Brand-New Entities (Prince, 1981, p. 233):

- a. A guy I work with says he knows your sister. (anchored)
- b. I got on a bus yesterday and the driver was drunk. (unanchored)

In (4a), the phrase *a guy I work with* is ‘brand new-anchored’ because it contains all brand new information with the exception of the word “I” which is not ‘brand new’. The phrase *a bus* in (4b) is ‘unanchored’ because everything contained within the NP ‘a bus’ is ‘brand new’.

‘Unused’ entities, which Prince places under ‘new information’ are entities assumed to be in the mind of the speaker but which must be activated (Prince, 1981). ‘Inferables’ are entities that the speaker assumes the addressee can deduce through reasoning. This reasoning may be contained within the phrase itself, as in (5a), or not, as in (5b).

(5) Inferables (Prince, 1981, pp. 233, 236):

- a. I got on a bus yesterday and the driver was drunk. (noncontaining)
- b. One of these eggs is broken. (containing)

In (5a), *the driver* is a ‘noncontaining’ inferable because the idea of a bus was mentioned earlier and buses typically have drivers. *One of these eggs* is a ‘containing’ inferable because there is a set-member relationship contained within the noun phrase. ‘Evoked’ entities may be ‘textually evoked’, as in the relation between *he* and *a guy I work with* in (4a), or ‘situationally evoked’, as when the pronoun *you* refers to an addressee (Prince, 1981).

Lambrecht (1994) refines the continuum made by Prince (1981) to better reflect the information status of discourse referents in the mind of the speaker. In his account, entities in the

discourse are presumed to be either ‘unidentifiable’ or ‘identifiable’ by the addressee. As shown in (6), this continuum contains many of Prince’s original concepts:

(6) Identifiability (Lambrecht, 1994, p. 109):

- a. Unidentifiable
  - i. Unanchored
  - ii. Anchored
- b. Identifiable
  - i. Inactive
  - ii. Accessible (textually, situationally, or inferentially)
  - iii. Active

Lambrecht (1994) recategorizes Prince’s ‘new-unused’ category into a type of ‘identifiable-inactive’ information. This continuum also retains the anchored/unanchored distinction to account for the fact that not all constituents are purely ‘new’ but may have parts that make them compositionally less-new.

In summary, the syntax-discourse interface is regulated by discourse-pragmatic concepts based on the information status of parts of a sentence. The degree to which discourse referents are given or new ranges along a continuum and changes in the minds of the speakers throughout the discourse. In the next section, we address the different means by which speakers focus ‘new’ information for the hearer.

### **3.1.2 Focus**

The ‘given’ versus ‘new’ information distinction appears to be universal, but there are a variety of ways in which the ‘new’ information is highlighted or ‘focused’ for the addressee. Focus is defined in terms of the speaker marking what is to be the “center of attention” (Ocampo,



2003a, p. 223). In this section we will discuss (i) the cross-linguistic, dialectal, and idiolectal variation in how focus is marked; and (ii) different types of focus.

Cross-linguistic variation in focus-marking strategies is manifest in the degree to which languages use a variety of syntactic, morphological, or phonological strategies to mark focused constituents (see crosslinguistic comparisons in Belletti, 2005a; Büring, 2010; Elordieta, 2007; Face & D’Imperio, 2005; Lahousse, 2007). Languages use one or more of a number of focusing strategies, including prosodic prominence, as in the example from English in (7); word order, as in Italian in (8); *it*-clefts, as in French in (9); and strong pronoun doubling, as in Italian in (10):

(7) Prosodic Prominence: English

- a. Who ate the pizza?
- b. JOHN ate it.

(8) Word Order: Italian (Belletti, 2005a, p. 63):

- a. Chi ha parlato?  
‘Who has spoken?’
- b. Ha parlato Gianni.  
has spoken Gianni  
‘Gianni has spoken’

(9) *It*-Clefts: French (Belletti, 2005a, p. 64):

- a. Qui a parlé?  
‘Who has spoken?’
- b. C’est Jean.  
It is Jean  
‘It’s Jean (that spoke).’

(10) Strong Pronoun Doubling: Italian (Belletti, 2005b, p. 10):

Gli studenti risponderanno loro.

The students will answer they

‘The students themselves will answer.’

Example (7) shows that one way to focus a constituent is to use prosodic prominence, as indicated by capitalization.<sup>23</sup> In (8), we see that another focus-marking strategy is the use of a change in word order, and in this case the focused subject is in a postverbal position. *It*-clefts may also be used to focus a constituent, as shown for French in example (9). Example (10) shows that Italian can use strong pronoun doubling to focus the subject *gli studenti* ‘the students’. In addition to those examples, example (11) below shows that a language like English may also make use of discourse markers to focus constituents, and example (12) shows that a language like Gúrúntúm (spoken in Nigeria) may use focus-marking affixes:

(11) Discourse Markers: English (Underhill, 1988, p. 236):

I had problems like on the second question.

(12) Focus-marking Affix: Gúrúntúm (Büding, 2010, p. 201):<sup>24</sup>

a. Á kwá bá wúm kwálingálá-í?

FOC who PROG chew colanut-the

‘Who is chewing the colanut?’

b. Á fúrmáyò bá wúm kwálingálá.

FOC fulani PROG chew colanut

‘The fulani is chewing colanut.’

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<sup>23</sup> Prosodic prominence itself may be conveyed in a number of ways, including through changes in intensity, duration, spectral tilt, and through a variety of changes to the fundamental frequency (see, for example, Face, 2000, and O’Rourke, 2005).

<sup>24</sup> FOC is ‘focus’ and PROG is ‘progressive’.

The English discourse marker *like*, shown in (11), focuses the constituent to its right (Underhill, 1988), which in this case is the phrase *on the second question*. Example (12b) shows that the focus marker *á* highlights the subject *fírmáyò* ‘fulani’ (an ethnic group in West Africa), and corresponds to the wh-word *kwá* ‘who’ in (12a).

Besides using any of the focus-marking strategies above, a language may also use a combination of the focus strategies to mark focus. In Quechua, for example, focus is marked by a focus-marking affix in addition to a change in the word order:

(13) Affixes and Word order: Quechua (Coombs, Coombs & Weber, 1976, p. 152):<sup>25</sup>

- a. ¿Chay runa ri-rka-n feria-man-chu?  
 That man go-PAST-3p market-to-INTEROG  
 ‘Did that man go to the market?’
- b. Ari, feria-man-mi ri-rka-n.  
 Yes, market-to-FOC go-PAST-3p  
 ‘Yes, he went to the market’
- c. \*Ari, ri-rka-n feria-man-mi.  
 Yes, go-PAST-3 market-to-FOC

Example (13) shows that evidential affixes, which also mark focus (Muysken, 1995), must occur on an argument of a verb that is in preverbal position. (13a) shows that *feria-man* ‘to the market’ is marked with the interrogative marker *-chu*. In (13b), the evidential/focus marker *-mi* corresponds to *-chu* and indicates that the speaker has direct evidence for the fact that the man did go to the market. The contrast between (13b) and (13c) shows that the focused argument must be in preverbal position to be grammatical with the focal *-mi* affix. This example shows that sometimes a number of focus-marking strategies are used together in a language.

<sup>25</sup> PAST is ‘past’. INTEROG is ‘interrogative’.

Like these languages, Spanish also makes use of several focus-marking strategies.

Among these include prosodic prominence and pseudo-clefts:

(14) Prosodic Prominence (Face, 2002b, p. 342):

a. ¿Dijo Raul que vio la banana?

Said Raul that (he) saw the banana

‘Did Raul say that he saw the banana?’

b. No, que TERMINÓ la banana.

No, that (he) finished the banana.

‘No, (he said) that he finished the banana.’

(15) Pseudo-clefts (Pinedo, 2000, p. 131):

Fue Juan al que/a quien vi.

was John who I saw

‘It was John who I saw.’

In (14b), prosodic prominence is given to *terminó* ‘finished’ because it is in contrast with *vio* ‘saw’. The pseudo-cleft in (15) places the focus on *Juan* ‘John’. Other focus-marking strategies in Spanish include the use of the passive voice, doubling structures, and discourse markers:

(16) Passive Voice (Bolinger, 1991, p. 225):

Los enemigos fueron derrotados.

‘The enemies were defeated.’

(17) Doubling Structures

Lo vi a Juan.

Him (I) saw to Juan.

‘I saw Juan.’

(18) Discourse Markers (Roggia, 2005, p. 32):

Ellos eran una familia que tenían eh una granja de pollos.

‘They were a family that had uh a farm of chickens.’

In (16), the passive voice focuses *derrotados* ‘defeated’ as being the final, important information in the sentence. The doubling structure in (17) places the focus on *Juan*, and the discourse marker *eh* ‘uh’ in (18) places the focus on *una granja de pollos* ‘a farm of chickens’. Spanish also marks focus by using a combination of prosodic prominence and word order (Bolinger, 1991; Zubizarreta, 1998, 1999; Zubizarreta & Vergnaud, 2006), as in the following example:

(19) Prosodic prominence and word order (Zubizarreta, 1998, p. 130):

Ana escondió debajo de la cama LA MUÑECA.

Ana hid under the bed the doll

‘Ana hid THE DOLL under the bed.’

In this example, *la muñeca* ‘the doll’ is marked as the focus by being in sentence-final position and by receiving the prosodic prominence (as indicated by all caps).

There is also dialectal and idiolectal variation in Spanish focus marking. For example, *ser* can be used to focus phrases in Dominican Spanish in a way that is related to pseudo-clefts:

(20) Phrasal Focus with *Ser* (Toribio, 2002, p. 134):<sup>26</sup>

Yo vi fue a Doña María

I saw it was DOM Doña María

‘I saw Doña María’

The example of phrasal focus with *ser* in (20) shows that *fue* ‘it was’ places the focus on the direct object, Doña María. Another example of dialectal variation in Spanish focus marking comes from the west coast of Mexico. In this language variety, VOS order is not acceptable for

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<sup>26</sup> DOM is ‘differential object marker.’

focusing the subject,<sup>27</sup> but VOS is acceptable for focusing subjects in Peninsular and Rioplatense Spanish (Gutiérrez-Bravo, 2002, 2006). This contrast is illustrated in the following examples:

(21) VOS in Peninsular Spanish (Zubizarreta, 1998, p. 126):

Está buscando una secretaria el jefe de la fábrica.  
 Is looking for a secretary the factory's foreman  
 'The factory's foreman is looking for a secretary.'

(22) VOS in Mexican Spanish (Gutiérrez-Bravo, 2002, p. 168):

??Compró el periódico Juan.  
 Bought the newspaper Juan

There is also idiolectal variation in how Spanish speakers mark focus. Even though there do appear to be general patterns for using prosodic prominence for focusing (see Gussenhoven, 1983; Zubizarreta, 1998; Zubizarreta & Vergnaud, 2006), its use in marking focus is often difficult to predict because it appears to frequently depend on a speaker's subjective assessment of what to focus for the hearer (Bolinger, 1972; Ocampo, 2003a). In the following example, from a conversation, the prosodic prominence occurs on the verb, rather than as expected on the postverbal constituent (from Ocampo, 2003a, p. 215):

(23) Eso AUMENTÓ las diferencias y hubo una una escisión.

'That INCREASED the differences and there was a a división.'

In (23), the verb *augmentó* 'increased' receives the prosodic prominence although we would expect *las diferencias* 'the differences' to receive it because it is in the postverbal, focused position. Thus, focus is often difficult to predict and is based on the speaker's subjective assessment of what to focus for the interlocutor.

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<sup>27</sup> However VOS order does become acceptable if the verb is preceded by an adverbial phrase or a prepositional phrase (Gutiérrez-Bravo, 2002). This is in a way reminiscent of the restriction on postverbal bare plural subjects with unergatives as shown in Chapter 2.

These focus-marking strategies are used to mark different types of focus.<sup>28</sup> The two most commonly cited types of focus in the literature are ‘presentational’ focus and ‘contrastive’ focus (Kiss, 1998; Ladd, 1996; Zagana, 2002; Zubizarreta & Vergnaud, 2006).<sup>29</sup> Presentational focus only introduces new information to the discourse and may be ‘narrow’ when it highlights a single constituent and ‘wide’ or ‘sentential’ when it introduces an entire phrase or sentence. The focused element of a sentence is traditionally identified with wh-questions. The following examples illustrate broad and narrow presentational focus in Spanish and English:

(24) Broad Presentational Focus

a. Spanish

—¿*Qué* pasó?

—*Juan* habló.

b. English

—*What* happened?

—*John* spoke.

(25) Narrow Presentational Focus

a. Spanish

—¿*Quién* habló?

—*Habló JUAN.*    ?*JUAN* habló.

b. English

—*Who* spoke?

—*JOHN* spoke.    \**Spoke JOHN*

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<sup>28</sup> For a review of the many different definitions of focus and several types of focus, see Casielles Suárez (2004) and Gussenhoven (2007).

<sup>29</sup> ‘Presentational Focus’ is also termed ‘information focus’ or ‘non-contrastive focus’. ‘Contrastive focus’ is sometimes known as ‘identificational focus’ or ‘focus of contrast’.

The focus in (24) is termed ‘broad’ because the entire utterance, the verb and its argument, together constitute new information in the response. A phrase under broad focus is typically identified with a *¿Qué pasó?* ‘What happened?’ question and is considered to show the neutral, unmarked word order of the sentence (Gutiérrez-Bravo, 2002, 2009). In (25), the wh-word *quién* ‘who’ makes a query that is answered by the subject NP *Juan* ‘John’, and so this subject NP receives the narrow presentational focus. It is ‘narrow’ because, unlike broad focus, a single word is in focus in this example.<sup>30</sup> It is ‘presentational’ because it makes no negating contrast and simply introduces new information to the dialogue. Notice also that the means to mark focus in English and Spanish differ in these examples.<sup>31</sup> The subject NP in (25a) is found in a postverbal position with prosodic prominence (in all caps) to mark that it is in focus, while the NP in (25b) is only focused by the use of prosodic prominence. English tends to use only prosodic prominence to focus where Spanish uses both word order and prosodic prominence (see Bolinger, 1954; Zubizarreta, 1998).

In addition to ‘presentational focus’, there is ‘contrastive focus’, as illustrated in (26):

(26) Narrow Contrastive Focus

a. Spanish

—*¿Habló Pablo?*

—*No, habló JUAN.*    *?No, JUAN habló.*

b. English

—*Did Paul speak?*

—*No, JOHN spoke.*    *\*No, spoke JOHN.*

<sup>30</sup> For present purposes, we will consider ‘narrow’ focus to include subjects of any length that answer the query *¿Quién...?* ‘Who...?’.

<sup>31</sup> In this respect, Caribbean Spanish appears to resemble English because SV order in Caribbean Spanish is reported to be preferred in narrow focus over VS order (see Ortiz López, 2009).



The capitalized portions of the responses to the questions in (26) are examples of subject NPs in narrow contrastive focus. In (26), the NP *JOHN* contrasts with the NP *Paul*. Narrow contrastive focus is different from narrow presentational or non-contrastive focus because contrastive focus exhaustively identifies the set for which the proposition holds true and includes a contrast, but presentational focus does not involve exhaustive identification or make a contrast—it simply introduces new information (Kiss, 1998). In this dissertation we will direct our attention to word order in both broad and narrow presentational focus contexts.

Although we typically speak of presentational focus as introducing new, non-presupposed information to the discourse, it may be better to say that focus relates to ‘unpredictable’ or ‘non-recoverable’ information. This is because the answer to a question may already have been mentioned in the previous discourse (and thus be discourse-active or ‘old’ information in the mind of the listener), but still be “unpredicable” or “non-recoverable” as the particular answer to the wh-question (Lambrecht, 1994, pp. 211-212). As Ocampo puts it:

The focus does not necessarily have to be new information in Prince’s sense-i.e., introduced into the discourse for the first time. It is the relation between the focus and the rest of the proposition which is considered by the speaker as new to the hearer.  
(1990, p. 89)

In other words, there is a distinction between the assumed information status of a discourse referent in the mind of the addressee, and the highlighting or focusing of that status. This distinction should be taken into account when comparing studies of word order in Spanish.

To summarize, different languages and language varieties have various means by which to focus new information for the addressee. Spanish makes use of a number of focus-marking strategies, including the placement of focal constituents in postverbal, sentence final position.

There is also idiolectal variation in whether or not focus is marked and variation in the types of focus that are employed. The two main types of focus are ‘presentational’ focus (which may be ‘broad’ or ‘narrow’) and ‘contrastive’ focus. There is also a distinction between ‘information status’ and ‘focus’ which is important for comparing studies of Spanish word order. In what follows, we will review two groups of studies of Spanish word order: the functionalist studies that primarily relate word order to ‘information status’ (3.1.3) and the structuralist studies that relate word order to ‘focus’ (3.1.4).

### **3.1.3 Word Order and Information Status in Spanish: Functionalist Studies**

Until recent years, studies of the relationship between information status and word order in Spanish have largely been descriptive in nature. These have drawn primarily on written corpora from literary texts or spoken data compiled from sociolinguistic interviews. Most (but not all) of these studies have been conducted from a variationist or functionalist perspective rather than from a structuralist perspective. A review of these studies shows that word order in Spanish depends on at least five discourse-related concepts: (i) the identifiability of entities in discourse (following Prince and Lambrecht), (ii) the location of adverbial phrases with respect to the informational ‘heaviness’ of the verb, (iii) the definiteness of the subject NPs, (iv) the informational ‘heaviness’ of the subject NPs, and (v) whether or not a verb is ‘presentational’ in nature. We will now review studies that describe these five variables and then address the advantages and disadvantages of functionalist studies.

#### **3.1.3.1 Information Status**

A number of functionalist studies of word order have used Prince’s taxonomy of new, inferrable, or evoked information. It was observed early on that new information in Spanish tends to be in the postverbal position and presupposed information tends to occur in preverbal

position (Bolinger, 1991; Fant, 1984; Suñer, 1982). Many later studies of Spanish texts or interviews (most using a variation of Prince's taxonomy) support this observation (Ashby & Bentivoglio, 1997; Bentivoglio, 1993; Bentivoglio & Sedano, 2007; Bentivoglio & Weber, 1986; Delbecque, 1988; Hinch Nava, 2007; Meyer-Hermann, 1990; Morales, 2003; Ocampo, 1990, 1991, 1995, 2003b, 2005; Rivas, 2008; Silva-Corvalán, 1982, 1983). This is illustrated in the following examples:

(27) New Information: VS (Rivas, 2008, p. 904):

...Vino una –una hermana de Andrés...a Barcelona porque dijimos...vamos a traerla para que vea Barcelona.

‘A sister of Andrés came...to Barcelona because we said...we are going to bring her so that she can see Barcelona.’

(28) Inferrable: VS (Ocampo, 1991, p. 410):

Había ido a otra clínica y no fui a la guardia...estuve una hora ahí, tocando timbre salió el médico.

‘I had gone to another clinic and I did not go to the police...I was there for an hour, ringing the doorbell the doctor came out.’

(29) Evoked information: SV (Bentivoglio & Sedano, 2007, p. 199):

Después me acuerdo de...de mi padrino. Mi padrino murió cuando yo tenía once años.

‘Then I remember...my godfather. My godfather died when I was eleven years old.’

In (27), *una hermana de Andrés* ‘a sister of Andrés’ is new information in the discourse and occurs postverbally. The phrase *el médico* ‘the doctor’ in (28) is inferable by the previously

mentioned topic of a clinic and also occurs postverbally. Example (29) shows a subject *mi padrino* ‘my godfather’ that was just mentioned and is thus given or evoked information and occurs preverbally. One of the drawbacks to these studies is that they frequently use different means to identify what is new, inferrable, or evoked, so they are very difficult to compare (see a comparison of them in Meyer-Hermann, 1990). These studies do show, however, that the postverbal position is for introducing new entities that may be constituents, clauses, or even large segments of discourse (see Rivas, 2008).

### 3.1.3.2 Location of Adverbial Phrases

The position of the subject is also related to the position of any adverbial phrases in the sentence and the informational ‘heaviness’ or ‘lightness’ of the verb. This is known as ‘locative inversion’, although it may be termed ‘adverbial inversion’ because it is not limited to locatives. Studies of Spanish show that if an adverbial phrase is preverbal, the subject will be postverbal, and if the adverbial phrase is postverbal, the subject will be preverbal (Kahane & Kahane, 1950; Mayoral Hernández, 2004; Morales, 2003; Saldaña & Muñoz Sánchez, 2005). For example:

(30) Adverbial Inversion (Kahane & Kahane, 1950, p. 237):

- |                    |         |
|--------------------|---------|
| a. Hoy viene Juan. | (X V S) |
| b. Juan viene hoy. | (S V X) |

‘John comes today.’

Example (30) shows that the locations of the adverbial phrase and the subject appear to be mutually exclusive. However, studies of Spanish show that the subject and adverb may occur with intransitives in SVX, XSV, VSX, or XVS order (Hinch Nava, 2007; Ocampo, 1991, 2005) in non-contrastive, presentational focus (Mendikoetxea, 1999; Ocampo, 2005). Some claim that typically only verbs of appearance or existence (such as *existir* ‘to exist’) can occur with locative

inversion, and that the subjects of these existential verbs must be postverbal (Mendikoetxea, 1999; Ocampo, 1991), as the following example shows:<sup>32</sup>

(31) Locative Inversion (Mendikoetxea, 1999, p. 1612):

a. En el bosque existen hadas y enanitos. (X V S)

‘In the forest exist faries and dwarfs.’

b. \*Hadas y enanitos existen en el bosque. (S V X)

‘Fairies and dwarfs exist in the forest.’

This example shows that XVS order is acceptable with locative inversion (31a), but not SVX order (31b). This is presumably because verbs like *existir* ‘to exist’ are ‘informationally light’ verbs that carry little new information and only serve to focus subjects postverbally. Other intransitive verbs are reported to prefer SVX order in Spanish (Ocampo, 1991) because they are ‘informationally heavy’ and are only possible in XVS order if the context makes them ‘informationally light’ (Levin & Rappaport Hovav, 1995; Mendikoetxea, 1999). One study of intransitives in Spanish shows that the position of the adverbial phrase only slightly affects the word order (Hinch Nava, 2007), while other studies show that the position of the adverbial phrase strongly affects the subject position (Mayoral Hernández, 2004; Saldaña & Muñoz Sánchez, 2005). In fact, Saldaña and Muñoz Sánchez (2005) show that unaccusatives frequently have preverbal subjects when there are postverbal adverbial phrases. More studies are needed that control for and investigate the adverbial inversion effects on word order with intransitives.

### 3.1.3.3 Definiteness

Studies of word order in Spanish have also found that the definiteness of a subject NP relates to its position in the sentence. For example, indefinite subjects are usually postverbal and

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<sup>32</sup> It should be noted that many examples of locative inversion given by Mendikoetxea (1999) include postverbal subject that are bare plurals, a construction often considered itself to be a diagnostic of unaccusativity.

definite subjects tend to be preverbal (De Miguel Aparicio, 1989; López Meirama, 1997; Morales, 2003; Rivas, 2008). Definiteness has also been found to correlate with word order in other languages as well (Belletti et al., 2007; Tsimpli et al., 2004; Warner, 2007). The reason why definiteness is related to word order is that NPs are definite or indefinite depending on whether or not the speaker thinks that the addressee can identify the entity in the discourse (López Meirama, 1997). Preverbal subjects in Spanish tend to be proper names, personal pronouns, or definite while postverbal subjects tend to be bare NPs or indefinite (López Meirama, 1997). López Meirama (1997) gives the following examples of the definiteness effect on word order from a study of a written corpus:

(32) Definiteness (López Meirama, 1997, pp. 252, 260):

- a. Toniolo murió en seguida, la malaria. (definite NP)  
‘Toniolo died right away—(it was from) malaria.’
- b. Cada día, todos los días del año, muere gente. (indefinite NP)  
‘Each day, every day of the year, people die.’

The examples in (32) show that the definiteness of the subject NP is important: the proper name *Toniolo* in (32a) is definite and is preverbal, while the indefinite *gente* ‘people’ in (32b) is postverbal. The relationship between definiteness and discourse harkens back to Lambrecht’s (1994) revision of Prince’s continuum by using degrees of ‘identifiability’ (recall section 3.1.1).

### 3.1.3.4 Heavy Subjects

It has also been observed that constituents that are long or ‘heavy’ occur last in the sentence in Spanish (Bolinger, 1991; De Miguel Aparicio, 1989, 1993; De Miguel Aparicio & Fernández Soriano, 1988; Fernández Soriano, 1993). The ‘heaviness’ of a constituent is often defined by the number of words present and/or by the syntactic complexity of the constituent.

Studies of Spanish word order find ‘heaviness’ to be an important predictor of subject position—with ‘light’ subjects being preverbal and ‘heavy’ subjects being postverbal (Delbecque, 1988; Mayoral Hernández, 2004). The following example shows a very heavy subject NP:

(33) NP Heaviness (De Miguel Aparicio, 1993, p. 179):

- a. Ha telefonado la mujer de aquel amigo tuyo que era profesor de Historia del Arte Europeo Contemporáneo.
- b. ?? La mujer de aquel amigo tuyo que era profesor de Historia del Arte Europeo Contemporáneo ha telefonado.

‘The woman of that friend of yours that was the professor of History of Contemporary European Art has called on the phone.’

The example in (33) shows that even an unergative verb (which typically has SV order in neutral contexts) prefers VS order (33a) when the subject is heavy. The word order effect for heavy NPs is shown to be true for English and French as well (Akasaka & Tateishi, 2001; Lahousse, 2006; Lozano & Mendikoetxea, 2006, 2008; Staub, Clifton Jr. & Frazier, 2006; Warner, 2007).<sup>33</sup> Some researchers take this to be a purely phonological phenomenon because it is related to the length of the linear string, while others take the position that these constituents are heavy because the longer string contains more new information. For example, Bolinger (1954) states the following:

If the rule of longest-element-last is statistically more true than false it is because longer elements in a sentence are more likely to be freighted with information. They tend to go last because they are more informative, not because they are long. (p. 155)

While not all would agree with Bolinger (e.g. Contreras, 1978), it has been shown that the discourse and phonological components are interconnected and not entirely separate with respect

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<sup>33</sup> Although often labeled Heavy NP Shift, heavy adverbial phrases in Spanish also tend to be postverbal, so this phenomenon should be termed Heavy XP Shift (Mayoral Hernández, 2004).

to the shifting of heavy NPs (Arnold et al., 2000). In light of this, I will consider the effects of heavy NP shift with other syntax-discourse variables.

### 3.1.3.5 The ‘Presentational’ Nature of Unaccusative Verbs

Lastly, as previously alluded to in our discussion of locative inversion constraints, many studies of written and spoken corpora of Spanish consider some verbs to always introduce new referents into the discourse because they have a ‘presentational’ nature. Beginning with Hatcher (1956), it was assumed that unaccusative verbs and verbs like *haber* ‘to be/exist’ always introduce a new entity into the discourse, which has resulted in a grammaticalized VS order for these verbs (Padilla García, 2001). For example:

(34) *Haber* (Ashby & Bentivoglio, 1997, p. 13)

a. ...había un tanque en medio del corral de donde uno bebía el agua.

‘...there was a tank in the middle of the courtyard from where you would drink water.’

(35) *Ser* (Morales de Walters, 1982, p. 32)

a. Era un trabajo muy duro.

(It) was a work very hard

‘It was a very hard job.’

Examples (34) and (35) show that *ser* ‘to be’ and *haber* ‘to be/exist’ introduce informationally heavier phrases to their right. The idea that these and other, mostly unaccusative, verbs have a ‘presentational’ nature is supported by the fact that studies of such verbs show that they tend to have VS order and coincide with a new information status (e.g. Ashby & Bentivoglio, 1997; Bentivoglio & Weber, 1986; De Miguel Aparicio, 1989; Ocampo, 1991; Padilla García, 2001). While this may be true, unaccusative verbs are still sensitive to discourse constraints. For



example, when the subject of an unaccusative verb is a topic, the resulting order is SV, not VS (De Miguel Aparicio, 1989; Suñer, 1982).<sup>34</sup> Suñer (1982) writes that “presentationalism is not a feature of verbs but an interpretation which depends on the entire sentence and discourse factors” (p. 149). In this study we will assume that while unaccusative predicates may frequently present new information to the discourse, the discourse context still may affect the behavior of these verbs and must also be considered.

### **3.1.3.6 Summary of Functionalist Studies**

The studies reported in this section present a number of important contributions to the field but also have their problems. These studies show that Prince’s typology of activation states can be used to investigate word order in Spanish. They also find a connection between new information and the frequency of VS order with unaccusative verbs, which would support theories of frequency-based stochastic grammar (see Bybee & Hopper, 2001). These studies also gather naturalistic production data that are unaffected by the constraints imposed during an experiment. The preservation of the natural discourse context also has allowed for more discourse-pragmatic functions to be discovered, and a large number of variables that affect word order (e.g. locative inversion, definiteness, heavy NP shift, animacy, etc.) have been identified.

In addition to these important contributions, there are a number of problems with these studies. First, although ‘presentational’ verbs (which include unaccusative verbs) are reported to prefer VS order, the studies of information status in written and spoken corpora say little about unergative verbs and the unaccusative/unergative distinction, a distinction of interest here. In fact, the lexico-semantic gradations of the Split Intransitivity Hierarchy are almost never taken into account. Such studies often include intransitive verbs in their analysis (Bentivoglio &

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<sup>34</sup> In addition, VS with unaccusatives is focally ambiguous—it may correspond to narrow or broad presentational focus or to contrastive focus.

Weber, 1986; Delbecque, 1988; Meyer-Hermann, 1990; Ocampo, 1990, 1991, 1995; Silva-Corvalán, 1982), but there are often relatively few tokens of intransitives in the analyses. The way in which the different intransitives and information statuses are classified also tends to vary significantly between studies (see comparisons in Meyer-Hermann, 1990). Another problem with these studies is that while they account for the information status of utterances they do not consider the effect that broad or narrow focus has on word order. Indeed, it is very difficult to accurately identify the scope of the focus with oral interviews or corpus data, and the pragmatic functions identified with various word orders are often based on subjective interpretations. In spite of these drawbacks, these pioneering studies are important because they often find that the intransitives (and unaccusatives in particular) that occur in new information contexts tend to have postverbal subjects and that several variables affect word order.

In sum, studies of word order and information structure in Spanish have found that the identifiability of entities, the location of adverbial phrases, the definiteness of the subject NPs, the ‘heaviness’ of the NPs, and the presentational nature of the verbs correlate with word order. Subject NPs that are new, indefinite, and heavy tend to be postverbal, while subjects that are given, definite, and light tend to be preverbal. While there are many problems with these studies, they have been important for the study of language because they use naturalistic data to investigate several variables related to word order. In the next section, we will review experimental studies of word order in Spanish that investigate word order and focus.

### **3.1.4 Word Order and Focus in Spanish: Experimental Studies**

While functionalist studies primarily use written corpora or oral interviews to examine word order, most recent studies conducted from a structuralist perspective use experimental measures that include judgment tasks and production tasks to study word order (e.g. Argyri &

Sorace, 2007; Belletti et al., 2007; Belletti & Leonini, 2004; Hopp, 2004, 2005; Tsimpli et al., 2004; Yuan, 1996).<sup>35</sup> We will now review the studies in Spanish that utilize grammaticality judgment tasks and production tasks to test word order and split-intransitivity in different focus contexts, and then we will discuss the advantages and limitations to these studies. The following review of these studies has not been attempted in the literature so far as I am aware.

### 3.1.4.1 Acceptability Judgment Tasks

Experimental studies in Spanish that have used acceptability judgment tasks to investigate word order and split-intransitivity have been of two types: those that require judgments of sentences in isolation and those that require judgments of contextualized sentences.

Table 3.1 shows the results of judgment tasks when sentences are rated in isolation.

Table 3.1 Acceptability Judgment Tasks: Percent Acceptance<sup>36</sup>

STUDY	JUDGMENT TYPE	PARTICIPANTS/ LOCATION	UNACCUSATIVE		UNERGATIVE	
			VS	?SV	SV	?VS
De Miguel Aparicio (1993)	Yes/no	6 native speakers in Spain	77.1% (37/48)	20% (6/30)	100% (6/6)	16.7% (3/18)
Hertel & Pérez-Leroux (1998)	5-point Likert	5 Spanish-dominant bilinguals in the U.S.	93.8% (~4.75)	100% (~5)	100% (~5)	68.8% (~3.75)
Montrul (2003, 2005a, 2005b, 2006)	5-point Likert	12 native speakers in Argentina & 16 Spanish-dominant bilinguals in the U.S.	96.0% (4.84)	97.8% (4.91)	98.0% (4.92)	87.5% (4.5)

The results in this table generally show that native Spanish speakers accept unaccusatives with either SV or VS order, but prefer SV to VS for unergatives. However, a number of variables

<sup>35</sup> In addition to judgment tasks and production tasks, processing experiments have also been used to investigate split-intransitivity in Spanish and other languages (see Bard, Frenck-Mestre & Sorace, 2010; Bever & Sanz, 1997; Montrul, 2004a, 2006; Sanz, 1996, 2000; Sanz & Bever, 2001; Sanz et al., 1992), but these studies will not be addressed here.

<sup>36</sup> In Tables, 3.1-3.5, the testing location and token numbers are given where possible. Participants reported as ‘Spanish-dominant bilinguals’ were native Spanish speakers studying at an English-speaking university, and are assumed to be Spanish-dominant, although no tests of dominance are reported. The ratios and numbers in parenthesis are token totals and average acceptability ratings respectively. Ratings for Hertel & Pérez-Leroux (1998) are estimations based on a graph. 5-point Likert scale (ranging from 1 to 5) rating averages for Hertel & Pérez-Leroux (1998) and Montrul (2003, 2005a, 2005b, 2006) were converted to percentages using the following formula: ((Mean Rating-1)/4)\*100 = %.

were not controlled in these studies. In Montrul's study, for example, speakers were asked to rate sentences that included the following (from Montrul, 2005a, p. 1183):

- (36) Un pedazo de torta    quedó    en el plato.  
a piece of cake            remained on the plate  
'A piece of cake remained on the plate.'

- (37) Nadaron Pedro y Mónica    en la piscina.  
swam        Peter and Monica    in the pool.  
'Peter and Monica swam in the pool.'

From these sentences, it is clear that subject heaviness (e.g. *un pedazo de torta* 'a piece of cake'), subject definiteness (*Pedro y Mónica* 'Peter and Monica'), and the presence of postverbal adverbial phrases may have affected the results of the study. Most of the sentences judged by the speakers in the study end with an adverbial phrase (SVX or VSX order), and as we saw in Section 3.1.3, postverbal adverbial phrases make preverbal subjects acceptable. The results of that study may also be explained by the fact that all of the verbs used come from the range of verb categories in the Split Intransitivity Hierarchy (discussed in Chapter 2), and little difference between SV and VS order would be expected when verbs from all along the hierarchy are combined together. Also, many of the speakers were tested in Argentina, and possible dialectal variation may exist. A similarity between all three studies in Table 3.1 is that all sentences were judged out of context and none controlled for information status or focus.

Acceptability judgment tasks that do control for the information status and focus of sentences show clearer results. This is typically done by presenting short stories and then asking a question about the story. The context informs the participant of the information status of various entities in the mind of a fictitious interlocutor. A question posed by the fictitious

interlocutor then establishes a narrow or wide presentational focus for the answer. Participants then judge answers. Example (38) shows a broad presentational focus item from a judgment task:

(38) Broad Presentational Focus Context (Hertel, 2000, p. 190):

- a. A book that your friend Carlos lent you has disappeared. You see Carlos in the hallway and he notices that you look upset. Carlos asks you: ¿Qué pasó?

You answer:

a. Tu libro desapareció. -3 -2 -1 0 +1 +2

b. Desapareció tu libro. -3 -2 -1 0 +1 +2

→ Which answer do you prefer?: A B No preference

- b. 'a. Your book disappeared.

b. Disappeared your book.'

In (38a), the context indicates to the participant that Carlos does not know why the participant looks upset. This helps the participant to know what would be new information to Carlos. The question *¿Qué pasó?* 'What happened?' establishes a broad presentational focus context over the entire sentence of the answers to be judged, which are calqued in (38b). Participants then judged the sentences using a 7-point Likert scale and also stated their preferences. The following example shows a narrow presentational focus context:

(39) Narrow Presentational Focus Context (Lozano, 2003, p. 279):

- a. Estás en una fiesta con tu amiga María. Mientras María va al servicio, un hombre al que no conoces llega a la fiesta. Al volver del servicio, María quiere saber quién ha venido, así que te pregunta: ¿Quién vino? Tú respondes:

a. Un hombre vino. -2 -1 0 +1 +2

b. Vino un hombre -2 -1 0 +1 +2

- b. ‘You are at a party with your friend María. While Maria goes to the bathroom, a man that you do not know arrives at the party. Upon returning from the bathroom, María wants to know who has come, so she asks you: Who came? You respond:
- a. A man came. -2 -1 0 +1 +2
- b. Came a man. -2 -1 0 +1 +2’

The context in example (39a), translated in (39b), shows that knowing who came to the party would be new information to María and the question with *¿Quién...?* ‘Who...?’ establishes a narrow presentational focus on the subject NP. After reading the story about María, the person making the acceptability judgments would then use the 5-point Likert scale to rate the possible answers to the question.<sup>37</sup> Table 3.2 shows the percent acceptance of different word orders in broad focus in contextualized acceptability judgment tasks for different studies.

Table 3.2 Acceptability Judgment Tasks: Percent Acceptance in Broad Focus Contexts <sup>38</sup>

STUDY	JUDGMENT TYPE	PARTICIPANTS/ LOCATION	UNACCUSATIVE		UNERGATIVE	
			VS	?SV	SV	?VS
Domínguez & Arche (2008)	SV, VS, or both	20 native speakers in Spain	~85%	40%	-	-
Hertel (2000)	SV, VS, or both	16 Spanish-dominant speakers in the US	75% (66/88)	25% (22/88)	71.6% (63/88)	28.4% (25/88)
Lozano (2003, 2006a)	5-point likert	14 Spanish-dominant bilinguals in the UK	83.9%	62.5%	89.0%	46.7%
Lozano (2006b)	5-point likert	19 Spanish-dominant bilinguals	83.5%	57.3%	90.3%	38.8%

<sup>37</sup> In Hertel’s (2000) study, the 7-point Likert scale did not serve to clearly discriminate between the verb types, but her preference scale and Lozano’s (2003, 2006a, 2006b) 5-point Likert scale did.

<sup>38</sup> Data from Domínguez and Arche (2008), partially estimated from a graph, included only 4 sentences for each speaker. These researchers did not report values for unergatives in broad focus. Hertel (2000) only had 5 or 6 sentences for each speaker. The percentages reported for Hertel (2000) are calculated from the group data. Lozano’s (2006b) 5-point Likert scale (-2 to +2) ratings from were converted to percentages with the following formula, found in Lozano (2006a, p. 23): ((Mean Rating + 2)\*100)/4= %.

The broad presentational focus results in Table 3.2 show a clearer picture overall than the results of the non-contextualized judgment tasks in Table 3.1. For contextualized tasks with broad focus, the raw data show that VS is accepted more than SV for unaccusatives and SV is accepted more than VS for unergatives, as we would expect. These preferences, illustrated with examples of judged sentences, are as follows:

(40) Unaccusative Broad Focus (Lozano, 2003, p. 279):

a. Llegó otro niño. (VS)

b. ¿Otro niño llegó. (SV)

‘Another child arrived.’

(41) Unergative Broad Focus (Hertel, 2000, p. 191):

a. El camarero estornudó. (SV)

b. ¿Estornudó el camarero. (VS)

‘The waiter sneezed.’

Table 3.2 also shows an overall high acceptance for SV order for unaccusatives and a high acceptance of VS order for unergatives where we would not expect. These sentences, judged under broad presentational focus, are presumed to be ‘neutral’ and ones that best reflect the word-order of the syntax-lexicon interface (see Gutiérrez-Bravo, 2009; Lozano, 2006a).

The word order produced through the syntax-discourse interface, on the other hand, is presumed to be best represented by the word order of a subject under narrow presentational focus (Lozano, 2006a). The reported results of judgments in narrow presentational focus contexts are summarized in Table 3.3.

Table 3.3 Acceptability Judgment Tasks: Percent Acceptance in Narrow Focus<sup>39</sup>

STUDY	TASK TYPE	PARTICIPANTS/ LOCATION	UNACCUSATIVE		UNERGATIVE	
			VS	?SV	?SV	VS
Domínguez & Arche (2008)	SV, VS, or both	20 native speakers in Spain	~75%	~25%	~55%	~57%
Hertel (2000)	SV, VS, or both	16 Spanish-dominant speakers in the US	79.3% (69/87)	20.7% (18/87)	31.8% (28/88)	68.2% (60/88)
Lozano (2003, 2006a)	5-point likert	14 Spanish-dominant bilinguals in the UK	86.9%	50%	57.7%	83.9%
Lozano (2006b)	5-point likert	19 Spanish-dominant bilinguals	88.0%	43.0%	54.3%	81.3%

Table 3.3 shows that VS order is preferred in narrow focus for both unaccusative and unergative verbs. This preference is shown in (42) and (43) using examples of judged sentences:

(42) Unaccusative Narrow Focus (Lozano, 2003, p. 280)

a. Llegó la policía. (VS)

b. ?La policía llegó. (SV)

‘The police arrived.’

(43) Unergative Narrow Focus (Hertel, 2000, p. 191)

a. ?Julio Iglesias cantó. (SV)

b. Cantó Julio Iglesias. (VS)

‘Julio Iglesias sang.’

A comparison of the word orders representing the syntax-lexicon interface (Table 3.2) and the syntax-discourse interface (Table 3.3) shows that the percent acceptance of VS order increases (and acceptance of SV order decreases) even for unaccusative verbs, considered by some to always be ‘presentational’ in nature. When comparing the two tables, we also see a clear change

<sup>39</sup>The percentages for Domínguez & Arche (2008) are estimates based on a graph of acceptability averages. Percentages for Hertel (2000) are calculated from group totals. Percentages for Lozano (2003, 2006a, 2006b) are calculated from his formula, found in Lozano (2006a, p. 23): ((Mean Rating + 2)\*100)/4= %.



of word order preference for unergative verbs which come to more strongly prefer VS order in narrow presentational focus.

### 3.1.4.2 Production Tasks

In addition to acceptability judgment tasks, written and oral production tasks have been used to investigate word order, and a comparison of the two shows that there may be a difference between perception and production. Table 3.4 shows the percentage of VS or SV order used in the written production task results of three studies:

Table 3.4 Written Production: Percent Word Order Produced <sup>40</sup>

STUDY	TASK TYPE	PARTICIPANTS/ LOCATION	UNACCUSATIVE		UNERGATIVE	
			VS	?SV	SV	VS
Mayoral Hernández (2006)	Mostly Written Corpora	CREA Corpus (includes all countries)	45.6% (62/136)	54.4% (74/136)	78.5% (117/149)	21.5% (32/149)
Hertel (2000, 2003)	Written contextual- ized (broad focus)	18 Spanish- dominant bilinguals in the US	39.62% (21/53)	60.38% (32/53)	93.42% (71/76)	6.58% (5/76)
Hertel (2000, 2003)	Written contextual- ized (narrow focus)	18 Spanish- dominant bilinguals in the US	35.4% (17/48)	64.6% (31/48)	69.4% (25/36)	30.56% (11/36)

Table 3.4 shows that, unexpectedly, SV order is produced more than VS order for unaccusatives in corpus data (where focus is not accounted for) and in contextualized production tasks in both broad and narrow focus. This is very different from what we saw in Tables 3.2 and 3.3 for acceptability judgment tasks, where speakers preferred VS order for unaccusatives in both broad and narrow focus. It is also surprising because SV order, rather than VS order, is preferred for unergative verbs in narrow focus. A study of second language learners of Spanish using a contextualized judgment task (Lozano, 2006a) and a study of heritage speakers of Spanish with a written production task (Zapata et al., 2005) show that such speakers in Spanish-English contact

<sup>40</sup> Hertel (2000, 2003) figures are based on group data.

have optional preferences with unergatives in narrow focus. It may be that the native speakers in Hertel's (2000, 2003) studies in Table 3.4 have undergone L1 attrition, although the corpus data from native speakers in Mayoral Hernández's (2006) study show similar patterns. Table 3.5 indicates that oral production tasks with no focus contexts show comparable, but mixed results.

Table 3.5 Oral Production Tasks: Percent Word Order Produced

STUDY	TASK TYPE	PARTICIPANTS/ LOCATION	UNACCUSATIVE		UNERGATIVE	
			VS	?SV	SV	?VS
Hertel & Pérez-Leroux (1998)	Retelling picture book	5 Spanish-dominant bilinguals in the U.S.	48.5% (16/33)	51.5% (17/33)	100% (38/38)	0% (0/38)
Hinch Nava (2007)	Drawing-based narration	10 Spanish speakers in Mexico and 3 in the U.S.	70% (46/65)	29.2% (19/65)	82.4% (14/17)	17.6% (3/17)

Table 3.5 shows that the Spanish-dominant bilinguals in Hertel and Pérez-Leroux's (1998) study produce more SV order with unaccusative verbs, similar to what was reported for the written production tasks. These Spanish-dominant bilinguals also produce more SV with unaccusatives than the monolingual speakers in Hinch Nava's (2007) study. This again points to the idea that these Spanish-dominant bilinguals living in the U.S. may be undergoing L1 attrition. Other variables often unaccounted for in these production studies may also be influencing the results (e.g. verb types along the Split Intransitivity Hierarchy, subject length, animacy, definiteness, information status, focus, and the location of adverbial phrases). Studies of word order production that control for these variables are needed to see if contact with English is driving an expansion of SV order for these Spanish-dominant bilinguals or if there is a word order difference in perception and production for native Spanish speakers.

### 3.1.4.3 Summary of Experimental Studies

These experimental studies have made important contributions to the study of intransitive verbs. They show that intransitive verbs can be classified by underlying lexico-semantic notions

into unaccusatives and unergatives because these verb types correlate with different word orders. These studies also show that the broad or narrow scope of the focus (and not only the new or old information status), can predict the different word orders. Using such experiments to study word order is advantageous because experimenters can successfully control for different information types (i.e. new or old), focus types (presentational or contrastive), and the scope of the focus (broad or narrow). These experiments also allow for an assessment of discourse factors in a more objective way than what has been done in most functionalist studies.

The experimental studies of word order and split-intransitivity also have their limitations. First, most of the studies reported here only analyze a very small number of tokens of unaccusative or unergative verbs and involve only a small number of participants. The participants in these experimental studies often include native speakers of Spanish who may or may not actually be monolinguals. These native speakers are often students at a university in the U.S. or U.K. and are typically Spanish-dominant bilinguals with a significantly high proficiency in English. The experiments in these studies have also primarily taken place in the U.S. or U.K., where the dominant language of the community is English, where there is constant contact with English, and where there is a constant need to use English, so we may actually be looking at the results of L1 attrition for some of these native speakers. Another problem with these experimental studies is that Spanish dialectal variation is not controlled well. These studies do often omit speakers of Caribbean dialects for their well known use of preverbal subjects; however, the participants typically include an unbalanced mix of Spanish speakers from a number of different Spanish dialects. As we saw in Chapter 2, there is dialectal variation in split-intransitivity in Italian and German, and it is likely that there is also dialectal variation for split-intransitivity in Spanish. Other limitations of these studies relate to the lack of accounting for

variables that influence word order, including the categories of the Split Intransitivity Hierarchy, subject length, animacy, definiteness, and the position of adverbial phrases. While these experiments allow for the possibility of controlling the many variables that are reported in functionalist studies to influence word order, these variables are often not accounted for.

In this section, we have seen the results of experimental studies of word order and split intransitivity in Spanish. When sentences are judged out of context, speakers accept theoretically non-target word orders at high rates. When judged in context, speakers accept the same forms at lower rates than when out of context, and the results support a distinction between unaccusative and unergative verbs and between broad and narrow focus. In production, however, speakers show an unusually strong preference for SV order with unaccusative verbs in broad focus and SV order with unergatives in narrow focus, contrary to expectations. Like the functionalist studies, the experimental studies also have a number of limitations. Each type of study possesses advantages and disadvantages, but both methods are complementary and support the observation that new-information laden subjects of intransitives tend to be postverbal. These studies also raise a number of questions that need to be investigated further.

### **3.2 Syntax-Discourse Interface and Research Questions**

To summarize to this point, crosslinguistic studies show that the phenomena at the syntax-discourse interface display more deviations from monolingual norms in Spanish language contact than the syntax-lexicon interface, and the same may be true in Mexican Spanish. The syntax-discourse interface in Spanish is regulated by discourse-pragmatic concepts based on the information status of parts of a sentence which range along a continuum of ‘identifiableness’ in discourse. Spanish speakers have various means (such as word order and the use of clefts) by which ‘new’ or ‘unpredictable’ information may be focused for the hearer. Functionalist studies

show that the identifiableness of discourse referents, the position of adverbial phrases, the definiteness of subject NPs, and the heaviness of subject NPs affect word order in Spanish. Experimental studies using acceptability judgment tasks show that native speakers prefer VS order for unaccusative verbs and SV order for unergative verbs in broad focus, while VS order is preferred for both unergatives and unaccusatives in narrow focus. These experimental studies also show that there may be word order differences between perception and production.

The preceding review shows a need for improved studies of split-intransitivity and word order in Spanish. More experimental studies of native Spanish speakers are needed that control for the variables observed by both functionalist and experimental studies. Oral production studies that account for both the Split Intransitivity Hierarchy and the broad/narrow focus distinction have not been conducted. Studies of word order are also needed that investigate the difference between perception and production (or between acceptability judgment tasks and production tasks). Experiments that test native speakers in a Spanish-dominant community while controlling for dialectal variation would also expand our knowledge of word order and split-intransitivity. The above concerns motivate the following research questions:

(44) Research Questions

- a. Research Question 1: Is there word order variation at the syntax-discourse interface in Mexican Spanish?
- b. Research Question 2: Does the syntax-discourse interface show more variation than the syntax-lexicon interface for native speakers of Spanish?
- c. Research Question 3: If there is variation at the syntax-discourse interface, what is its source: (a) the inherent complexity of the interface, or (b) individual factors?

- d. Research Question 4: Is there a difference between perception and production in word order preferences?
- i. Do we see a difference between perception and production at the syntax-discourse interface and at the syntax-lexicon interface?
  - ii. Do production tasks support the unaccusative/unergative distinction, the Split Intransitivity Hierarchy, and the broad/narrow focus distinction?

For Research Question #1, word order variation at the syntax-discourse interface can be identified as any SV order because VS order is the expected order for verbs in narrow focus. The motivation behind this question is that since a number of studies show that the syntax-discourse interface is crosslinguistically more vulnerable to contact-induced change than the syntax-lexicon interface (e.g. Grinstead, 2004; Iverson & Rothman, 2008; Lozano, 2006a; Montrul, 2005b; Sorace & Filiaci, 2006; Sorace et al., 2009; Tsimpli et al., 2004; Valenzuela, 2006), and since such changes in language-contact are often related to the variation already present in monolingual Spanish (Hinch Nava, 2007; Lapidus & Otheguy, 2005; Silva-Corvalán, 1986), we would also expect to see indications of the same word order variation in Mexican Spanish.

To answer Research Question 2, word order preferences under broad presentational focus will be compared with the word order preferences under narrow presentational focus. If the syntax-discourse interface shows more variation than the syntax-lexicon interface (e.g. through optionality in narrow focus), then we would find evidence that supports studies of the syntax-discourse interface in other languages and the ‘Interface Vulnerability Hypothesis’ discussed in Chapter 1. This should be particularly evident for unergative verb classes in narrow focus, where studies of contact Spanish show optionality (Lozano, 2006a; Zapata et al., 2005). In addition, an

examination of the different verb categories along the Split Intransitivity Hierarchy will indicate if the variation has its origin in the syntax-lexicon interface or in the syntax-discourse interface.

The reason for asking Research Question #3 is to contribute to the research of the various possible sources for the variation previously found at this interface (see Guijarro-Fuentes & Marinis, 2007; Hulk & Müller, 2000; Kraš, 2005; Lapidus & Otheguy, 2005; Lozano, 2006a, 2006b; Müller & Hulk, 2001; Rothman, 2008; Serratrice et al., 2004; Silva-Corvalán, 1986; Sorace, 2005, p. 71; Sorace et al., 2009; Tsimpli et al., 2004). If there is variation at the syntax-discourse interface that is due to the inherent complexity of the interface, then we would expect unaccusative verbs, which are often considered more ‘presentational’ in nature, to show more VS order than unergative verbs in narrow focus. We would also expect to see that several discourse-related factors such as definiteness, subject heaviness, and the position of adverbial phrases to particularly affect the word orders in narrow focus. We will know if individual variables explain the variation by first collecting information on the participants in the study and then by comparing the word orders from groups of the speakers with different individual variables (e.g. gender, hometown population, etc). If the word order variation correlates with an individual factor, then we will know that at factor may be the source of the variation. When two groups of speakers are compared, and if there is more variation in one group than in the other, we may conclude that, given the right motivation, the variation has expanded from one group to the other.

The basis for asking Research Question #4 is that, as we saw in Section 3.1.4, native Spanish speakers have shown to unexpectedly prefer SV order with unaccusative verbs in oral and written production, but not in acceptability judgment tasks. If this is true, then the unaccusative/unergative distinction is a distinction held for word order only in the perception of the speaker, but not in production. The Split Intransitivity Hierarchy may also reveal differences

in perception and production and needs to be investigated with both acceptability judgment tasks and production tasks. Additionally, because unergatives and unaccusatives are shown to unexpectedly prefer SV order in narrow and broad focus production (see Tables 3.4 and 3.5), it may also be that the broad/narrow focus distinction is true only for the perception of the speaker. A production task is needed to further investigate whether or not the unaccusative/unergative distinction and the broad/narrow focus distinction are important for production as well as perception. We may answer Research Question 4 by administering a contextualized acceptability judgment task with a contextualized production task and comparing the results.

The methods used to conduct the present study of word order at the syntax-lexicon and syntax-discourse interfaces will be described in Chapters 4 and 5.



## Chapter 4

### Language-External Variables

#### 4.0 Language-External Variables

In order to accurately study the syntactic interfaces, it is important to not only investigate the language-internal variables outlined in Chapters 2 and 3, but also to investigate the language-external variables or the individual characteristics of speakers and the communities in which they live (Kraš, 2005, 2006; Sorace et al., 2009). The present study does not intend to be a sociolinguistic study, but it does seek to monitor participants' individual variables in order to observe trends in how they may relate to interface variation. This study improves upon previous studies of Spanish split-intransitivity by more fully accounting for the possible effects of language-external factors on word order.

To this end, 32 native speakers of Spanish living in the state of Guanajuato, Mexico, were chosen to participate in a study that included completing an acceptability judgment task, an oral production task, and a language history questionnaire. This chapter will describe the sociolinguistic context of the participants of the study and report the results of their language history questionnaires (see Appendix A: Language History Questionnaire).<sup>41</sup> We begin the chapter by identifying the dialect of Mexican Spanish acquired by the participants, their gender, their educational backgrounds, and their hometown populations (4.1). We will then discuss the degree of contact that these participants have with indigenous languages, foreign languages, and with the Spanish of cyclical migrant workers (4.2). We will end the chapter by expanding on the research questions from previous chapters (4.3).

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<sup>41</sup> Other instruments, as well as the procedures used to administer the instruments, will be described in Chapter 5.

## **4.1 Dialect of Participants**

Previous studies of split-intransitivity and focus in Spanish have tended to use a mix of native Spanish speakers from several countries and various Spanish dialects, but the present study only investigates the Spanish of native speakers residing in the state of Guanajuato, Mexico. Dialectal variation has been found to occur with split-intransitivity in German and Italian (Cennamo & Sorace, 2007; Keller & Sorace, 2003; Kinder, 2004), and in some Italian dialects, split-intransitivity can even vary drastically from community to community (Tuttle, 1986). The same might also be true for Spanish, but possible dialectal variation in Spanish split-intransitivity has received very little attention as of yet. As discussed in the previous chapter, dialectal variation has been reported in Spanish for constructions used to focus constituents (Gutiérrez-Bravo, 2002, 2006; Lipski, 1994; Toribio, 2002), and this also should be investigated further. Because dialectal variation is possible with both the syntax-lexicon interface and the syntax-discourse interface, it is important that we consider this important language-external variable. We will now describe the Bajío variety of Mexican Spanish spoken by the participants in this study, as well as their gender, their educational backgrounds, and their hometowns.

### **4.1.1 The Bajío Variety of Mexican Spanish**

The effects of dialectal variation are minimized in this study by choosing the state of Guanajuato, Mexico as the location for the study. The choice of location within Mexico is important because Mexico is a country with many varieties of Spanish. It is not enough to simply limit the study to speakers of Mexican Spanish, because there are different dialects of Mexican Spanish in northern Mexico (from Durango northward), southern Mexico (including the Yucatan, Tabasco, Chiapas, and Oaxaca), and dialects on the Gulf and Pacific coasts of Mexico (including from Campeche to Tamaulipas on the east coast and from Guerrero northward on the

west coast) (see Boyd-Bowman, 1960; Lipski, 1994; Lope Blanch, 1968, 2004). Studies of split-intransitivity and word order in Mexican Spanish have been conducted previously (e.g. Hinch Nava, 2007; Kahane & Kahane, 1950), but they do not control for the different varieties of Mexican Spanish. In the present study, we investigate only the Bajío variety of Mexican Spanish spoken mainly in the state of Guanajuato, Mexico.

Participants living in and near the city of Irapuato (in the state of Guanajuato) were selected for this study. Irapuato is located near the center of the state and is 197 miles (317 km) northwest of Mexico City. According to the 2005 Mexican census, the state of Guanajuato had a population of 4,893,812 inhabitants (INEGI, 2005). The people of this state speak the ‘central highlands’ dialect of Mexican Spanish (Boyd-Bowman, 1960; Canfield, 1961; Lipski, 1994; Lope Blanch, 1968, 2004). The central highlands dialect of Mexico can be divided into five zones: (i) the North, including the states of Zacatecas, Aguascalientes, San Luis Potosí, and part of Hidalgo; (ii) the Valley of Mexico, comprised of the Distrito Federal, México, and the rest of Hidalgo; (iii) the East, which includes Puebla, Tlaxcala, and the highlands of Veracruz; (iv) the West, comprised of Jalisco, Colima, and Nayarit; and (v) the Bajío, which includes Querétaro, Michoacán, part of Jalisco, and Guanajuato (Boyd-Bowman, 1960). The variety of Spanish spoken in Guanajuato is centrally located in the area of the central highlands dialect and is relatively insulated from the most dissimilar varieties of Mexican Spanish. Figure 4.1 shows that the state of Guanajuato is located in the Bajío zone of the central highlands dialect.



Figure 4.1 Approximate Zones of the Central Highlands Dialect of Mexican Spanish.<sup>42</sup>

Boyd-Bowman (1960) studies the urban city of Guanajuato and the rural town of Romita, both in the state of Guanajuato, and identifies a number of characteristics of the Spanish spoken in the Bajío region. He observes that the speech of Guanajuato is characterized phonologically by the conservation of syllable-final /-s/ (e.g., *las casas* ‘the houses’ is [las.ká.sas], not [lah.ká.sah]), the alveolar /n/ (e.g. *bien* ‘good’ is [bjen]), and the velar /x/ (e.g. *hoja* ‘leaf’ is [ó.xa]). There is also occasional assibilation of word-final /-r/ (Matus-Mendoza, 2004, 2005). Boyd-Bowman observes that there is diphthongization of hiatus (e.g. [pe.ór] becomes [pjór]) and

<sup>42</sup> This map is based on Boyd-Bowman’s (1960) description. The dialect zones are subject to debate (Lipski, 1994) and are only estimated here for convenience. The map of Mexican states is from the Instituto Nacional de Estadísticas y Geografía of Mexico (alterations mine). Retrieved from [http://cuentame.inegi.gob.mx/mapas/pdf/nacional/div\\_territorial/nacionalestados.pdf](http://cuentame.inegi.gob.mx/mapas/pdf/nacional/div_territorial/nacionalestados.pdf)

closure and near deletion of final /-e/ after palatal consonants (e.g. [nó.tʃe] becomes [nó.tʃi]) (p. 326). In Bajío Spanish, there is a loss of post-tonic vowels in contact with /s/ (e.g. *López* [ló.pes] becomes [ló.ps] and *choques* [tʃó.kes] ‘crashes’ becomes [tʃó.ks]) (p. 35). As in other varieties of Spanish the speakers in this dialect regularize verbal paradigms and agreement by analogy (e.g. *venistes* ‘you came’ instead of *viniste*) (p. 179).

Although the Spanish of Guanajuato and the Spanish of Mexico City are part of the same central highlands dialect of Mexican Spanish, Boyd-Bowman (1960) lists five phonological differences between the two. In Guanajuato, (i) initial vowels before nasals are rarely nasalized (e.g. *injusto* ‘unjust’ is rarely [ĩn.xús.to]), (ii) intervocalic /d/ is weakened or deleted more frequently (e.g. *nada* ‘nothing’ is pronounced [ná:]), (iii) there is more frequent aspiration of sounds derived from the Latin /f-/ (e.g. *hervir* ‘to boil’ is [her.βír] rather than [er.βír]), (iv) there is some closure of unstressed vowels (e.g. *López* may be pronounced [ló.pis] rather than [ló.pes]), and (v) there is nasalization of phrase-final /s/ as in Guadalajara (e.g. *pues* ‘well’ is pronounced “*puesn*” [pweʃ̃]) (pp. 34-65, 327). Many of the differences that Boyd-Bowman lists between Guanajuato and Mexico City are based on features of the rural areas of Guanajuato that are not widespread in the cities. Mexico City does influence the speech of Guanajuato, and this has been seen in the spread of the assibilation of /-r/ from Mexico City to the urban areas of Guanajuato (Matus-Mendoza, 2004, 2005). While this is true, we do find that Bajío Mexican Spanish is somewhat different from the variety of Spanish spoken in Mexico City.

The Bajío variety of Mexican Spanish is suitable for the present study of word order because non-inverted word order in questions has not been found to occur in Guanajuato (Boyd-Bowman, 1960). This is important to know because Caribbean varieties of Spanish use SV order in questions where other dialects of Spanish prefer VS order (see Alba, 2004; Lipski, 1977,

1994; Ordóñez & Olarrea, 2006; Suñer, 1994; Zagona, 2002). This is illustrated with the following three examples of non-inverted subjects in Caribbean Spanish:

(1) SV order with Pronoun (Lipski, 1994, p. 335)

¿Qué tú quieres? (cf. ¿Qué quieres tú?)

What you want

‘What do you want?’

(2) SV order with Lexical Subject (Suñer, 1994, p. 352)<sup>43</sup>

Yo no sé qué la muchacha quería. (cf. ...qué quería la muchacha.)

I no know what the girl wanted

‘I do not know what the girl wanted.’

(3) SV order with Infinitive (Lipski, 1994, p. 215)

Antes de yo salir de mi país (cf. Antes de salir yo de mi país)

Before I to leave from my country

‘Before I left my country’

These examples show that SV order occurs in Caribbean Spanish where VS order would be expected. This is known to occur in Cuba, Puerto Rico, the Dominican Republic, and to a lesser extent in Panama, Colombia, Ecuador, and Venezuela (Lipski, 1977, 1994; Zagona, 2002).<sup>44</sup> Mexican Spanish is not reported to use non-inverted questions as in example (1), but it does use SV order with infinitives as shown in example (3), and this occurs to a lesser extent than in the

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<sup>43</sup> Although lexical subjects are possible for some in such sentences, the tendency is for SV order to occur with pronominal subjects (see Lipski, 1977; Ordóñez & Olarrea, 2006; Zagona, 2002)

<sup>44</sup> However, it may be that the word order associated with split-intransitivity in Caribbean Spanish is not so different from that of other dialects of Spanish. Morales de Walters’ (1982, 2003) studies of word order in Puerto Rican Spanish show that although SV order is used more in Caribbean Spanish than other dialects, VS order is still used in Puerto Rican Spanish depending on the subject NP’s definiteness, the location of adverbial phrases, and whether or not the verb is unaccusative or unergative. Other work on word order in Caribbean Spanish by Ortiz López (2009) shows that only SV order is used in the Caribbean. Further studies of unaccusativity in Caribbean Spanish are needed that account for all of the variables that will be shown to be important in the present study.

Caribbean (see De Mello, 1995; Lipski, 2008). By using only the variety of Spanish spoken in the state of Guanajuato, we reduce the possibility of this and other confounding variables.<sup>45</sup>

#### 4.1.2 Language History Questionnaire

Because knowing only where participants are currently living may not ascertain the variety of Spanish that they speak, all participants in the study completed a language history questionnaire (see Appendix A: Language History Questionnaire). Using a language history questionnaire ensures that only speakers of Bajío Mexican Spanish are included in the analysis. The language history questionnaire used in this study collected information about the variety of Spanish acquired by the participants, the educational backgrounds of the participants, and the hometowns of the participants.

In order to ascertain the dialect of Spanish to which the participants were exposed during their acquisition of Spanish, each of the participants gave information about their parents and community. The following question inquired about their parents' variety of Spanish:

(4) ¿Dónde nacieron sus padres?    padre \_\_\_\_\_    madre \_\_\_\_\_  
‘Where were your parents born? father \_\_\_\_\_ mother \_\_\_\_\_’

It was thought that the birthplace of the participants' parents would inform us somewhat as to the variety of Mexican Spanish that their parents speak. This question was asked because the parents' variety of Spanish should be a strong indicator of the variety of Spanish acquired by the participants. In addition to finding out about the input supplied by the parents, a question was

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<sup>45</sup> The coastal varieties of Mexican Spanish share many phonological similarities with Caribbean Spanish and may also need to be accounted for in a study of Spanish word order; however, the non-inverted word order in questions has not been attested in coastal Mexican Spanish. It is important to note that the similarities with Caribbean Spanish occur primarily in the lower socioeconomic classes of the Mexican coast (Lipski, 1994), and that while other Spanish dialects also share phonological similarities with Caribbean Spanish, they do so without also sharing its preference for non-inverted word order in questions (Lipski, 1977). In any case, because Guanajuato is located inland in central Mexico, the influence of coastal varieties of Mexican Spanish is minimized.

asked to find out about the dialect of Spanish input provided by each of the communities in which the participants have lived:

(5) Haga una lista de todos los lugares dónde ha vivido e indique cuántos años ha vivido en cada lugar.

‘Make a list of all of the places where you have lived and indicate how many years you have lived in each place.’

Along with this question, participants completed a chart to list all of the cities in which they have lived from birth to the present, giving the length of residence for each location. Figure 4.2 shows the locations where the participants of this study have spent most of their life.

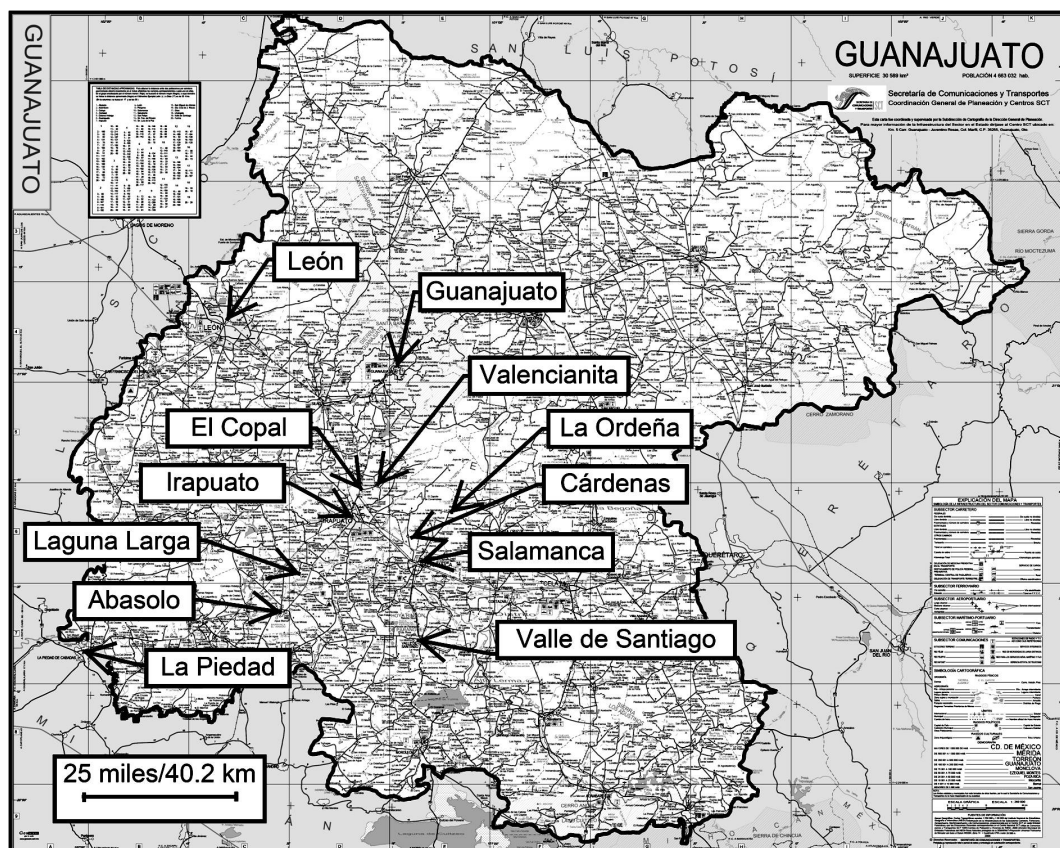


Figure 4.2 Participants' Residence of Longest Duration in the State of Guanajuato<sup>46</sup>

<sup>46</sup> Map from the Secretaría de Comunicaciones y Transportes: Coordinación General de Planeación y Centros SCT of the Mexican government (alterations mine). Retrieve from <http://www.sct.gob.mx/uploads/media/Guanajuato.pdf>



Figure 4.2 shows that all of the participants of this study have spent the majority of their life within less than 100 miles of each other in the west-central part of the state of Guanajuato, in the Bajío zone of the central highlands dialect of Mexican Spanish. While it would be ideal to have an even closer group, previous studies of split-intransitivity and word order in Spanish mix participants from several Spanish speaking countries, and the present study represents a significant improvement. Table 4.1 lists the participants' gender, age, their parents' birthplaces, where participants have lived the longest, and the percent of their life lived in the Bajío zone.

Table 4.1 Dialect Acquisition: Family and Residence

PARTICIPANT #	SEX	AGE	RESIDENCE OF LONGEST DURATION	% OF LIFE IN BAJÍO	FATHER'S BIRTHPLACE	MOTHER'S BIRTHPLACE
1	F	21	Salamanca, Gto.	100%	Coñada de Ortega, Gto	Salamanca, Gto.
2	F	22	La Ordeña, Gto.	100%	La Ordeña, Gto.	Xoconoxtle, Gto.
3	F	20	Cárdenas, Gto.	100%	Salamanca, Gto.	Salamanca, Gto.
4	F	19	Irapuato, Gto.	100%	Abasolo, Gto.	Abasolo, Gto.
5	F	19	Irapuato, Gto.	100%	Irapuato, Gto.	Valle de Santiago, Gto.
6	F	20	Guanajuato, Gto.	100%	El Coyote, Gto.	El Coyote, Gto
7	F	19	Irapuato, Gto.	100%	Irapuato, Gto.	Aguascalientes
8	F	19	Irapuato, Gto.	100%	Jalisco	Guanajuato, Gto.
9	F	21	Irapuato, Gto.	100%	Irapuato, Gto.	Mexico D.F.
10	F	20	Irapuato, Gto.	100%	Irapuato, Gto.	Irapuato, Gto.
11	F	21	Irapuato, Gto.	100%	Guanajuato, Gto.	Guanajuto, Gto.
12	F	21	Irapuato, Gto.	100%	Silao, Gto.	Capulín de Bustos, Gto.
13	F	19	Salamanca, Gto.	89.5%	Tampico, Tam.	Mexico D.F.
14	F	26	Irapuato, Gto.	94.2%	Irapuato, Gto.	Abasolo, Gto.
15	M	19	Abasolo, Gto.	100%	Abasolo, Gto.	Abasolo, Gto.
16	M	21	Laguna Larga, Gto.	100%	Latinaja, Gto.	Laguna Larga, Gto
17	M	19	Abasolo, Gto.	100%	Abasolo, Gto.	Abasolo, Gto.
18	M	21	Valle de Santiago, Gto.	100%	Valle de Santiago, Gto.	Valle de Santiago, Gto.
19	M	20	Irapuato, Gto.	100%	Irapuato, Gto.	Irapuato, Gto.
20	M	19	Irapuato, Gto.	100%	Periban de Ramos, Mich.	Periban de Ramos, Mich.
21	M	20	Irapuato, Gto.	100%	Irapuato, Gto.	Irapuato, Gto.
22	M	19	Valencianita, Gto.	100%	Peñuelas, Gto.	Valencianita, Gto.

23	M	21	Irapuato, Gto.	100%	Irapuato, Gto.	Irapuato, Gto.
24	M	19	El Copal, Gto.	100%	Irapuato, Gto.	Irapuato, Gto.
25	M	19	León, Gto.	100%	León, Gto.	León, Gto.
26	M	18	Abasolo, Gto.	100%	Abasolo, Gto.	Abasolo, Gto.
27	M	19	Irapuato, Gto.	100%	Irapuato, Gto.	Irapuato, Gto.
28	M	19	Irapuato, Gto.	100%	Irapuato, Gto.	Irapuato, Gto.
29	M	19	La Piedad, Mich.	100%	La Piedad, Mich.	La Piedad, Mich.
30	M	19	Abasolo, Gto.	100%	Sonora	Irapuato, Gto.
31	M	23	Irapuato, Gto.	100%	Irapuato, Gto.	Celaya, Gto.
32	M	19	Abasolo, Gto.	100%	Abasolo, Gto.	Abasolo, Gto.

First, Table 4.1 shows that there were 14 women and 18 men in the study and that all come from the same generation. Some studies of word order in Spanish include speakers from a wide age range that spans multiple generations, but the ages of the participants in this study only range from 18-26 years, with 20.0 years being the average age. Another woman who participated in the study was excluded from the analysis because she was 37 years old, far above average.

Table 4.1 also shows that the 32 participants in this study had the opportunity to acquire the central highlands dialect of Mexican Spanish from parental input.<sup>47</sup> Another participant was omitted from the study for not having at least one parent born in the central highlands dialect region.<sup>48</sup> Some participants have one parent who was born in another dialect region, but these had moved to reside in Guanajuato and had been there for at about 20 years at the time of this study. Table 4.1 shows that all of the participants had the opportunity to acquire Bajío Mexican Spanish from their community because they spent most of their life in places where Bajío

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<sup>47</sup>Preliminary studies of L1 Spanish acquisition show that the word order patterns related to unaccusativity begin to emerge before age 2 and that the discourse functions related to focus emerge after age 2, although errors appear to continue to occur (see Bel, 2003; Montrul, 2004c). It is likely that, just as the non-prototypical uses of the subjunctive are not acquired until between ages 5-8 (Blake, 1983; Montrul, 2004c), some non-prototypical unaccusative verbs are not acquired until later in childhood as well, but more studies are needed of the acquisition of unaccusativity in L1 Spanish to know for sure. Because of this, and because there appears to be no critical period restriction on the native-like acquisition of the lexico-semantics related to aspect (Montrul, 2004c; Montrul & Slabakova, 2003), both parental and community input are important to consider.

<sup>48</sup> Both of Speaker #33's parents were born in Tampico, Tamaulipas, Mexico. He was excluded from this study because his early acquisition of Spanish would have included substantial input from his two parents who were from Tampico.

Mexican Spanish is spoken. Participants who would have spent the majority of their life in another region of Mexico would have been excluded from the analysis.

It is important to take into consideration the possible effects of contact between different dialects of Spanish in Mexico. Dialectal contact and accommodation can occur where the populations of the two dialects are in close proximity, and such is the case to a degree for Spanish dialects in New York (Otheguy & Zentella, 2007; Otheguy, Zentella & Livert, 2007).<sup>49</sup> Although the participants in the present study are from the state of Guanajuato where they are relatively isolated from other dialects of Mexican Spanish, the language history questionnaire was designed to investigate the degree of contact that individual speakers may have with other dialects of Spanish. Participants answered questions about where most of their immediate family lives today and about the origin of their classmates, spouse (or boyfriend or girlfriend), closest friends, and coworkers. To know where participants' family members now live, participants answered the following question:

(6) ¿Dónde vive la mayoría de sus familiares (padres, hermanos) hoy en día?

‘Where do the majority of your family members (parents, siblings) live today?’

To find out about the dialects spoken by the members of their other social networks, participants answered these questions:

(7) ¿Qué dialecto de español habla...

- a. su esposo(a) o novia(o)?
- b. la mayoría de sus amigos más cercanos?
- c. la mayoría de sus compañeros de clase?
- d. la mayoría de sus compañeros de trabajo?

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<sup>49</sup> Proximity is not sufficient cause for accommodation to take place, and there can be hesitancy to accommodate to the more dominant dialect due to linguistic attitudes. For example, Nicaraguans in Miami resist accommodation to the Spanish spoken by the larger Cuban population there (Lipski, 2008).

‘What dialect of Spanish is spoken by your ...

- a. Husband (wife) or boyfriend (girlfriend)?
- b. The majority of your closest friends?
- c. The majority of your classmates?
- d. The majority of your coworkers?’

Most participants did not know how to answer this question, because *dialecto* ‘dialect’ is often used in Mexican Spanish to refer to an indigenous language, so they were asked instead to write the hometowns of the persons listed. Table 4.2 shows that the family members, friends, classmates, and coworkers of almost all speakers are from the state of Guanajuato.

Table 4.2 Dialect Maintenance: Current Social Networks

PARTICIPANT #	CURRENT RESIDENCE OF MOST FAMILY MEMBERS	ORIGIN OF SPOUSE/ GIRLFRIEND/ BOYFRIEND	ORIGIN OF MAJORITY OF CLOSEST FRIENDS	ORIGIN OF MAJORITY OF CLASSMATES	ORIGIN OF MAJORITY OF COWORKERS
1	Salamanca, Gto.	Salamanca, Gto.	Irapuato, Gto.	Irapuato, Gto. Salamanca, Gto.	Salamanca, Gto.
2	La Ordeña, Gto.	N/A	Salamanca, Gto.	Irapuato, Gto.	Irapuato, Gto.
3	Salamanca, Gto.	Salamanca, Gto. (in CA)	Salamanca, Gto.	Irapuato, Gto.	N/A
4	Irapuato, Gto.	N/A	Irapuato, Gto.	Abasolo, Gto.	N/A
5	Irapuato, Gto.	N/A	Irapuato, Gto.	Abasolo, Gto.	N/A
6	Coyote, Gto	León, Gto.	Gto, Gto; Salamanca, Gto	Salamanca, Gto., Irapuato, Gto.	Guanajuato, Gto
7	Irapuato, Gto.	N/A	Irapuato, Gto.	Irapuato, Gto.	N/A
8	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	N/A
9	Irapuato, Gto.	N/A	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.
10	Irapuato, Gto.	N/A	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.
11	Irapuato, Gto/ Guanajuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.
12	Irapuato, Gto.	Irapuato, Gto.	León, Gto.	Guanajuato, Gto.	Guanajuato, Gto.
13	Mexico D. F.	Irapuato, Gto.	Salamanca, Gto.	Guanajuato, Gto.	N/A
14	Irapuato, Gto.	Salamanca, Gto.	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.
15	Abasolo, Gto.	Abasolo, Gto.	Abasolo, Gto.	Irapuato, Gto.	N/A
16	Irapuato, Gto.	N/A	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.
17	Abasolo, Gto.	Abasolo, Gto.	Abasolo, Gto.	Irapuato, Gto.	Irapuato, Gto.

18	Guanajato, Gto.	Valle De Santiago, Gto.	Valle De Santiago, Gto.	Abasolo, Gto.	Irapuato, Gto.
19	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	N/A
20	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.
21	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	N/A
22	Valencianita, Gto.	N/A	Valencianita, Gto.	Irapuato, Gto.	N/A
23	Irapuato, Gto.	N/A	Irapuato, Gto.	Irapuato, Gto.	N/A
24	Irapuato, Gto.	Veracruz	Irapuato, Gto.	Irapuato, Gto.	N/A
25	León, Gto.	León, Gto.	León, Gto.	Irapuato, Gto.	León, Gto.
26	Mexico	Abasolo, Gto.	Irapuato, Gto.	Irapuato, Gto.	Abasolo, Gto.
27	Gto., Qro., Tam.	N/A	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.
28	Irapuato, Gto.	N/A	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.
29	La Piedad, Mich.	N/A	La Piedad, Mich.	Irapuato, Gto.	N/A
30	Abasolo, Gto.	Abasolo, Gto.	Irapuato, Gto.	Irapuato, Gto.	Abasolo, Gto.
31	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	Irapuato, Gto.	N/A
32	Abasolo, Gto./ La Piedad, Mich.	Cuevaman, Gto	Abasolo, Gto. Irapuato Gto	Irapuato, Gto.	Irapuato, Gto.

From Table 4.2, we see that every participant is influenced heavily by the Bajío Spanish of Guanajuato and that they have little contact with speakers of other Mexican dialects. Three speakers report that most of their family members live outside of the Bajío (#13, #26, #27), and one speaker reports having a girlfriend from another state (#24), but these speakers all report that the majority of their closest friends, classmates, and coworkers are from where Bajío Mexican Spanish is spoken. A person with a pattern of multiple social networks from a dialect outside of the Bajío zone of Mexican Spanish would have been excluded from the analysis. Eliminating possible contact with other dialects reduces the influence that such contact might have on interface variation. Put together, Table 4.1 and Table 4.2 indicate that all of the participants had ample opportunity to both acquire and maintain the Bajío variety of Mexican Spanish.

While all of the speakers have been able to acquire and maintain Bajío Mexican Spanish, there are differences in the speech of the rural and urban populations in the state that also need to be taken into consideration. The differences between the urban and rural varieties of Spanish in the state of Guanajuato are such that people in the city of Irapuato can easily identify rural

communities nearby where the speech is significantly different and they can list some of the archaic verbal forms that are used in the rural areas. Many archaic forms of Spanish are reported to occur in the rural areas of Guanajuato, and examples of these are listed here:

(8) Rural Spanish of Guanajuato (Boyd-Bowman, 1960, pp. 31, 179, 190):

- a. *mesmo* for *mismo* ‘same’
- b. *semos* for *somos* ‘we are’
- c. *vido* for *vio* ‘he/she saw’
- d. *vide* for *vi* ‘I saw’
- e. *onde* for *dónde* ‘where’, *adónde* ‘to where’, or *de dónde* ‘from where’

Rural Spanish forms like these can sometimes be heard in the urban areas because the trend has been for rural Mexicans to move to urban areas in the state to improve their standard of living (see Lipski, 2008; Matus-Mendoza, 2004). When rural *Guanajuatenses* do move to the cities, they increase their use of the prestigious urban forms. The assibilated /-r/, for example, which is the prestigious urban variant from Mexico City, is used more by rural Mexicans who have recently moved to the urban areas of Guanajuato (Matus-Mendoza, 2004). The language history questionnaire in the present study reveals the locations where participants have lived the longest, giving an indication of whether or not they speak an urban or rural variety of Bajío Spanish. The populations of where the participants have lived the longest are listed in Table 4.3.

Table 4.3 Hometown Population<sup>50</sup>

RESIDENCE WHERE MOST OF LIFE WAS SPENT	2005 POPULATION	DISTANCE TO EL COPAL, MEXICO	NUMBER OF PARTICIPANTS
León, Gto.	1,137,465	41.7 mi. (67.1 km)	1
Irapuato, Gto.	342,561	7.5 mi. (12.1 km)	15
Salamanca, Gto.	143,838	17.1 mi. (27.5 km)	3
La Piedad, Mich.	78,361	66.1 mi. (106.4 km)	1
Guanajuato, Gto	70,798	32.7 mi. (52.6 km)	1
Valle de Santiago, Gto.	62,121	29.8 mi. (47.9 km)	1
Abasolo, Gto.	25,386	27.0 mi. (43.4 km)	5
Cárdenas, Gto.	2,771	21.7 mi. (34.9 km)	1
Valencianita, Gto.	2,327	3.1 mi. (5 km)	1
El Copal, Gto.	1,439	0 mi. (0 km)	1
La Ordeña, Gto.	1,291	25.3 mi. (40.7 km)	1
Laguna Larga, Gto.	983	21.1 mi. (33.9 km)	1

Table 4.3 shows that many of the participants in this study have lived most of their life in the city of Irapuato, but that some participants have spent most of their life in the small *ranchos* or farming communities with only a few thousand inhabitants. All participants have spent most of their life within a short bus ride to El Copal, Mexico where most of the participants are students at the Institute of Agricultural Sciences, an extension of the University of Guanajuato.

This leads us to the educational background of the participants, another source of variation within Bajío Spanish. In a study of the city of Moroleón, Guanajuato, Matus-Mendoza (2004) uses the education level of participants as a measure of social class. She finds that the assibilated /-r/ is used the least among those with an elementary education, is used more by those with a middle school education, and is used the most by those with a secondary level of education. Matus-Mendoza reasons that people with jobs that provide opportunities to hear

<sup>50</sup> The city population data are from the *Conteo de Población y Vivienda 2005* conducted by the Instituto Nacional de Estadísticas y Geografía of Mexico (INEGI, 2005). Driving distances to Ex-Hacienda del Copal (El Copal), Mexico are from <http://maps.yahoo.com> and <http://dgp.sct.gob.mx/fileadmin/Atlas/guanajuato.pdf>.

prestigious variants (such as shopkeepers) are more likely to use the assibilated /-r/ than people who do not have such opportunities (such as farmers). Because most of the participants in the present study are students who are still dependent on their parents and have not yet established themselves in society, it is possible that they may still use the class-related features of their parents. To find out more about the education levels of the participants and their parents, the language history questionnaire asked the following questions:

- (9) ¿Cuál es el nivel de educación más alto que ha completado Ud.?  
‘What is the highest level of education that you have completed?’
- (10) ¿Cuál es el nivel más alto de educación que ha completado su padre?  
‘What is the highest level of education that your father has completed?’
- (11) ¿Cuál es el nivel más alto de educación que ha completado su madre?  
‘What is the highest level of education that your mother has completed?’

The participants answered these questions by using the scale in (12):<sup>51</sup>

- (12) Education Scale
- |                                 |                                       |
|---------------------------------|---------------------------------------|
| a. Escuela primaria             | ‘Elementary School’                   |
| b. Junior High                  | ‘Junior High School’                  |
| c. Parte de la secundaria       | ‘Part of High School’                 |
| d. Escuela secundaria           | ‘High school’                         |
| e. Escuela de vocación          | ‘Vocational School’                   |
| f. 2 años de la universidad     | ‘2 years of the university’           |
| g. 4 años de la universidad     | ‘4 years of the university’           |
| h. Más de 4 años de universidad | ‘More than 4 years of the university’ |

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<sup>51</sup> This scale was created for a later comparison with bilinguals living in the U.S.



In addition to asking questions about the education levels of participants and their parents, the language history questionnaire asked the following question about the occupation of the parents:

- (13) ¿En qué trabajan sus padres actualmente? padre \_\_\_\_\_ madre \_\_\_\_\_  
 ‘What do your parents do for work at present? father \_\_\_\_\_ mother \_\_\_\_\_

The responses to each of these questions are summarized in Table 4.4.

Table 4.4 Education Levels and Occupations of Parents

PARTICI- PANT #	PARTICI- PANT EDUCATION	FATHER’S EDUCATION	MOTHER’S EDUCATION	FATHER’S WORK	MOTHER’S WORK
1	Univ. (2 yrs.)	Elementary	Elementary	Plumbing and Electricity	Homemaker
2	Univ. (4 yrs.)	Elementary	Secondary	Driver	Homemaker
3	Univ. (2 yrs.)	Vocational	Secondary	Elementary school teacher	Homemaker
4	Univ. (2 yrs.)	Vocational	Elementary	Pedagogical-tech. support	Homemaker
5	Univ. (2 yrs.)	Elementary	Elementary	Driver	Homemaker
6	Univ. (4 yrs.)	Elementary	Elementary	Pastries, Farmer	Homemaker, Pastries
7	Univ. (2 yrs.)	Elementary	Secondary	Laborer	Homemaker
8	Univ. (2 yrs.)	Secondary (Part)	Elementary	Storekeeper	Homemaker
9	Univ. (2 yrs.)	Secondary (Part)	Elementary	Carpenter	Homemaker
10	Vocational	Secondary	Elementary	Security Guard	Mall
11	Univ. (2 yrs.)	Univ. (2 yrs.)	Secondary	Laborer	Secretary
12	Univ. (2 yrs.)	Vocational	Vocational	Electrical	Storekeeper
13	Univ. (2 yrs.)	Junior High	Univ. (4+ yrs.)	Retired	Storekeeper
14	Univ. (3 yrs.)	Univ. (4+ yrs.)	Univ. (4 yrs.)	Architect	Homemaker
15	Vocational	Elementary	Elementary	Business employee	Homemaker
16	Univ. (4 yrs.)	N/A	Elementary	Farmer	Homemaker
17	Univ. (2 yrs.)	Secondary	Secondary (Part)	Agriculture	Homemaker
18	Univ. (4 yrs.)	Secondary (Part)	Elementary	Technician	Homemaker
19	Univ. (2 yrs.)	Elementary	Elementary	Taylor	Homemaker
20	Univ. (2 yrs.)	Secondary	Elementary	Storekeeper	Homemaker
21	Univ. (2 yrs.)	Secondary	Secondary	Pensioner	Maid
22	Vocational	Secondary	Secondary	General help	Homemaker
23	Univ. (4 yrs.)	Secondary	Vocational	Lab assistant	Retired
24	Univ. (2 yrs.)	Elementary	Elementary	Hotel	Homemaker
25	Univ. (2 yrs.)	Vocational	Elementary	Construction	Storekeeper

26	Univ. (2 yrs.)	Elementary	Elementary	Farmer	Homemaker
27	Univ. (2 yrs.)	N/A	Elementary	N/A	Parties
28	Univ. (2 yrs.)	Secondary (Part)	Elementary	Food processing	Homemaker
29	Univ. (2 yrs.)	Secondary	Secondary	Farmer	N/A
30	Univ. (2 yrs.)	Univ. (4+ yrs.)	Univ. (4+ yrs.)	Teacher	Teacher
31	Univ. (4 yrs.)	Univ. (4 yrs.)	Univ. (4 yrs.)	Engineer	Teacher
32	Univ. (2 yrs.)	Univ. (4+ yrs.)	Univ. (2 yrs.)	Teacher	Homemaker

Table 4.4 shows that all of the participants have either just begun their bachelor's degrees (and have only completed vocational school) or have already completed a number of years at the university. Most of their parents, on the other hand, have only finished elementary school or high school, which makes many participants part of the first generation in their family to go to college. In most cases, the participants have fathers who work and a mother who is a homemaker. Knowing such facts about the participants of this study will allow us to observe whether or not language-external factors influence word order at the syntactic interfaces.

#### **4.1.3 Summary of Participants' Language Variety**

In summary, the participants of this study come from the Bajío zone of the central highlands dialect of Mexican Spanish. They all had the opportunity to acquire the central highlands dialect of Mexican Spanish from the input provided by their parents. They also had the opportunity to acquire the Bajío variety of that dialect from their communities. The current social networks of the participants are comprised almost entirely of speakers of Bajío Mexican Spanish. Most of the participants have lived all of their life in one of the cities in the state of Guanajuato, but several have grown up in rural areas. All of the participants have begun their university education and many of them are part of the first generation in their family to go to college. There were 18 men and 14 women included in the study. Table 4.5 summarizes the characteristics of

these participants by their gender, the highest level of education attained by one of their parents, and the population of the community in which they have spent most of their life.<sup>52</sup>

Table 4.5 Summary of Bajío Mexican Spanish Participants

Men (n=18)						Women (n=14)					
Parents' Highest Education Level						Parents' Highest Education Level					
Primary (n=8)		Secondary (n=7)		University (n=3)		Primary (n=5)		Secondary (n=6)		University (n=3)	
Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
4	4	5	2	1	2	5	0	4	2	3	0

Table 4.5 shows that the participants in this study are fairly distributed by gender and by their parents' highest level of education. There are few women from rural areas in the study and this may be because there may be few women leaving rural areas to get a university education. This study is a development from earlier studies of split-intransitivity by limiting the participants to only native speakers of Bajío Spanish and by seeking to observe the possible effect that other individual variables such as gender, education level, and hometown population may have on interface variation. While more participants would be needed for an ideal sociolinguistic study of this population, the fact that this study gives any attention to language-external factors is an improvement on other studies of split-intransitivity in Spanish.

## 4.2 Language Contact

In addition to the variation that exists within Bajío Mexican Spanish, other language-external variables that may affect interface variation concern language contact. In Mexico, we need to consider contact with the indigenous languages of Mexico, contact with foreign

<sup>52</sup> In Table 4.4, the 'vocational' level of education is merged with the 'secondary' level of education. In this study, 'rural' will be considered to be communities with fewer than 25,000 inhabitants, and 'urban' will be those cities with 60,000 to 1,000,000 or more inhabitants.

languages, and contact with cyclical migrant workers. In sections (4.2.1) to (4.2.3), we explore these possibilities.

#### 4.2.1 Contact with Indigenous Languages

It is important to know if the participants in this study have contact with or if they themselves are speakers of any of the indigenous languages of Mexico. The 2005 Mexican census reports that several Mexican states have large percentages of the population that speak an indigenous language (INEGI, 2005). The ten Mexican states with the highest percentage of the population that speak an indigenous language are listed in Table 4.6.

Table 4.6 Percent of the Population over Age Five that Speaks an Indigenous Language: Top Ten Mexican States (INEGI, 2005)

STATE	RANK	PERCENT SPEAKING INDIGENOUS LANGUAGE	POPULATION OF INDIGENOUS LANGUAGE SPEAKERS
Oaxaca	1	35.3%	1,091,502
Yucatán	2	33.5%	538,355
Chiapas	3	26.1%	957,255
Quintana Roo	4	19.3%	170,982
Hidalgo	5	15.5%	320,029
Guerrero	6	14.2%	383,427
Campeche	7	13.3%	89,084
Puebla	8	11.7	548,723
San Luis Potosí	9	11.1	234,815
Veracruz	10	9.5	605,135

Table 4.6 shows the ten Mexican states with the highest percent of the population over age five that speak an indigenous language. A speaker from one of these states might be bilingual or have frequent contact with those who do speak an indigenous language. Noticeably, the state of Guanajuato is not in this list.

When the Spaniards began to colonize what is now the state of Guanajuato in 1542, the Chichimeca and Purépecha peoples were already there (INFDM, 2010). Today, there are very few speakers of indigenous languages in the state of Guanajuato (Lope Blanch, 1990; Serrano

Carreto, 2006). The 2005 Mexican census reports that fewer than 10,347 people or only 0.2% of the total population of the state of Guanajuato speak an indigenous language, the largest group being the Chichimeca Jonaz with only 1,514 speakers over the age of 5 (INEGI, 2005). These few speakers are spread throughout the state or live in small groups. When the participants of the present study were asked to identify the languages that they speak, no one included an indigenous language and everyone said that they only spoke Spanish. Knowing that the speakers in our study do not speak any indigenous language and have relatively little contact with indigenous languages reduces possible confounding variables.

#### **4.2.2 Contact with Foreign Languages**

Another language-external variable that may influence interface variation is exposure to a foreign language. As we saw in Chapter 3, most previous studies of split-intransitivity in Spanish test native Spanish speakers who live in the U.S or the U.K., and this is often done for comparison with second language learners of Spanish. However, native Spanish speakers living in one of these English-dominant communities are exposed daily to large amounts of English input. They are often highly proficient speakers of English because they have often achieved the proficiency necessary to score well on the TOEFL (or similar test) and must use English frequently because of the community in which they live. It is important to recognize that such native speakers have likely undergone significant L1 attrition in their Spanish. The influence of the dominant language of the community is an important variable that can account for interface variation (Sorace & Serratrice, 2009), and must be considered. As already seen, the present study is different from previous studies of split-intransitivity because it investigates the interfaces of native Spanish speakers who have only lived in a Spanish-dominant community throughout their life and have received relatively little English input. This reduces the possibility that the native

speakers in our study will be showing significant L1 attrition. In this study, we recognize the effect that contact with a foreign language may have by investigating the languages used in the communities of the participants and the languages studied in school.

The effects due to contact with foreign languages were minimized by selecting the state of Guanajuato, a location where Spanish is the dominant language. The state of Guanajuato is far from the U.S.-Mexican border where Spanish speakers have more contact with English speakers. The number of English-speaking tourists that visit Guanajuato is also relatively small as compared to some other places in Mexico. To verify the languages used in the communities where the participants of this study have lived, participants listed every place where they have lived as well as the language that they use the most at home and in the community. The question that they answered for every location where they have lived was as follows:

- (14) Lugar \_\_\_\_\_. Años allí \_\_\_\_\_. ¿Qué idioma usaba allí más? En casa \_\_\_\_\_. En la comunidad \_\_\_\_\_.  
'Place \_\_\_\_\_. Years there \_\_\_\_\_. What language did you use the most there? At Home \_\_\_\_\_. In the community \_\_\_\_\_.'

Another question asked what the speakers consider to be their first language:

- (15) ¿Qué idioma o idiomas considera Ud. su primera lengua?  
español \_\_\_\_\_ inglés \_\_\_\_\_ español e inglés \_\_\_\_\_ otro (identifíquelo) \_\_\_\_  
'What language or languages do you consider your first language?  
Spanish \_\_\_\_\_ English \_\_\_\_\_ Spanish and English \_\_\_\_\_ Other (identify it) \_\_\_\_\_'

The question in (15) was intended to see if any of the participants are early bilinguals. This is a possibility if their parents had gone to the U.S. to work and if they were raised there. Participants

were also asked questions regarding where they went to school in case some of them might have gone to school in the U.S.:

- (16) ¿En qué ciudades recibió Ud. ...
- a. su educación primaria?
  - b. su educación secundaria?
  - c. su educación universitaria?
- ‘In which cities did you receive...
- a. your elementary education?
  - b. your secondary education?
  - c. your university education?

All participants responded that they considered only Spanish to be their first language. Every one reported that Spanish was the most-used language at home and in every community in which they had lived throughout their life. All of the participants listed that they had mostly gone to school in cities in the state of Guanajuato, Mexico and none had studied in the U.S. or in another country. Some commented that they had relatives who had been to the U.S. and had gone to school there, but that they themselves had not. None of the participants reported having lived, worked, or attended school in the United States or in another foreign country. As we previously saw in Table 4.2, the participants reported that the majority of their family members, co-workers, spouses, friends, and classmates are from Guanajuato, where Spanish is the dominant language, and are not from the U.S. or from another country. Throughout their life, these participants have only lived and studied where Spanish is used for almost all daily interactions.

It is very common for students in Mexico to study English in school, and it is possible that some L1 attrition may be occurring for Spanish learners of English. To investigate the extent

to which the students of this study have studied a foreign language in school, the following questions were included in the language history questionnaire:

- (17) ¿A qué otros idiomas ha estado expuesto Ud.?  
'To what other languages have you been exposed?'
- (18) Describa el contacto que tuvo con cada idioma de la pregunta #6 (escuela, trabajo, etc.)  
'Describe the contact that you had with each language from question #6 (school, work, etc.)'
- (19) Describa el tipo de educación en español, inglés, u otros idiomas durante...
- a. su educación primaria \_\_\_\_\_
  - b. su educación secundaria \_\_\_\_\_
  - c. su educación universitaria \_\_\_\_\_
- 'Describe the type of education in Spanish, English or other languages during...
- a. your elementary education \_\_\_\_\_
  - b. your secondary education \_\_\_\_\_
  - c. your university education \_\_\_\_\_'

Some participants needed clarification for the question in (19), so everyone was asked to list the number of years that they had studied English during each part of their education. Table 4.7 summarizes the participants' responses.<sup>53</sup>

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<sup>53</sup> Participant #32 marked Spanish and English as first languages, but he should not be considered an early bilingual. He only has had five years of English in school and has never lived outside of Irapuato and Abasolo, Guanajuato. He does have close ties with extended family in the U.S. and is visited by them or communicates with them regularly, but his immediate family only speaks Spanish. His girlfriend, closest friends, and coworkers are all from Guanajuato. Participants #7, #10, #12, #28, #29, and #30 initially said that they had not been exposed to any language besides Spanish, but did later report having taken some years of English in school.



Table 4.7 Contact with Foreign Languages

PARTICIPANT #	FIRST LANGUAGE	EXPOSURE TO ANOTHER LANGUAGE	FORM OF EXPOSURE	LOCATION OF EXPOSURE	YEARS OF ENGLISH CLASSES
1	Spanish	English	School	Salamanca, Gto.	6
2	Spanish	English	School	Salamanca and. Irapuato, Gto.	4.5
3	Spanish	English	School	Salamanca, Gto.	5
4	Spanish	English	School	Irapuato, Gto.	5
5	Spanish	English	School	Irapuato, Gto.	5
6	Spanish	English	School	Guanajuato and Irapuato, Gto.	7
7	Spanish	English	School	Irapuato, Gto.	6
8	Spanish	English	School	Irapuato, Gto.	5.5
9	Spanish	English	School	Irapuato, Gto.	5
10	Spanish	English	School	Irapuato, Gto.	5
11	Spanish	English	School	Irapuato, Gto. and Guanajuato, Gto.	4
12	Spanish	English	School	Irapuato, Gto.	6
13	Spanish	English	School/ Vacations	Salamanca, Gto.; U.S. (not frequent)	12
14	Spanish	English	School/ Work	Irapuato, Gto.	9
15	Spanish	English	School	Abasolo, Gto.	5
16	Spanish	English	School	Irapuato, Gto.	6
17	Spanish	English	School	Abasolo, Gto.	4
18	Spanish	English	School	Valle de Santiago, Gto.	6
19	Spanish	English	School	Irapuato, Gto.	6
20	Spanish	English	School	Irapuato, Gto.	6
21	Spanish	English	School	Irapuato, Gto.	<5
22	Spanish	English	School	Valencianita, Gto.	1
23	Spanish	English	School	Irapuato, Gto.	5
24	Spanish	English	School	Irapuato, Gto.	1.5
25	Spanish	English	School	León, Gto.	<5
26	Spanish	English	School	Abasolo, Gto.	5
27	Spanish	English	School	Irapuato, Gto.	4.5
28	Spanish	English	School	Irapuato, Gto.	4
29	Spanish	English	School	La Piedad and Irapuato, Gto.	10.5
30	Spanish	English	School	Abasolo and Irapuato, Gto.	2
31	Spanish	English	School	Irapuato, Gto.	11
32	Spanish	English	School	Abasolo, Pénjamo, and Irapuato, Gto.	5

As shown in Table 4.7, everyone responded that they were exposed to English in school. No one listed another foreign language besides English. Some participants reported having studied English from elementary school to the university. Many students commented that they had not learned much in their English classes and that they could not speak English. This study includes a range of native Spanish speakers—from those who have very few years studying English in school to those with several years studying English and even limited acquisition of English makes these participants ‘bilingual’ to a degree. In this study, we acknowledge the fact that these native speakers have had different degrees of influence from studying English while living in a Spanish-dominant community, and by so doing, we can see if there is a relationship between years of exposure to English in school and interface variation.

#### **4.2.3 Contact with Cyclical Migrant Spanish**

Another possible source of language contact concerns cyclical migration. Many of the participants in this study have had contact with immigrants who leave the state of Guanajuato to work in the U.S. and then return yearly to Guanajuato. The Spanish spoken in Guanajuato by cyclical migrant workers will be referred to here as ‘cyclical migrant Spanish.’ The following sections will describe (i) the Spanish of cyclical migrant workers from Guanajuato, (ii) how English word order and bilingual word order may affect the word order in cyclical migrant Spanish, and (iii) the participants in the study who have frequent contact with cyclical migrants.

##### **4.2.3.1 Cyclical Migrant Spanish**

*Guanajuatenses* have been migrating to work the U.S. from as early as the 1920s (see Arias, 2004; Durand, 2005; Lipski, 2008; Matus-Mendoza, 2002c, 2004). Many migrants from Guanajuato have remained in the U.S. and hundreds of thousands of their descendents now live in Texas, Illinois, and California, as well as other states (see García, 1997; García & González

Martínez, 1995, 1999; Matus-Mendoza, 2002c). The migration continues today, and the Mexican census reports that 163,338 people left Guanajuato to go to the U.S between 1995-2000 (INEGI, 2000), but this number is sure to be much higher in actuality. Many who migrate choose to remain in the U.S., but a large number of migrant workers return yearly to the state of Guanajuato to visit their family members for a few months before returning to work again up ‘north’ (Matus-Mendoza, 2004). Others return for longer periods of time or indefinitely due to economic conditions, the dangers of migration, or for personal reasons, and kin-based social networks are often the conduit for migration (for similar migration patterns in Oaxaca, see Cohen, 2001, 2010). Those who migrate typically travel and work with relatives, and their family members back in Guanajuato know where they are located. Many communities in the state of Guanajuato are known to send migrant workers to specific U.S. cities. Cyclical migrants acquire English-influenced forms while in the U.S., use those forms when they return to Guanajuato, and spread those forms to other people in Guanajuato who have not migrated to the U.S.

The kind of Spanish spoken by the Mexican workers who travel to the U.S. for the first time is shaped by contact with a number of language varieties. They first begin by going north from Guanajuato, and come in contact with many varieties of Spanish before crossing the border. While they are in the U.S., these speakers come in contact with Spanish from various dialects, English, and the Spanish of heritage speakers who have been in contact with English for decades. These Mexican migrants are sure to have contact with speakers of Mexican American Spanish, which “is not a discrete dialect, but a continuum of language-contact varieties encompassing a wide range of abilities in both English and Spanish” (Lipski, 2008, p. 84). The Spanish of the Mexican worker who migrates to the U.S. for the first time will change through the months and years of being in contact with these many language varieties. Migrant workers typically do not

acquire more than a low proficiency in English, but they do learn a number of words and phrases in English and are often exposed to the Spanish of Spanish-English bilinguals. While in the U.S., the features that distinguish social classes in Mexico (like assibilation of /-r/) are lost, but are regained with even greater intensity upon returning to Guanajuato (Matus-Mendoza, 2002c, 2004). Because cyclical migrants are already changing their Spanish due to such leveling, they may also be even more open to accepting non-standard Spanish forms that they may hear from Spanish-English bilinguals in the U.S. Thus, the Spanish spoken by cyclical migrant workers is shaped by contact with other varieties of Spanish, contact with English, and contact with Spanish-English bilinguals of varying proficiency levels.

When cyclical migrant workers return to the state of Guanajuato they often use English lexical loans in their speech and they distinguish themselves from others who have not migrated (Matus-Mendoza, 2002a, 2002b). The following examples show English loans used by migrant workers who have returned to Moroleón, Guanajuato (Matus-Mendoza, 2002b, p. 119):

(20) La tengo que llevar con la baby sitter.

‘I have to take her to the baby sitter.’

(21) También he trabajado en landscaping.

‘I have also worked in landscaping’

(22) No me dijiste que tienes social security.

‘You didn’t tell me that you have a social security card.’

Returning migrants also incorporate interjections from English in their speech, as the following example shows (Matus-Mendoza, 2002b, p. 127):

(23) Oh sí, él también es de ahí de Moroleón...

‘Oh, yes, he is also from there, from Moroleón.’

The use of such borrowings is not limited to Moroleón. In Irapuato, for example, some people remark that returning migrants there often use *oh sí* ‘oh yes’, *soda* ‘soft drink’ (instead of *refresco* ‘soft drink’), *el freeway* (instead of *la carretera* ‘highway’), and *me lesgo* ‘I’m leaving’ (from *let’s go* and *me voy* ‘I’m leaving’), among other English-influenced expressions.

Matus-Mendoza (2002a, 2002b) finds that the use of English loanwords among returning migrant workers in Moroleón, Guanajuato is conditioned by a number of sociolinguistic factors that include education, age, gender, and whether or not the individual lives in a rural or urban community. She finds that *Guanajuatenses* with only an elementary education insert more English loans into their speech than those with only a middle school education or postsecondary education, and explains that this is to assert a higher social status. She also finds that former migrant workers with a postsecondary education who are lawyers and physicians do not use English in their speech any longer because they do not need to use it to impress anyone. Her study also shows that 18-34 year olds use English loans more than 35-55 year olds or those over 55 years of age. This would likely be because most Mexican immigrants to the U.S. are between ages 15 and 24 (INEGI, 2000) and older speakers who might have gone to work in the U.S. long ago may not need to assert a higher social status. As for gender, Mexican men in Moroleón seem to use English loans more than women.<sup>54</sup> We would expect this to be the case because of the 163,338 people who are reported to have left Guanajuato to work in the U.S. between 1995 and 2000, 83.7% were men and 16.3% were women (INEGI, 2000). Matus-Mendoza also finds that returning migrant workers who move from rural areas to the city of Moroleón use English loans more than those who live in the city and even more than people in the rural areas. She explains that they use the lexical loans more when they move to urban areas because they are improving

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<sup>54</sup> Because of the large number of men in her study, Matus-Mendoza reserves judgment on whether men or women use lexical loans more, but the data that she reports points to men as possibly using them more.

their standard of living and want to impress others with their upward mobility. In sum, former migrant workers who are young men with only an elementary education who have recently moved to a city in Guanajuato are the ones who use English lexical loans the most when they return to Guanajuato.

Cyclical migrant workers spread the non-standard forms that they acquire while working in the U.S. to others in Guanajuato. For example, Matus-Mendoza (2002b) observes that a woman in Moroleón uses the interjection *oh, sí* ‘oh, yes’ even though the woman has not migrated to the U.S. for work. Matus-Mendoza explains that the woman uses the interjection because almost all of her family members are currently working in the U.S. and she has accommodated her speech to theirs. We may say that the non-migrants in Guanajuato are in direct contact with cyclical migrant Spanish and are thus in ‘indirect’ or ‘secondary’ contact with forms from U.S. English and Mexican American Spanish. This type of transfer is similar to situations in which monolinguals appear to acquire foreign forms that bilinguals introduce into the language, although they themselves are not in contact with the foreign language (e.g. Colantoni & Gurlekian, 2004; Huffines, 1986; O’Rourke, 2005). It is possible that elements of contact Spanish are acquired by cyclical migrants and then transferred to *Guanajuatenses* who have not migrated to the U.S.

#### **4.2.3.2 Cyclical Migrant Spanish and Word Order**

It is possible that cyclical migrants may acquire non-standard SV order during their stay in the U.S. because of contact with English speakers and contact with Spanish-English bilinguals. English is well known for its comparatively rigid SV order, and SV order is the preferred word order with both unaccusative verbs and unergative verbs in English, as shown in (24) and (25):

(24) Mario arrived. / \*Arrived Mario.

(25) Julia sang. / \*Sang Julia.<sup>55</sup>

These examples show that VS order is not acceptable with either unaccusatives or unergatives in English. Although preverbal subjects are ever-present in the English input that cyclical migrant workers may hear, English does allow VS order in certain constructions. For example, the focus-related comparative constructions allow for VS order in English (from Culicover & Winkler, 2008, pp. 626, 648-651):

(26) Comparative Inversion

a. Sandy is much smarter than is the professor.

b. As Iowa goes, so goes the nation.

c. I was there and so was Sandy.

d. Sandy likes baseball, as do I.

The examples in (26) show that the underlined subjects are postverbal and that English does use VS order in certain constructions. English also permits VS order with locative and *there* inversion (from Levin & Rappaport Hovav, 1995, p. 121):

(27) Locative Inversion

a. In the desert flourished a utopian community.

b. In front of her appeared a fabulous sight.

(28) *There* Inversion

a. There exists a solution to that problem.

b. There appeared a ship on the horizon.

Examples (27) and (28) show that postverbal subjects are acceptable in English with locative inversion and *there* inversion. Cyclical migrant workers may be exposed to such word orders in

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<sup>55</sup> Exceptions to this rigid SV word order are allowed in English poetry, however.

the English that they hear, but because of low English proficiency, and because of a tendency to spend most of their time with other Spanish speakers, it may be more likely that migrant workers acquire SV order through contact with Spanish-English bilinguals.

Cyclical migrants are often in contact with Spanish-English bilinguals in the U.S. who display non-standard word order patterns. Heritage speakers of Spanish have been reported to maintain their use of VS order to some degree, but they also use more SV order than we would expect (Hinch Nava, 2007; Montrul, 2005b; Otheguy et al., 2007; Silva-Corvalán, 2001; Zapata et al., 2005). In one study, Montrul (2005b) uses a judgment task to investigate split-intransitivity with heritage speakers of Spanish. The results of the study are shown in Table 4.8.

Table 4.8 Acceptability Judgment Task (Montrul, 2005b): Percent Word Order Accepted<sup>56</sup>

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	SV	?VS
Acceptability Judgment Task: 5-point Likert	Advanced proficiency (n=23)	96.0% (4.84)	97.0% (4.88)	96.5% (4.86)	89.3% (4.57)
	Intermediate proficiency (n=8)	89.5% (4.58)	91.5% (4.66)	91.3% (4.65)	80.0% (4.20)
	Low proficiency (n=5)	73.5% (3.94)	83.3% (4.33)	83.5% (4.34)	63.8% (3.55)

In Montrul's study, all participants rate SV or VS order as highly acceptable for either verb type, a possible sign of optionality. As Spanish proficiency decreases for these heritage speakers, the difference in preference of SV order over VS order increases. This difference increases from 1.0% to 2.0% to 9.8% for unaccusatives, and from 7.2% to 11.3% to 19.7% for unergatives. In this way, the data in Montrul's study appear to indicate an increase in preference for SV order over VS order among heritage speakers of Spanish due to increased English dominance.

<sup>56</sup> Average 5-point Likert-scale ratings from Montrul (2005b) were converted to percentages using the following formula: ((Mean Rating-1)/4)\*100 = %.



Similarly, SV order is produced more with each succeeding generation of heritage speakers of Spanish in the U.S. (Silva-Corvalán, 2001). Silva-Corvalán (2001) reports that the immigrants who settle in the U.S. make use of SV order in 74% (99/133) of the tokens in her study, the immigrants' children raised in the U.S. use SV order in 77% (177/230) of their utterances, and the grandchildren of the immigrants use SV order 80% (223/280) of the time (p. 326). Silva-Corvalán gives the following examples of SV order from heritage speakers of Spanish (Silva-Corvalán, 2001, pp. 285, 325):

(29) Nos agarramos y un montón de policías vinieron.

We started a fight and a ton of police came

'We started a fight and a ton of policemen came.'

(30) a. Una vez estaba en una gasolinera aquí y una señora llegó ahí...

'Once I was at a gas station here and a lady arrived there...'

b. ...Yo estaba ahí esperando, estaba trabajando en el carro. Una señora entró y me preguntó si conocía...

'...I was there waiting, I was working on the car. A lady entered and asked me if I knew...'

Examples (29-30) show that SV order occurs in U.S. Spanish even when the verbs are the unaccusative *venir* 'to come', *llegar* 'to arrive', and *entrar* 'to enter', which should occur with VS order. Example (29) shows that SV order is also used with the unaccusative verb *venir* 'to come' even when the subject, *un montón de policías* 'a ton of police', constitutes new information. Examples (30a) and (30b) also show that *una señora* 'a lady' is preverbal even when the verbs *llegar* 'to arrive' or *entrar* 'to enter' are unaccusative and the subjects are treated

as new information.<sup>57</sup> These examples attest to the fact that SV order occurs in the Spanish of heritage speakers where we would expect VS order.

Studies of Spanish heritage speakers also show that VS order has not been entirely lost from U.S. Spanish (Silva-Corvalán, 1982, 2001; Zapata et al., 2005). For example, Heritage speakers have been found to use postverbal subjects with preverbal adverbs. The following examples are from heritage speakers of Spanish in the U.S. (Silva-Corvalán, 1982, p. 111):

(31) Atrás venían los médicos.

Behind came the doctors

‘The doctors came behind.’

(32) Luego llegaron los chicanos.

Then came the Chicanos

‘Then came the Chicanos.’

Silva-Corvalán reports that preverbal adverbs have postverbal subjects in 85% (39/46) of the tokens in her study of contact Spanish and that only 36% (90/251) of the subjects are postverbal when there is no adverb (Silva-Corvalán, 1982). One reason why VS order may not be completely lost among heritage speakers is that, as we saw in examples (27) and (28) above, VS order is present in the congruent English input that they may hear.<sup>58</sup>

Another reason why VS order is not entirely lost in contact Spanish may be because the influence of English SV order appears to only affect certain parts of the syntax-lexicon and syntax-discourse interfaces. When we look at split-intransitivity at the syntax-lexicon interface, it at first seems that postverbal subjects are produced with unaccusative verbs and that preverbal

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<sup>57</sup> As we recall from Chapter 3, the postverbal adverb *ahí* ‘there’ in (30a) may also explain why *una señora* ‘a lady’ is preverbal.

<sup>58</sup> VS order might also not be lost because heritage speakers of Spanish tend to be in contact with new migrant workers who may help to replenish their Spanish with more ‘monolingual’ input.

subjects are produced with unergative verbs as we would expect. This is shown in the results of Hinch Nava's (2007) study in Table 4.9.<sup>59</sup>

Table 4.9 Oral Production Task (Hinch Nava, 2007): Percent word order produced by Heritage Speakers of Mexican Spanish

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	SV	?VS
Oral Production: Drawing-based narration	Near native proficiency (n=4)	63.6% (28/44)	36.4% (16/44)	83.3% (5/6)	16.7% (1/6)
	Advanced proficiency (n=11)	65.5% (36/55)	34.5% (19/55)	92.3% (12/13)	7.7% (1/6)
	Reduced proficiency (n=9)	65% (26/40)	35% (14/40)	75% (6/8)	25% (2/8)

In Table 4.9, we see that, although there are few tokens collected, there is a strong preference for VS order to occur with unaccusative verbs and a strong preference for SV order to occur with unergative verbs. This indicates that the unaccusative/unergative distinction is reflected in the word order of contact Spanish.<sup>60</sup> However, when we compare these same heritage speakers with monolingual speakers and examine the data using the Split Intransitivity Hierarchy, we see that an increase in SV order affects the non-core categories of the hierarchy. This is illustrated in Table 4.10, where the word orders produced for the four most unaccusative categories of the Split Intransitivity Hierarchy are shown.

<sup>59</sup> In Tables 4.9-4.10, the numbers in parentheses are token totals.

<sup>60</sup> There also is no gradient increase in SV order across proficiency levels, which is unlike what we saw in Montrul's (2005b) study shown in Table 4.8.

Table 4.10 Oral Production Task (Hinch Nava, 2007): Percent Word Order Produced for Unaccusative Verb Categories in the Split Intransitivity Hierarchy.<sup>61</sup>

PARTICIPANTS	CHANGE OF LOCATION (CORE)		CHANGE OF STATE (LESS CORE)		CONT. OF STATE (PERIPH.)		EXISTENCE OF STATE (PERIPH.)	
	VS	SV	VS	SV	VS	SV	VS	SV
Monoling. Speakers	69.2% (81/117)	30.8% (36/117)	61.9% (13/21)	38.1% (8/21)	26.7% (4/15)	73.3% (11/15)	12.5% (1/8)	87.5% (7/8)
Heritage Speakers	60.8% (132/217)	39.2% (85/217)	47.6% (10/21)	52.4% (11/21)	37% (10/17)	63% (17/27)	58.3 (7/12)	41.7% (5/12)

Table 4.10 shows that monolingual Spanish speakers prefer SV order for ‘existence of state’ and ‘continuation of state’ verbs (which are both in the periphery of the hierarchy), and they produce VS order for ‘change of location’ and ‘change of state’ verbs (the most core unaccusative categories). For the monolingual Spanish speakers, there appears to be a cutoff point (as indicated by the dotted line) between ‘change of state’ and ‘continuation of state’ verbs. Heritage speakers, on the other hand, show an apparent shift in the unaccusative cutoff point to be closer to the unaccusative core, between ‘change of location’ verbs and ‘change of state’ verbs. The ‘change of state’ verbs in the periphery show a change in preference from VS order to SV order which is near optionality. It is not a clear cutoff point however, because ‘existence of state’ verbs in the periphery unexpectedly prefer VS order, but this may reflect the low number of tokens in the study. Heritage speakers also use SV order with core ‘change of location’ verbs (39.2%) more than the monolinguals (30.8%), but a reversal in word order is not attained. The overall increase in SV order seems to affect the less-core categories the most.

The influence of English SV order also appears to selectively affect the syntax-discourse interface for heritage speakers of Spanish. From the results of Zapata, Sánchez, and Toribio’s (2005) study of heritage speaker Spanish, we can see that the expected word order preferences

<sup>61</sup> Dotted lines indicate possible unaccusative/unergative cutoff points and shaded categories indicate reversals of expected word orders.

for unaccusative verbs and unergative verbs are maintained in broad focus, but that optionality appears in narrow focus. This is shown in Table 4.11.<sup>62</sup>

Table 4.11 Acceptability Judgment Task (Zapata et al., 2005): Percent Word Order Accepted for Focus Contexts by Spanish Heritage Speakers

TASK TYPE	PARTICIPANTS	FOCUS	UNACCUSATIVE			UNERGATIVE		
			VS	?SV	BOTH	SV	VS	BOTH
Acceptability Judgment Task: SV, VS, or both	24 early Spanish-English bilinguals	Broad Focus	54%	35%	11%	58%	32%	10%
		Narrow Focus	53%	35%	12%	43%	43%	14%

Table 4.11 shows that VS order is preferred for unaccusative verbs and SV order is preferred for unergative verbs in broad focus. In narrow focus, however, where we would expect to see a strong preference for VS order, we find that SV and VS orders are both rated to be 43% acceptable. These heritage speakers also accept more unergative verbs as equally acceptable in narrow focus (14%) as opposed to broad focus (10%). Unaccusative verbs show almost no change between broad and narrow focus. This indicates that heritage speakers of Spanish show a selective optionality at the syntax-discourse interface that only affects unergative verbs. This is similar to what is observed for English L2 learners of Spanish: they tend to acquire the unaccusative/unergative distinction in broad focus, but show an increased optionality in narrow focus for unergative verbs (Lozano, 2006a).

To summarize, when cyclical migrant workers go to the U.S. to work, they may be exposed to other dialects of Spanish, the English language, and contact Spanish. The English to which cyclical migrants may be exposed is dominated by SV order, but also includes some congruent examples of VS order. Heritage speakers of Spanish show an increase in SV order at the syntax-lexicon interface that affects the peripheral categories of the Split Intransitivity

<sup>62</sup> Token totals were not reported in their study and so are not included in this table.

Hierarchy before the core unaccusative categories. In the syntax-discourse interface, heritage speakers show optional word order preferences for unergative verbs in narrow focus, but still prefer VS order for unaccusative verbs. If cyclical migrant workers have contact with English and contact Spanish in the U.S., it is possible that they may also acquire a preference for SV order in the non-core categories of the Split Intransitivity Hierarchy and show optionality for unergatives in narrow focus. This is important because, just as cyclical migrants spread the use of English loans to non-migrants in Guanajuato, they may also be spreading English-influenced word order in Guanajuato.

#### **4.2.3.3 Frequency of Contact with Cyclical Migrants**

To know the extent to which the participants in this study have had contact with cyclical migrants or have travelled abroad themselves, I asked the following questions regarding travel and communication patterns:

(33) ¿Cuán a menudo le visitan a Ud. personas de otros países?

‘How often do people from other countries visit you?’

(34) ¿Cuán a menudo viaja Ud. a otros países?

‘How often do you travel to other countries?’

(35) ¿Cuán a menudo se comunica Ud. con personas que viven en otros países (por teléfono, chat, email, etc.)?

‘How often do you communicate with people that live in other countries (by phone, chat, email, etc.)?’

To answer these questions, participants used the following scale:

(36) Scale for Frequency of Contact

- a. Varias veces a la semana ‘Various times per week’
- b. Una vez a la semana ‘Once per week’
- c. Una o dos veces al mes ‘Once or twice per month’
- d. Una vez cada 3 ó 4 meses ‘Once every 3 or 4 months’
- e. Una vez cada 6 meses ‘Once every 6 months’
- f. Una vez al año ‘Once per year’
- g. Una vez cada 2-3 años ‘Once every 2-3 years’
- h. Otro ‘Other’

Participants were also required to identify the countries that they visit and the countries of the people who visit them or who communicate with them by answering these questions:

(37) Haga Ud. una lista de los países de donde viajan para visitarle.

‘Make a list of the countries from where they travel to visit you.’

(38) Haga Ud. una lista de los países que Ud. visita frecuentemente.

‘Make a list of the countries that you visit frequently.’

(39) Haga Ud. una lista de los países de las personas con quienes se comunica.

‘Make a list of the countries of the people with whom you communicate.’

The responses to these questions about travel and contact with people who live in another country are listed in Table 4.12.

Table 4.12 Contact with Residents of another Country

PARTICIPANT #	FOREIGN TRAVEL	RECEIVE FOREIGN VISITORS	ORIGIN OF VISITORS	COMMUNICATION WITH FOREIGNERS	ORIGIN OF FOREIGN INTERLOCUTORS
1	None	1 time/yr.	U.S. (Ohio)	1 time/3-4 mo.	U.S.
2	None	1 time/2-3 yrs.	School	Never	N/A
3	None	1 time/6 mo.	U.S. (Watsonville, CA; Joshua, TX)	1 time/week	U.S. (Watsonville, CA; Joshua, TX)
4	None	1 time/2-3 yrs.	N/A	1-2 times/mo.	U.S. (TX)
5	None	1 time/yr.	U.S. (Chicago, IL)	1 time/yr.	U.S.; Syria
6	None	1+/week	School (Saint Vincent & the Grenadines)	Never	N/A
7	None	1 time/yr.	U.S. (Galveston, TX)	Never	N/A
8	None	1 time/yr.	U.S. (Chicago, IL)	1 time/6 mo.	U.S. (Chicago, IL)
9	None	Never	N/A	Never	N/A
10	None	Never	N/A	Other	U.S. (OK)
11	None	Never	N/A	Never	N/A
12	None	1 time/2-3 yrs.	U.S.; Saint Vincent & the Grenadines	1 time/2-3 yrs.	Saint Vincent & the Grenadines
13	1 time/2-3 yrs.	1 time/2-3 yrs.	U.S. (Los Angeles, CA); Germany	1 time/week	U.S. (Los Angeles, CA); Switzerland; Argentina
14	None	1-2 times/mo.	Germany, Canada, U.S.	1 time/3-4 mo.	U.S. (NC)
15	None	1 time/yr.	U.S. (PA, NC)	1-2 times/mo.	Mexico
16	None	1 time/yr.	U.S. (Los Angeles, CA)	Other	U.S.
17	None	1 time/yr.	U.S. (King City, CA; Coalinga, CA )	1+ times/week	U.S.; France
18	None	Never	N/A	Never	N/A
19	None	Never	N/A	Never	N/A
20	None	1 time/yr.	U.S. (Denver, CO)	1+times/week	Spain; Argentina
21	None	1 time/2-3 yrs.	U.S.	Never	N/A
22	None	1 time/2-3 yrs.	U.S.	1 time/2-3 yrs.	U.S.
23	None	1 time/ yr.	U.S. (AR; Chicago, IL; Los Angeles, CA	1-2 times/mo.	U.S. (AR; Chicago, IL; Los Angeles, CA)
24	None	1 time/yr.	U.S. (El Monte, CA)	1-2 times/mo.	U.S. (Atlanta, GA)
25	1 time/2-3 yrs.	1 time/6 mo.	U.S. (Houston, Tx; Austin, TX)	1+ times/week	U.S.
26	None	1 time/yr.	U.S. (CA)	1-2 times/mo.	U.S. (CA); Mexico
27	None	1 time/2-3 yrs.	U.S. (Long Beach, CA)	1 time/6 mo.	U.S.
28	None	1 time/2-3 yrs.	U.S. (Los Angeles, CA)	1-2 times/mo.	U.S. (Los Angeles, CA)
29	None	1 time/3-4 mo.	U.S. (NC, MD)	1-2 times/mo.	U.S.
30	1 time/yr.	1 time/6 mo.	U.S. (Los Angeles, CA)	1 time/3-4 mo.	---
31	None	1 time/6 mo.	U.S. (some at school)	Never	N/A
32	None	1 time/yr.	U.S. (Sacramento, CA; AL)	1 time/3-4 mo.	U.S. (Sacramento, CA; AL)



Table 4.12 reports the participants' patterns of travel, the origins of foreign visitors that visit them, and the frequency with which they communicate with people in other countries. Three participants in the study report that they visit the U.S. every few years to vacation for a month (#13, #25, #30), but none of the participants in this study have lived in the U.S. as migrant workers and none report that they have lived abroad. Many of the participants are visited by someone from the U.S. at least once per year, and Table 4.12 shows that most come from California, Illinois, and Texas. The participants frequently explain that the people who visit them are uncles and cousins who are cyclical migrant workers. Many of the participants also communicate with their extended family members who are working in the U.S, by phone, chat, email, or other means, but for most the communication is limited to less than four times per year and some never communicate with the people who visit them from the U.S. while they are away. Other participants report contact with foreigners through school (#2, #6) or from Germany (#13, #14) and some report communicating with someone from another country besides the U.S. once every 1-3 years (#5, #13, #17, and #20). Overall, Table 4.12 shows that most of the participants have not traveled outside of Mexico, most are visited by cyclical migrant workers who live in the U.S., and most have infrequent communication with the cyclical migrants living in the U.S.

We can now describe the participants in this study in terms of their contact with indigenous languages, contact with foreign languages, and contact with the Spanish of cyclical migrant workers. Being from the zone of Bajío Mexican Spanish, these participants have very limited contact with speakers of indigenous languages. Everyone has come in contact with English through their studies at school in Mexico. Their study of English ranges from having taken several years of English classes to having taken only a few. Although none of the participants in this study have migrated to the U.S. to work, most are visited in Guanajuato by

cyclical migrant workers, and they sometimes communicate with each other by phone or through other means. Contact with indigenous languages, contact with foreign languages, and contact with the Spanish of cyclical migrant workers are all important language-external variables to take into consideration in a study of Mexican Spanish.

### **4.3 Summary and Research Questions**

In this chapter, the results of a language history questionnaire helped to describe the participants of this study as coming from the Bajío zone of the central highlands dialect of Mexican Spanish. The participants had the opportunity to acquire the central highlands dialect of Mexican Spanish from their parents, have spent most of their life in communities where Bajío Mexican Spanish is spoken, and their current social networks are comprised almost entirely by speakers of Bajío Mexican Spanish. There are 18 men and 14 women in the study, their ages range from 18-26 years, and their average age is 20.0 years. Most of the participants are students attending the Institute of Agricultural Sciences at an extension of the University of Guanajuato in El Copal, Guanajuato, Mexico. Most have parents who have only completed an elementary or secondary level of education, but some have parents who have studied at the university. The participants come from a number of cities and small towns near El Copal, Mexico, and have had less contact with indigenous languages than they would have if they had come from another region of Mexico. The first language of all of the speakers is Spanish and everyone has studied English in school to some degree. Many of the participants are visited yearly by relatives who return yearly from working in the U.S. and some communicate with them while they are away. These language-external variables will be considered in this study in order to investigate the extent to which they influence variation at the syntax-lexicon and syntax-discourse interfaces.

We can now expand on the research questions listed in Chapters 2 and 3. One of the research questions asks if individual variables can explain the varying word orders at the syntax-lexicon and syntax-discourse interfaces. In the present chapter, we have identified a number of individual variables which may explain such variation, and an additional research question may be stated as follows:

- (40) Research Question 1: Which language-external variables best explain word order variation at the syntax-lexicon and syntax-discourse interfaces?
- a. Education level?
  - b. Urban/rural differences?
  - c. Gender?
  - d. Years of English classes?
  - e. Contact with cyclical migrants?

If the language-external variables in (40) do explain interface variation, we can make a number of predictions, based on previous research and based on our knowledge of Spanish in the state of Guanajuato. For Research Question #1a, if an increased use of SV order is related to the increased use of English lexical loans in Guanajuato, we would predict an increased use in SV order among those who come from a background with little education. We would expect those who have parents with a higher educational background to use less SV order. We would make these predictions because English lexical loans are used the most by former migrants with less education to assert upward social mobility and are used the least by those with more education, even when they may be former migrants themselves (Matus-Mendoza, 2002a, 2002b). In addition, Mexicans of the lower socioeconomic classes are the ones who tend to migrate to the

U.S. the most, so we may expect English-influenced word order to affect the lower classes the most and higher classes the least.

Regarding the ability of urban/rural differences to explain word order variation as stated in Research Question #1b, we may predict that English-influenced SV order will be used by participants from urban areas the most. This is because if former migrant workers use English lexical loans more in the urban areas of Guanajuato than in the rural areas (Matus-Mendoza, 2002a, 2002b), then we would expect the same to happen if they use an English-influenced SV order. The participants from rural areas of Guanajuato should prefer VS order.

Research Question #1c asks if the gender of the participants may also be used to explain interface variation. The data appear to suggest that males who return from working in the U.S. use more English loans in Guanajuato than women (Matus-Mendoza, 2002a, 2002b). Because of this, we might also expect the men in Guanajuato to use SV order at higher rates than women.

Research Question #1d asks about the influence that studying English has on the Spanish word order of the participants. We may predict that the participants with more years of English classes will show more signs of L1 attrition. No previous studies of which I am aware have investigated the possibility that Spanish-dominant learners of English may suffer L1 word order attrition. Those who have studied English the longest should use SV order more than those who have not studied English as long.

The last research question concerns the possible influence of contact with cyclical migrants in Guanajuato, which also has received little attention in the literature. Cyclical migrants use English loans in their speech when they return to the state of Guanajuato (Matus-Mendoza, 2002a, 2002b), and it is possible that they may use more preverbal subjects there as well. If this is true, we would expect that those who have closer ties to cyclical migrants will also

use more preverbal subjects (just as they do English lexical loans), and this may be measured by the frequency with which participants communicate with and are visited by the cyclical migrants. The family ties between the cyclical migrants and those who have not migrated may provide the motivation for such accommodation. Additionally, any contact with cyclical migrants should not affect the word order with respect to the position of adverbial phrases. This is because postverbal subjects are common with preverbal adverbial phrases in both English and contact Spanish, and it is likely that postverbal subjects also occur with preverbal adverbs in cyclical migrant Spanish.

In this chapter we have described the language-external characteristics of the participants in the present study and expanded on the research questions of Chapters 2 and 3. In the next chapter, we will outline the production and acceptability judgment tasks used in the present study and describe the methods used to analyze the results of the study.

# **Chapter 5**

## **Instruments and Procedures**

### **5.0 Instruments and Procedures**

In previous chapters we described and gave examples for a number of variables that may explain the word order of intransitive predicates in Spanish and identified areas where additional research is needed. The present study seeks to answer several questions about word order and split-intransitivity by using a production task and an acceptability judgment task. In this chapter, we describe the variables and research questions relevant to the study (5.1), the instruments and procedures used in the study (5.2), and the methods used to code and analyze the data (5.3).

### **5.1 Variables and Research Questions**

The variables described in previous chapters include language-internal variables operating at the syntax-lexicon and syntax-discourse interfaces as well as language-external variables related to the speakers of Bajío Mexican Spanish. These variables will now be summarized and the research questions from previous chapters will be discussed.

#### **5.1.1 Summary of Variables Related to Word Order**

The language-internal variables that relate to word order at the syntax-lexicon interface include the verb categories of the Split Intransitivity Hierarchy and the notions of ‘agentivity’ and ‘telicity’ in the compositional semantics of the sentence. These variables are listed in (1):

##### **(1) Language-Internal Variables: Syntax-Lexicon Interface**

- a. Split Intransitivity Hierarchy
  - i. Agentivity inherent in the verb
  - ii. Telicity inherent in the verb

b. Compositional Semantics

i. Compositional Agentivity

1. Animacy or inanimacy of the subject NP
2. Intentionality or unintentionality as indicated by adverbial phrases

ii. Compositional Telicity

1. Telos identified or removed by adverbial phrases

This list shows that some of the variables related to the syntax-lexicon interface include the agentivity and telicity inherent in the lexico-semantics of the verbs. In addition to these meanings inherent in the verb, the subject of the sentence may be animate or inanimate and the presence of adverbial phrases may further agentify or deagentify the subject. The compositional telicity of a sentence may also be affected by adverbial phrases. These variables are important to consider in a study of split-intransitivity and the syntax-lexicon interface.

The language-internal variables of the syntax-discourse interface that relate to Spanish word order are the information status, focalization, and informational heaviness of discourse entities. These are summarized in (2):

(2) Language-Internal Variables: Syntax-Discourse Interface

a. Information status:

- i. New
- ii. Inferrable
- iii. Evoked

b. Focus:

- i. Type of Focus: Contrastive or presentational

- ii. Scope of Focus: Broad or narrow
  - iii. Focus Marking: Word order, pseudo-clefts, prosody, etc.
- c. Informational Heaviness
  - i. Subject
    - 1. Subject length as an indication of informational heaviness
    - 2. Definite/indefinite subjects as indicating degrees of identifiability
  - ii. Predicate
    - 1. Unaccusative verbs as being informationally light or ‘presentational’ in nature
    - 2. The position of adverbial phrases with respect to the subject and the informational lightness of the verb

The list of discourse-related variables in (2) begins with whether or not the information status of entities in discourse is new, inferable, or evoked. The list also includes the type of focus (contrastive or presentational), the scope of the focus (broad or narrow), and means of marking the focus (word order, pseudo-clefts, etc.). Other variables related to word order at the syntax-discourse interface include the length of the subject, the definiteness of subject, the possibility of the verb as being ‘presentational’ in nature, and the position of adverbial phrases with respect to the subject and the ‘informational lightness’ of the verb. These syntax-discourse variables should be monitored in a study of Spanish word order.

In Chapter 4, we also identified several language-external variables that may explain word order variation in Bajío Mexican Spanish. These language-external variables may be summarized as follows:



### (3) Language-external Variables

- a. Dialect of Spanish
  - i. Location: Country, dialect, dialect zone
  - ii. Acquisition and use of the dialect
  - iii. Contact with other dialects
- b. Sociolinguistic variation
  - i. Education level
  - ii. Urban/rural differences
  - iii. Gender
- c. Language contact
  - i. Contact with indigenous languages
  - ii. Contact with foreign languages
  - iii. Contact with cyclical migrants

The language-external variables listed in (3) include those that concern dialectal variation, sociolinguistic variation, and language contact. Dialectal variation may be limited to the location by country, by the dialect within the country, and by the zone within the dialect. It also may be limited by the acquisition and use of the dialect and contact with other dialects of Mexican Spanish. The sociolinguistic variables listed here include the participants' education level, hometown population, and gender. Contact with indigenous languages, foreign languages, and cyclical migrants are also important factors to consider in a study of word order in Mexican Spanish. No previous study of Spanish word order of which I am aware takes the majority of these language-internal and language-external variables into consideration. These variables were identified in previous chapters and led us to formulate several research questions.

### 5.1.2 Summary of Research Questions

Along with identifying the language-internal and language-external factors that may explain word order variation in previous chapters, research questions were also put forth to further investigate the syntax-lexicon and syntax-discourse interfaces. In Chapter 2, we asked research questions regarding the syntax-lexicon interface, beginning with the question in (4):

- (4) Research Question 1: Is there word order variation at the syntax-lexicon interface in Bajío Mexican Spanish?

Because other studies have found some variation in language contact to be due to the variation already present in monolingual grammars (e.g. Lapidus & Otheguy, 2005; Silva-Corvalán, 1986), and because theoretically non-target word orders have been found in contact Spanish (Hinch Nava, 2007; Silva-Corvalán, 2001; Zapata et al., 2005), we may predict that there will also be similar word order variation in Mexican Spanish. We will notice this word order variation if SV order is used with core unaccusative verbs and VS order is used with core unergative verbs in broad focus.

The next question about the syntax-lexicon interface asks about the sources of possible variation at this interface. This question is revisited here:

- (5) Research Question 2: If there is variation at the syntax-lexicon interface, what is its source?
- a. The inherent complexity of the interface itself?
  - b. Individual factors?

As with other studies of the syntax-lexicon interface (Guijarro-Fuentes & Marinis, 2007; Kraš, 2005), we would expect both the inherent complexity of the interface and individual factors to explain the variation at the syntax-lexicon interface. We will know if the inherent complexity of

this interface is the source of the variation if the peripheral categories of the Split Intransitivity Hierarchy show more word order variation than the core categories of the hierarchy. This is because the way to assign word order to the verbs of the peripheral categories involves not only the lexico-semantics of the verb but also the compositional telicity and agentivity of the sentence. We will also know if individual factors explain interface variation by comparing the word orders for different speakers according to sociolinguistic and language contact variables.

The last question about the syntax-lexicon interface is regarding the ability of the Split Intransitivity Hierarchy to explain word order in Spanish. This question is repeated in (6):

(6) Research Question 3: Can the Split Intransitivity Hierarchy account for Spanish word order data?

- a. Do any categories of the hierarchy need to be collapsed for Spanish?
- b. Where is the cutoff point between unaccusatives and unergatives in Spanish?

Because the Split Intransitivity Hierarchy has been useful to explain the results of other diagnostics of unaccusativity in Spanish (see some of these in Montrul, 2005b), we would also expect to see the hierarchy successfully account for word order patterns related to split-intransitivity in Spanish. We would expect to see a gradual change from VS order with core unaccusative verbs to SV order with core unergative verbs. An examination of the preferences for SV or VS order along the hierarchy would show where the cutoff point is between unergative and unaccusative behavior and will indicate if the categories need to be collapsed or reordered. Based on other studies, there may be a cutoff point between either the ‘change of state’ and ‘existence of state’ categories or between the ‘existence of state’ and the ‘uncontrolled process’ categories. If there is more word order variation in the core categories of the hierarchy than in the peripheral categories, then we may find evidence against the Split Intransitivity Hierarchy.

The research questions in Chapter 3 relate to the syntax-discourse interface. The first of these questions asks about variation at the syntax-discourse interface:

(7) Research Question 4: Is there word order variation at the syntax-discourse interface?

- a. Does the syntax-discourse interface show more variation than the syntax-lexicon interface in Bajío Mexican Spanish?

Studies in several languages show that the syntax-discourse interface displays more variation than the syntax-lexicon interface (e.g. Iverson & Rothman, 2008; Lozano, 2006a; Montrul, 2005b; Sorace & Filiaci, 2006; Sorace et al., 2009; Tsimpli et al., 2004), so we would also expect to see the same in the present study. Some studies of native speakers of Spanish do appear to show that there is more variation at the syntax-discourse interface than at the syntax-lexicon interface (Domínguez & Arche, 2008; Hertel, 2000; Lozano, 2003, 2006a, 2006b), but the data in these studies appear to concur that the variation occurs the most with unergative verbs.<sup>63</sup> In fact, the native Spanish speakers of the same studies show more word order variation in the syntax-lexicon interface than in the syntax-discourse interface for unaccusative verbs. In the present study, we may also see the variation at the syntax-discourse interface to be the strongest for unergative verbs and variation at the syntax-lexicon interface to be the strongest for unaccusative verbs. We will know for sure if the syntax-discourse interface displays more variation than the syntax-lexicon interface by comparing the word orders of broad and narrow focus contexts.

Another research question about the syntax-discourse interface inquires as to the source of the variation. This research question is stated as follows:

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<sup>63</sup> The word order data for heritage speakers of Spanish (Zapata et al., 2005) and L2 learners of Spanish (Lozano, 2006a) also seem to show that the syntax-discourse interface has more theoretically non-target word order than the syntax-lexicon interface, but that this is mainly with unergative verbs.

(8) Research Question 5: If there is variation at the syntax-discourse interface, what is its source?

- a. The inherent complexity of the interface?
- b. Individual factors?

The syntax-discourse interface is complex because it is not only determined by the fact that a subject constitutes new information and is in narrow presentational focus, but also by the informational properties of the subject and the verb. If the variation at the syntax-discourse interface is due to the complexity of the interface, then we would expect to see that the definiteness and informational weight of the subject will also explain word order variation. In addition, if it is true that unaccusative verbs are more ‘presentational’ in nature than unergative verbs, we would also expect to see that unaccusative verbs will more strongly prefer VS order than unergative verbs in narrow focus. We will know if any variation at the syntax-discourse interface is due to the complexity of the interface by whether or not these informational properties of the subject and verb have any effect on the word order. By comparing different groups of speakers, we will also know if sociolinguistic or language contact factors can explain the word order variation at the syntax-discourse interface.

The last research question about the interfaces asks about differences in the tasks used to investigate word order in Spanish. This question is given in (9):

(9) Research Question 6: Is there a difference between perception and production in word order preferences?

- a. Do we see a difference at the syntax-discourse interface and at the syntax-lexicon interface?

- b. Do production tasks support the unaccusative/unergative distinction, the Split Intransitivity Hierarchy, and the broad/narrow focus distinction?

In answer to Research Question #6a, we would expect to see a difference in perception and production at both interfaces and should see more SV order occurring in production. This is because most previous studies show that native Spanish speakers maintain the unaccusative-unergative distinction in acceptability judgment tasks (Domínguez & Arche, 2008; Hertel, 2000; Lozano, 2003, 2006a, 2006b), but unexpectedly prefer SV order with unaccusatives in both oral and written production (Hertel & Pérez-Leroux, 1998; Mayoral Hernández, 2006), apparently regardless of broad or narrow focus (Hertel, 2000, 2003). For Research Question #6b, we would predict that because most production tasks fail to show an unaccusative/unergative distinction or a broad/narrow focus distinction, we would also not expect another production task to support the distinctions. However, previous studies have not accounted for many of the variables that relate to word order, and a study that does control for these variables may show that these distinctions are maintained in production. We can answer Research Question #6 by administering a contextualized acceptability judgment task and a contextualized production task and then comparing the results of the tasks.

The last of the research questions proposed in previous chapters concern language-external variables. In Chapter 4, we identified several language external variables that may relate to word order in Bajío Mexican Spanish and proposed the following research question:

- (10) Research Question 7: Which language-external variables best explain word order variation at the syntax-lexicon and syntax-discourse interfaces?
  - a. Education level?
  - b. Urban/rural differences?

- c. Gender?
- d. Years of English classes?
- e. Contact with cyclical migrants?

Previous studies of /-r/ assimilation and the use of English lexical loans in Moroleón, Guanajuato show that education level, urban/rural differences, and gender are important language-external variables to consider in Guanajuato (Matus-Mendoza, 2002a, 2002b, 2002c, 2004). Because of the patterns of use of English lexical loans in the state of Guanajuato, we might expect SV order to occur more frequently among men with a lower educational background who live in urban areas. We would also expect to see an increased use of SV order for those with many years of English classes and for those with close ties to cyclical migrants.

To answer these seven research questions and address the concerns raised throughout our review of the literature in previous chapters, an experiment was designed and conducted that considers several language-internal and language-external variables never before considered together in a study of Spanish word order. We now turn to a description of the present study.

## **5.2 Instruments and Procedures**

There were four instruments used in the study: a language history questionnaire, a Spanish proficiency test, an oral production task, and an acceptability judgment task.<sup>64</sup> The language history questionnaire was described in Chapter 4, and investigated the participants' acquisition and use of Spanish, their contact with speakers of other dialects of Mexican Spanish, and their contact with other languages. The questionnaire also collected sociolinguistic information about the participants including their educational background, hometown, and gender. A multiple-choice Spanish proficiency test based on a segment of the DELE (*Diplomas*

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<sup>64</sup> Before participating in the study, written consent to participate in the experiment was obtained from each participant and compensation was given to each participant upon completion of the study.

*de Español como Lengua Extranjera* ‘Diplomas of Spanish as a Foreign Language’) was administered for comparison with a future study of Spanish-English bilinguals in the U.S. The design and procedures used to administer the computer-based tasks will now be detailed.

### **5.2.1 Oral Production Task**

The oral production task was designed to elicit word orders in both broad and narrow focus. This task was designed after written production tasks and acceptability judgment tasks that were previously used to test split-intransitivity in broad and narrow focus contexts in Spanish (Hertel, 2000; Lozano, 2003, 2006a; Zapata et al., 2005). No oral production tasks of which I am aware test split-intransitivity in broad and narrow focus contexts in Spanish, but similar tasks have been conducted for Italian (Belletti et al., 2007; Belletti & Leonini, 2004), and this study incorporates components of those studies. We will now explain the design and procedure used for the oral production task.

#### **5.2.1.1 Oral Production Task: Design**

Both syntax-lexicon variables and syntax-discourse variables were taken into account in the design of the oral production task. To investigate the syntax-lexicon interface, participants listened to stories that control for syntax-lexicon variables. These stories were designed to elicit a sentence with an unaccusative or unergative verb. Each story was followed by the question *¿Qué pasó?* ‘What happened?’. This question imposes a broad focus over the answer to the question and produces an unmarked or discourse-neutral word order (Gutiérrez-Bravo, 2002, 2009; Hertel, 2000, 2003). The following example shows a context used in the present study to elicit a sentence with the unaccusative verb *regresar* ‘to return’:



(11) Unaccusative Broad Focus

- a. Audio: Un compañero de trabajo, que no sonríe mucho, te dice que hoy está muy feliz porque tiene un hermano que ha regresado después de pasar mucho tiempo en la universidad. Cuando tu jefe ve que tu compañero está sonriendo mucho, te pregunta: “¿Qué pasó?” y tú le dices:  
‘A coworker, who doesn’t smile much, tells you that today he is very happy because he has a brother that has returned after spending a lot of time at the university. When your boss sees that your coworker is smiling a lot, he asks you: “What happened?” and you say to him:’
- b. Screen: regresar  
‘to return’

After the story was played, the participants gave an answer to the question that they heard using the verb on the screen (as shown in Figure 5.1).<sup>65</sup>



Figure 5.1 Production Task Screenshot: Unaccusative Broad Focus

<sup>65</sup> It was necessary to display the verb to elicit the subject and verb together (for similar studies that do so, see Belletti et al., 2007; Belletti & Leonini, 2004). Narrow focus questions may be answered only with the subject NP, but the inclusion of the verb is also an acceptable response (Bolinger, 1991). Requiring the use of the subject and verb in narrow focus allows for a comparison with broad focus contexts in which both the subject and verb are used. Participants responding with only a subject were reminded to include the verb on the screen in the response.

Requiring the participants to combine the subject from the story with the verb on the screen to form a sentence allowed them to answer in the word order that they so chose. The target response to the question would include the verb *regresar* ‘to return’ and a postverbal subject:

(12) Regresó su hermano.<sup>66</sup>

Returned his brother

‘His brother returned.’

The next example shows the audio story played for eliciting a sentence with the unergative verb *bostezar* ‘to yawn’:

(13) Unergative Broad Focus

a. Audio: Estás en una tienda para comprar algunas cosas cuando un amigo te llama en tu celular, y hablan mientras esperas en la cola. En la cola hay una mamá con una nena que bosteza fuerte mientras hablas con tu amigo y tu amigo oye el bostezo de la nena y te pregunta: “¿Qué pasó?” y tú dices:

‘You are in a store to buy some things when a friend calls you on your cell phone and you talk while you wait in line. In the line there is a mother with a little girl that yawns loudly while you talk with your friend, and your friend hears the girl’s yawn and asks you: “What happened?” and you say:’

b. Screen: bostezar

‘to yawn’

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<sup>66</sup> *Su hermano* ‘his brother’ is an example of a ‘brand-new anchored’ entity (Prince, 1981) because the subject contains all new information except for the word *su* ‘his’.

The participant would see the target verb presented on the screen, shown in Figure 5.2, and give an answer to the question using the verb.



Figure 5.2 Production Task Screenshot: Unergative Broad Focus

The target answer to the question posed in (13) should include the verb *bostezar* ‘to yawn’ and a preverbal subject, as shown here:

(14) Una nena bostezó.

A girl yawned

‘A girl yawned.’

Contexts such as these were constructed to elicit a number of unaccusative and unergative verbs that represent the six categories of the Split Intransitivity Hierarchy.

To investigate the syntax-lexicon interface, the Split Intransitivity Hierarchy was taken into consideration. The Split Intransitivity Hierarchy accounts for the degrees of agentivity and telicity that are inherent in the lexico-semantics of the verbs. There were 24 target verbs in this study and they included four from each category of the Split Intransitivity Hierarchy. Table 5.1 shows the verbs used to represent the more unaccusative side of the continuum, which includes the categories of ‘change of location’, ‘change of state’, and ‘existence of state’.

Table 5.1 Core, Less-core, and Peripheral Unaccusative Categories

CHANGE OF LOCATION (Core)		CHANGE OF STATE (Less core)		EXISTENCE OF STATE (Peripheral)	
<i>llegar</i>	‘arrive’	<i>crecer</i>	‘grow’	<i>quedar</i>	‘remain’
<i>salir</i>	‘leave’	<i>progresar</i>	‘progress’	<i>vivir</i>	‘live’
<i>volver</i>	‘return’	<i>nacer</i>	‘be born’	<i>faltar</i>	‘lack’
<i>regresar</i>	‘return’	<i>morir</i>	‘die’	<i>persistir</i>	‘persist’

On the other end of the continuum are the unergative verb categories that include ‘controlled non-motional processes’, ‘controlled motional processes’, and ‘uncontrolled processes,’ as shown in Table 5.2.

Table 5.2 Core, Less-core, and Peripheral Unergative Categories

NON-MOTIONAL PROCESS (Core)		MOTIONAL PROCESS (Less core)		UNCONTROLLED PROCESS (Peripheral)	
<i>gritar</i>	‘scream’	<i>correr</i>	‘run’	<i>temblar</i>	‘shiver’
<i>silbar</i>	‘whistle’	<i>saltar</i>	‘jump’	<i>sudar</i>	‘sweat’
<i>cantar</i>	‘sing’	<i>caminar</i>	‘walk’	<i>bostezar</i>	‘yawn’
<i>trabajar</i>	‘work’	<i>nadar</i>	‘swim’	<i>toser</i>	‘cough’

The verbs and verb categories shown in Tables 5.1 and 5.2 were chosen for a comparison with Montrul’s (2005a, 2005b, 2006) previous studies of the Split Intransitivity Hierarchy in Spanish. Montrul reduces Sorace’s (2000b, 2004) seven categories of the hierarchy to six by combining verbs of ‘continuation of pre-existing state’ (e.g. *quedar* ‘to remain’) and ‘existence of state’ (e.g. *existir* ‘to exist’). For comparison, this study combines the categories as well.

Compositional agentivity and compositional telicity were also considered in the design of the stories that the participants heard. Because whether or not a subject is animate or inanimate may influence the compositional agentivity of the utterance and thus the word order produced, all of the stories included target subjects that were human. The compositional agentivity was also cared for by not using adverbial phrases in the stories like *deliberadamente* ‘deliberately’, *voluntariamente* ‘voluntarily’, or *accidentalmente* ‘accidentally’ which would explicitly denote or remove intentionality. The compositional telicity of the sentence was taken into consideration by

avoiding the use of telic adverbial phrases (e.g. *a la casa* ‘to the house’ or *gradualmente* ‘gradually’) that might also specify or remove the beginning or endpoint of an action.

In addition to syntax-lexicon variables, several syntax-discourse variables were given consideration in the design of this task. Questions beginning with *¿Quién...?* ‘Who...?’ were used to elicit narrow presentational focus on the subject, following other studies (Hertel, 2003; Lozano, 2006a; Zapata et al., 2005). The following story, for example, was used in the study to elicit narrow focus on the subject of a sentence with the unaccusative verb *regresar* ‘to return’:

(15) Unaccusative Narrow Focus

- a. Audio: Ayer tuviste que ir a la estación de autobuses para recoger a un hermano que ha estado de vacaciones. Hoy, tu compañero de trabajo te dice que te vio ayer en la estación de autobuses con alguien que había estado de vacaciones y te pregunta: “¿Quién regresó?” Y tú contestas:  
  
‘Yesterday, you had to go to the bus station to pick up a brother that has been on vacation. Today, your coworker tells you that he saw you yesterday in the bus station with someone that had been on vacation and asks you: “Who returned?” And you answer:’
- b. Screen: regresar  
  
‘to return’

The participant would see the verb *regresar* ‘to return’ on the screen (the same as shown in Figure 5.1 above) and then use it to answer the question *¿Quién regresó?* ‘Who returned?’. The target utterance in this context would have a postverbal subject with the verb *regresar*, as in (16):

(16) Regresó mi hermano.

Returned my brother

‘My brother returned.’

These stories were also designed to elicit an unaccusative verb with a subject in narrow focus:

(17) Unergative Narrow Focus

a. Audio: Estás en el cine mirando una película de suspense. Escuchas un bostezo ruidoso y ves que una nena lo hizo. Una amiga no vio quién lo hizo y te pregunta: “¿Quién bostezó?” y tú respondes: ‘You are at the movies watching a movie of suspense. You hear a noisy yawn and you see that a girl did it. A friend didn’t see who did it and asks you: “Who yawned?” and you respond:’

a. Screen: bostezar  
‘to yawn’

Participants in the study would hear the question *¿Quién bostezó?* ‘Who yawned?’ and use the verb *bostezar* ‘to yawn’ displayed on the screen to answer the question (the same as shown above in Figure 5.2). The target sentence would also include a postverbal subject:

(18) Bostezó una nena

yawned a girl

‘A girl yawned.’

These two story contexts are examples of those used in the present study to elicit sentences with subjects in narrow presentational focus.

The stories were constructed to account for syntax-discourse variables by specifying the information status of referents for the participants. The information status of the subject NP and

verb are clarified in each story by the context and the question. In (17), for example, the story explicitly states that a fictitious interlocutor friend did not see who yawned, and because the friend asks the question *¿Quién bostezó?* ‘Who yawned?’, it is made clear that knowing who yawned would be new information to the friend. This wh-question also makes the focus presentational (and not contrastive) because the answer to the question will only introduce new information to the discourse. The question makes the scope of the focus narrow by restricting it to the subject NP. Stories were also constructed to limit the informational heaviness of the subjects by using indefinite, simple target subjects (e.g. *una nena* ‘a girl’) as much as possible.<sup>67</sup> Because a wide range of unaccusative and unergative verbs were used in the study and because all contexts involved new information, we are able to observe the possible ‘presentational’ nature of unaccusative verbs and see if they favor VS order in narrow focus more than unergative verbs.

This contextualized oral production task was designed to elicit 48 target utterances per participant (4 verbs X 6 verb categories X 2 focus types). There were 4 target verbs for each of the six categories of the Split Intransitivity Hierarchy. Each verb was used in one story for broad focus and in a different story for narrow focus. Eight distracter stories using transitive verbs with broad and narrow focus were also included.<sup>68</sup> The 48 target stories were randomized by computer into three orders and participants were administered one of three random versions of the task. A transcript of the stories is found in Appendix B: Production Task Audio Script.

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<sup>67</sup> As a result, most of the subjects elicited were light and only had a determiner and a noun (see Chap. 6 for results).

<sup>68</sup> The number of distracter items in this contextualized task was chosen following similar studies of word order and split intransitivity by Hertel (2000, 2003) and Lozano (2003, 2006a). Lozano appears to obtain clearer results than Hertel, so I decided to follow the general design of his study. In his study, there were 24 target stimuli that were preceded by two distracters and ended by two distracters. These four distracters were only 1/6<sup>th</sup> of the target stimuli. Three other items were used at the beginning of his study for training the participant for the task. The distracters used in Lozano’s study were not randomized with the target stimuli, but data was still obtained that support other studies of split intransitivity. In hopes of obtaining similarly useful data, eight distracters (1/6<sup>th</sup> of the target stimuli) were used in the present task, four at the beginning of the task for training purposes and four at the end of the task. The 48 target stimuli in this task were randomized into three different random orders and there were three versions of the task. Future studies should use an increased number of distracters and spread them throughout the target stimuli. In spite of this limitation in the present study, we will see in Chapter 6 that there are clear patterns in the data that are not due to chance, confirming several of the hypotheses presented in this chapter.

### **5.2.1.2 Oral Production Task: Procedure**

A laptop displayed the PowerPoint presentation containing the oral production task. Participants first read instructions for the task on the computer. They were told that they would hear some stories, that there would be a question at the end of each story, and that they needed to use the word on the screen and give a complete sentence answer. They began with four practice items with transitive predicates, two with narrow focus on the object and two with broad focus.

Participants pressed an arrow key on the keyboard to advance the slides in the task. For each slide, a verb would be displayed in the center of the screen (as in Figures 5.1 and 5.2) and an audio file would play a story that ends with a question. Participants used the verb on the screen to answer the question and all oral responses were recorded digitally. Each story and question was on average 32.6 seconds long and the self-paced task took about 20-25 minutes to complete. An acceptability judgment task was also administered to the participants in the study.

### **5.2.2 Acceptability Judgment Task**

As with the production task, the acceptability judgment task tested word order preferences for verbs along the Split Intransitivity Hierarchy. This task was similar to the production task and used the story contexts from the production task. This made the two tasks comparable and minimized any unforeseen confounding variables in the stories. The judgment task was modeled after other contextualized acceptability judgment tasks administered on paper (Hertel, 2000, 2003; Lozano, 2003, 2006a), but the judgment task here was administered by computer. The design and procedures related to the judgment task will now be explained.

#### **5.2.2.1 Acceptability Judgment Task: Design**

The acceptability judgment task was designed to control for both syntax-lexicon and syntax-discourse variables. To examine the syntax-lexicon interface, the question *¿Qué pasó?*



‘What happened?’ established a broad focus context over the sentence to be judged. The following example shows a broad focus context with the unaccusative verb *llegar* ‘to arrive’:

(19) Broad Focus Unaccusative

- a. Audio: Trabajas en un negocio y tu jefe te dice que lleva muchas horas esperando a un abogado y que no ha llegado. Después de un tiempo, llegó y tu jefe canta de alegría al ver por fin al abogado. Un compañero de trabajo quiere saber por qué está tan feliz el jefe y te pregunta: “¿Qué pasó?” Y tú dices:  
‘You work in a store and your boss tells you that he has been waiting a long time for a lawyer and that he hasn’t arrived. After a time, he arrived and your boss sings for joy upon seeing the lawyer at last. A coworker wants to know why the boss is so happy, and asks you: “What happened?” And you say:’
- b. Screen: Llegó un abogado. / Un abogado llegó.  
‘Arrived a lawyer. / A lawyer arrived.’

As soon as the audio story was finished playing, two possible answers to the question appeared for rating. One answer had a preverbal subject and one had a postverbal subject.<sup>69</sup> The sentences that appeared on the screen to be judged for the context in (19) are shown in Figure 5.3.

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<sup>69</sup> To prevent order-of-presentation effects, half of the slides in the task presented sentences with VS order first and half began with SV order first. This was balanced for each verb category along the Split Intransitivity Hierarchy. The target slides were then placed into three computer-generated random orders.



Figure 5.3 Acceptability Judgment Task Screenshot: Unaccusative Broad Focus

The participants were required to read each sentence aloud, pause, and then verbally select one of five statements to describe how it sounds.<sup>70</sup> These statements are as follows:

- (20) 5-point Likert scale
- a. *suena raro* ‘sounds strange’
  - b. *suena un poco mal* ‘sounds a little bad’
  - c. *ni bien ni mal* ‘neither good nor bad’
  - d. *suena un poco bien* ‘sounds a little good’
  - e. *suena bien* ‘sounds good’

The theoretically target response for the first unaccusative sentence in Figure 5.3 would be *suena bien* ‘sounds good’ because it has a postverbal subject with the unaccusative verb in broad focus.

<sup>70</sup> Other contextualized acceptability judgment tasks have also used a Likert scale (Hertel, 2000; Lozano, 2003). In Hertel’s (2000) study, a 7-point Likert failed to discriminate verb types, but in Lozano’s (2003) study, a 5-point Likert scale worked successfully to discriminate the verb types, so a 5-point scale was chosen for the study here.

The second sentence should not receive a high rating because it has a preverbal subject. The next example shows another broad focus context, but with the unergative verb *gritar* ‘to scream’:

(21) Broad Focus Unergative

- a. Audio: Estás mirando un programa de concurso en la televisión y mientras miras el programa, alguien gana mucho dinero y una modelo que está en el programa sintió tanta emoción que gritó. Desde la cocina, tu hermana oyó algo en la tele y te pregunta: “¿Qué pasó?” y tú dices: ‘You are watching a game show on television and while you watch the program, someone earns a lot of money and a model that is on the program feels so much excitement that she screams. From the kitchen, your sister hears something on the TV and asks you: “What happened?” and you say:’
- b. Screen: Gritó una modelo. / Una modelo gritó.  
‘Screamed a model. / A model screamed.’

After hearing this question, the participants rated the sentences shown in Figure 5.4.

## Gritó una modelo.

Suenararo	Suenapoco mal	Nibien ni mal	Suenapoco bien	Suenabien
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## Una modelo gritó.

Suenararo	Suenapoco mal	Nibien ni mal	Suenapoco bien	Suenabien
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Figure 5.4 Acceptability Judgment Task Screenshot: Unergative Broad Focus

In theory, the target rating for the first sentence in Figure 5.4 would be low on the scale (e.g. *suena un poco mal* ‘sounds a little bad’), because the sentence has an unergative verb accompanied by a postverbal subject in broad focus. The second sentence should be rated *suena bien* ‘sounds good’ because it is an unergative verb with a preverbal subject in broad focus.

This acceptability judgment task was designed to take into account several variables related to the syntax-lexicon interface. The sentences to be judged included two verbs from each of the six categories of the Split Intransitivity Hierarchy. These verbs are listed in (22):

- (22) Verbs used from the Split Intransitivity Hierarchy
- a. Change of Location: *llegar* ‘to arrive’, *salir* ‘to leave’
  - b. Change of State: *crecer* ‘to grow’, *morir* ‘to die’
  - c. Existence of State: *vivir* ‘to live’, *faltar* ‘to lack’
  - d. Uncontrolled Process: *temblar* ‘to shiver’, *sudar* ‘to sweat’
  - e. Motional Process: *correr* ‘to run’, *nadar* ‘to swim’
  - f. Non-motional Process: *gritar* ‘to scream’, *cantar* ‘to sing’

The compositional agentivity of the sentences was controlled by only using animate, human subjects. The effects of adverbial phrases on the compositional telicity or agentivity of a sentence were eliminated by not including any adverbial phrases in these sentences. All of the questions heard and all of the answers presented on the screen were given in the preterite aspect for consistency and to prevent further variation in the interpretation of the telicity of the sentence.

This task also required participants to judge sentences with narrow focus on the subject. Narrow focus contexts were made using a question beginning with *¿Quién...?* ‘Who...?’. The following example shows a narrow focus context with the unaccusative verb *llegar* ‘to arrive’:

(23) Narrow Focus Unaccusative

- a. Audio: Estás mirando una película de comedia con un amigo y ves que las personas en la película están esperando la llegada de alguien. Mientras tu amigo va para buscar comida, ves que la persona que esperaban era un abogado. Desde la cocina, tu amigo oye que algo pasó en la película, y tu amigo te pregunta: “¿Quién llegó?” y tú respondes:
- ‘You are watching a comedy with a friend and you see that the people in the movie are waiting for the arrival of someone. While your friend goes to look for food, you see that the person that they were waiting for was a lawyer. From the kitchen, your friend hears that something happened in the movie and your friend asks you “Who arrived?” and you respond: ’
- b. Screen: Llegó un abogado. / Un abogado llegó.
- ‘Arrived a lawyer. / A lawyer arrived.’

After hearing the question at the end of the story, participants were again shown the two possible answers in Figure 5.3 and were again required to rate each of them. The theoretically target rating for the unaccusative verb with a postverbal subject is *suena bien* ‘sounds good’, and the sentence with a preverbal subject should be rated lower. The following example shows a narrow focus context used for the judgment of a sentence with the unergative verb *gritar* ‘to scream’:

(24) Narrow Focus Unergative

- a. Audio: Estás mirando la tele y aparece un comercial de un producto para matar insectos. En el comercial una modelo ve que hay un insecto y grita. Tu mamá está en la cocina cuando oye el grito de la tele, y te pregunta: “¿Quién gritó?” y tú dices:  
  
‘You are watching the TV and a commercial appears for a product to kill insects. In the commercial, a model sees that there is an insect and screams. Your mom is in the kitchen when she hears the scream from the TV and asks you: “Who screamed” and you say:
- b. Screen: Gritó una modelo. / Una modelo gritó.  
  
‘Screamed a model. / A model screamed.’

The target rating for the postverbal subject here would be *suena bien* ‘sounds good’ because the context places narrow focus on the subject. The second sentence, with a preverbal subject, should be rated much lower in narrow focus.

The variables that operate at the syntax-discourse interface were also given attention in the design of this acceptability judgment task. The stories and questions made clear who it was that the participants’ imaginary interlocutor did not know. The questions also ensured that a

presentational focus was used with a broad or narrow scope. The informational heaviness of the subjects was controlled by using only indefinite, ‘light’ subjects in the sentences to be judged. These subjects were ‘light’ in terms of complexity (they included only a determiner and a noun) and string length (all were only 5 syllables in length). Table 5.3 shows the subjects of the sentences that were judged in the acceptability judgment task.

Table 5.3 Subjects used in the Acceptability Judgment Task

SUBJECT	SYLLABIFICATION	TRANSLATION
un abogado	[u.na.bo.ga.do]	‘a lawyer’
un enemigo	[u.ne.ne.mi.go]	‘an enemy’
una modelo	[u.na.mo.de.lo]	‘a model’
un panameño	[un.pa.na.me.no]	‘a Panamanian’
una colega	[u.na.co.le.ga]	‘a colleague’
una cuñada	[u.na.cu.na.da]	‘a sister in law’
un brasileño	[un.bra.si.le.no]	‘a Brazilian’
un caribeño	[un.ca.ri.be.no]	‘a Caribbean man’
un delegado	[un.de.le.ga.do]	‘a delegate’
un veterano	[un.ve.te.ra.no]	‘a veteran’
una chilena	[u.na.chi.le.na]	‘a Chilean’
una cubana	[u.na.cu.ba.na]	‘a Cuban’

In addition, verbs from all along the Split Intransitivity Hierarchy were used in this task, so any effects that unaccusative verbs may have by their possible ‘presentational’ nature can be monitored. The influence of the position of adverbial phrases on the position of the subject was also not a problem because no adverbial phrases were used in the sentences to be judged.

The acceptability judgment task was designed to obtain 48 word order ratings per participant (2 word orders X 2 verbs X 6 verb categories X 2 focus types). Participants rated one sentence with a preverbal subject and one sentence with a postverbal subject for each verb. Two verbs were used from each category of the Split Intransitivity Hierarchy and each verb was

presented in broad and narrow focus contexts. Six distracter sentences were used as warm up/training items and six were placed at the end of the task following Lozano (2003, 2006a). These transitive items used transitive predicates in broad and narrow focus contexts. The stories for the target sentences were randomized into three different random orders generated by a computer and each participant was given one of the three orders. The audio script for the stories and the sentences that were judged are found in Appendix C: Acceptability Judgment Task.

#### **5.2.2.2 Acceptability Judgment Task: Procedure**

Like the oral production task, the acceptability judgment task was administered by computer. Participants read instructions for the task on the computer and were told that they were going to listen to some stories that end in a question again. They were told that they would see two answers after hearing each question. They were instructed to read the first answer aloud and then say to what point the answer is acceptable to them by using the use the 5-point Likert scales on the screen. They were instructed to do the same for the second sentence on the screen. The participants were told to give their first intuition and their own opinion.

The participants pressed a key on the keyboard to play audio stories and view sentences to be rated. They verbally rated the acceptability of the answers by using the scale on the screen and their ratings were recorded digitally. The task began with six warm-up sentences using transitive predicates in broad and narrow focus contexts. The warm-up sentences included OV order (highly disfavored by these speakers) and VO order. Having practice items that included strongly unfavorable word orders along with favorable ones allowed participants to learn to use the 5-point rating scale. The participants were each administered one of three different versions of the acceptability judgment task and it took about 20 minutes to complete.



### 5.2.3 General Procedure

The location selected for recruiting willing participants for the study was Irapuato, Mexico. The study was conducted in January and February 2009 in the quietest setting possible in the homes of participants in Irapuato or in a quiet room at the Instituto de Ciencias Agrícolas, an extension of the University of Guanajuato, located in El Ex-hacienda del Copal, Mexico, about 2 km outside of the city limits of Irapuato. Most of the participants were students at this extension campus at the time of the study.

The language history questionnaire and Spanish proficiency test were administered to the participants on paper, but the production and acceptability judgment tasks were completed by sitting in front of a laptop computer with a 14.1-inch display. The computer displayed a PowerPoint presentation with embedded sound files of short stories. The oral production task required participants to listen to each story and answer a question aloud about the story. The question was always asked by an imaginary interlocutor in the story. The acceptability judgment task also required participants to listen to the stories and questions and orally express their acceptability judgments of possible answers to the questions. To prevent changes in speech that might occur by having a non-native Spanish-speaking interviewer, the imaginary interlocutors who asked the questions in the stories were from possible social networks in Guanajuato and the audio stories embedded in the presentation were read by a native Spanish speaking woman from San Luis Potosí, Mexico, of the central highlands dialect of Mexican Spanish.

The responses for the oral production task and the acceptability judgment task were digitally recorded. Each participant in the study wore a lightweight Shure SM10A unidirectional head-worn microphone. A Marantz 660 solid state digital recorder was used to capture the responses. These devices were chosen to ensure a quality recording for later prosodic analyses.

The four parts of the study took about one hour to complete. The production task was administered before the judgment task, and the participants completed the language history questionnaire and the proficiency test either before or after these tasks. Short breaks were also taken between the tasks. The data collected from these instruments were then coded for analysis.

### **5.3 Coding and Data Analysis**

The responses for both the production task and the judgment task were recorded and then transcribed. All of the recorded productions and judgments were first transcribed and de-randomized using an Excel spreadsheet.<sup>71</sup> Once transcribed, the tokens from the oral production task were coded for a regression analysis with Goldvarb X (Sankoff, Tagliamonte & Smith, 2005), which has previously been used to study the effects of multiple variables on word order in Spanish (Delbecque, 1988; Morales, 2003; Morales de Walters, 1982; Ortiz López, 2009; Silva-Corvalán, 1982), but then were re-run in SPSS. For the acceptability judgment task, the Likert-scale descriptions were transcribed and converted to a scale of 1-5 (5 being the most acceptable) and then analyzed with SPSS. The following section explains how the tokens were coded for both language-internal variables and language-external variables.

Because of the open-ended nature of the oral production task, many language-internal variables were coded. Word order was coded as the dependent variable and it had two options: the subject was either preverbal or postverbal. The independent syntactic variables are shown in Tables 5.3 and 5.4. The first table, Table 5.3, shows that the tokens were coded for the verb categories of the Split Intransitivity Hierarchy and grammatical aspect in order to investigate the syntax-lexicon interface. To investigate the variables related to the syntax-discourse interface, the narrow or broad focus type, the definiteness of the subject NP, and the heaviness of the

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<sup>71</sup> The recordings were also segmented into smaller audio files for later acoustic analysis using Praat (Boersma & Weenink, 2008).

subject NP were also coded. Following Lozano and Mendikoetxea (2006), who study the effects of subject length in the L2 English word order of native Spanish speakers, the heaviness of the subject NP was coded by dividing subjects with a maximum of one determiner, one adjective, and one noun as being ‘light’ and longer subjects as being ‘heavy’. The location of prepositional or adverbial phrases was also coded. In the judgment task, the only language-internal variables coded were word order, the Split Intransitivity Hierarchy, and focus. The language-internal variables that relate to the syntax-lexicon and syntax-discourse interfaces are listed in Table 5.4.

Table 5.4 Coding: Language-Internal Variables

FACTOR GROUP	CODING	DESCRIPTION
Word order (dependent variable)	s	Subject occurs before the verb (SV)
	v	Verb occurs before the subject (VS)
Split Intransitivity Hierarchy	l	Change of Location Verbs
	s	Change of State Verbs
	e	Existence of State Verbs
	u	Uncontrolled Process Verbs
	p	Controlled Motional Process Verbs
	n	Controlled Non-motional Process Verbs
Grammatical Aspect	p	Perfective aspect
	i	Imperfective aspect
Focus	b	Broad Presentational Focus
	n	Narrow Presentational Focus
Definiteness of subject NP	i	Indefinite determiner + NP
	d	Definite determiner + NP
	p	Possessive determiner + NP
Heaviness of subject NP	l	Light subjects: Det+(Adjective)+NP
	h	Heavy subjects
Location of Prepositional Phrase or Adverbial Phrase	n	no PP or AdvP used
	a	Occurs after the verb and subject (SVX or VSX)
	m	Occurs between the verb and the subject (SXV or VXS)
	b	Occurs before the verb and subject (XSV or XVS)
	x	Other structures

Based on the transcriptions of the sentences produced, each token was also coded according to the particular verbal construction in which the target verb was used. Examples of these constructions are found in Table 5.5. These included sentences in which the subject was used with a finite or infinite target verb. Some cleft structures and other structures that did not use a subject with a verb were also produced and coded accordingly.

Table 5.5 Coding: Verbal Constructions

FACTOR GROUP	CODING	DESCRIPTION
Verbal Construction	a	Target verb and a subject (e.g. <i>El enemigo corrió</i> ‘the enemy ran’)
	c	Verb + prepositional complementizer + target verb as infinitive (e.g. <i>El hombre acaba de correr</i> ‘the man just ran’)
	d	Target verb as a deverbal adverb (e.g. <i>El hombre entró caminando</i> ‘the man entered walking’)
	e	<i>Estar</i> + target verb as present participle (e.g. <i>El hombre estaba corriendo</i> ‘the man was running’)
	h	<i>Haber</i> + target verb as past participle (e.g. <i>Ha llegado el hombre</i> ‘the man has arrived’)
	l	<i>Al</i> + target verb as infinitive (e.g. <i>Al salir el hombre...</i> ‘upon the man’s leaving...’)
	m	Modal verb + target verb as infinitive (e.g. <i>El hombre pudo nadar</i> ‘the man could swim’)
	p	Verb of perception + target verb as infinitive (e.g. <i>Vi nadar a una chilena</i> ‘I saw the Chilean swim’)
	w	Clefting structure (e.g. <i>El que corrió fue el bandido</i> ‘the one who ran was the bandit’)
	v	Focalizing <i>Sí</i>
	x	Other structures

In addition to language-internal variables, language-external variables were also coded for each participant. These included sociolinguistic and language-contact variables. The sociolinguistic variables included the highest level of education attained by one of the participant’s parents and the participant’s hometown population and gender. The language-

contact variables included the number of years of studying English in school, the frequency of visits from someone living in an English-speaking country, and the frequency of communication with someone in another country. The coding for these variables is shown in Table 5.6.

Table 5.6 Coding: Language-External Variables

FACTOR GROUP	CODING	DESCRIPTION
Highest level of education attained by parents	p	Primary school
	s	Secondary school
	u	University
Hometown Population	u	Urban 60, 000-1,000,000+
	r	Rural 1,000-25,000
Sex	m	Male
	f	Female
Years of English Classes	a	1-4 years
	b	4-5 years
	c	5-6 years
	d	6-7 years
	e	7+ years
Visited by someone from an English-speaking country at least once per year	y	Yes
	n	No
Communication with someone in another country	a	2 or more times per month
	b	Less than three times per year
	c	No communication

After the data from each task was coded for language-internal and language-external variables, it was automatically recoded into numerical variables and submitted to statistical analysis in SPSS.

#### 5.4 Summary Instruments and Procedures

In this chapter, the instruments and procedures for a study of split-intransitivity in Spanish were described. We first summarized the language-internal and language-external variables that may explain word order in Bajío Mexican Spanish and related research questions. The research questions that guide the present study ask (i) if there is variation at the syntax-lexicon and syntax-discourse interfaces in Bajío Mexican Spanish, (ii) if the syntax-discourse

interface displays more variation than the syntax-lexicon interface in Bajío Mexican Spanish, (iii) what the sources of possible interface variation may be, (iv) if the Split Intransitivity Hierarchy can account for Spanish word order data, (v) if there is a difference between perception and production in word order preferences, and (vi) if the results of word order production tasks can support the unaccusative/unergative distinction and the broad/narrow focus distinction. A study conducted that involves contextualized oral production and acceptability judgment tasks was described that will answer these research questions. Several variables related to the syntax-lexicon and syntax-discourse interfaces were taken into consideration in the design of this study and the coding scheme used for the analysis of the data was described. No previous study of Spanish of which I am aware has used contextualized oral production tasks or contextualized acceptability judgment tasks to investigate the Split Intransitivity Hierarchy and word order. By taking into account a number of language-internal variables related to the syntax-lexicon interface and syntax-discourse interface along with language-external variables, this study presents an advance in current research. The following chapter presents the results of this study.

## Chapter 6

### Results of the Oral Production and Judgment Tasks

#### 6.0 Results of the Tasks

The preceding chapter describes the methods used in the present study to investigate the syntax-lexicon and the syntax-discourse interfaces in Bajío Mexican Spanish. In the following sections, the results of the production task and the acceptability judgment task will be reported and then summarized. A discussion of the results will follow in Chapter 7.

#### 6.1 Oral Production Task Results

As described in the previous chapter, the production task consisted of listening to stories and verbally answering a question about the story. The questions established a broad or narrow presentational focus for the answer and the answers were recorded. The answers given by 34 participants were transcribed and coded. Each speaker produced 48 utterances (6 verb categories X 4 target verbs per category X 2 focus contexts), resulting in 1632 utterances. Of these, the results of 29 participants were retained for analysis, leaving 1392 tokens.<sup>72</sup> Microsoft Excel was used to code the data and prepare initial results, and then SPSS (SPSS Statistics 17.0) was used for logistic regression analyses, repeated measures ANOVAs, and post-hoc tests.

The binary logistic regression analysis in SPSS is comparable to the step-up/step-down analysis in Goldvarb X (see Otheguy et al., 2007, and Sankoff et al., 2005). Binomial step-up/step-down analyses of the data in this study were first conducted using Goldvarb X, but because participants listened to contexts that were designed to elicit particular unaccusative and

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<sup>72</sup> Five speakers were not retained for the analysis and included Participants #33, #34, #21, #22, and #25. Participant #33 had two parents from Tampico, Mexico which is outside of the Bajío Zone of Mexican Spanish. Participant #34 had an age of 37 years, which was far above the average age of the participants (20.0 years). Participants #21, #22, and #25 showed almost no variation in their responses: all produced VS order almost entirely and used only simple noun and verb phrases.

unergative verbs with particular subjects, and because Goldvarb X assumes that there is more randomness in the data, the data were reanalyzed using SPSS. The results of the analyses in SPSS and Goldvarb X were very similar, but only the SPSS analyses will be reported here.

Regression analyses have been used in previous variationist studies of word order with previous versions of Goldvarb X (e.g. Delbecque, 1988; Morales de Walters, 1982; Silva-Corvalán, 1982). Regression analyses are ideal for this type of study because several variables appear to influence word order and a regression analysis can test for the influence of multiple independent variables on a dependent variable. The dependent variable in the present study is ‘Word Order’ (i.e. whether the subject is preverbal or postverbal). The independent variables investigated include the language-internal variables mentioned previously: ‘Split-Intransitivity Hierarchy’, ‘Verbal Construction’, ‘Location of Adverbial Phrase’, ‘Definiteness of Subject NP’, ‘Grammatical Aspect’, and ‘Heaviness of the Subject NP’. The other independent variables investigated are language-external factors: ‘Gender’, ‘Highest Level of Education Attained by Parents’, ‘Hometown Population’, ‘Years of English Classes’, ‘Communication with Someone in an English-speaking Country’, and ‘Visits by Someone from an English-speaking Country’.<sup>73</sup>

SPSS was also used to perform ANOVAs to compare the results for different verb types. First, SPSS and Excel were used to calculate the percentage of SV and VS word order produced for each verb category for each speaker. SPSS was then used to calculate repeated measures ANOVAs to test for the effects of the unaccusative/unergative distinction, the Split Intransitivity Hierarchy, focus type, and language-external factors. The standard deviations for the word orders

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<sup>73</sup> As shown in Chapter 4, there were 18 participants who reported having been visited by someone from an English-speaking country at least once per year. 15 of the 18 participants reported having been visited at least yearly by only cyclical migrants (typically relatives) who return yearly from working in the U.S. Two of the 18 participants reported having been visited by someone from an English-speaking country at least once per year through school (Participants #6 and #31) and one received visits both through school and from cyclical migrants (Participant #14). These three were included with the 15 in the analysis because they also had been visited at least yearly by speakers of English-influenced Spanish in Mexico.



produced for each verb category were also calculated in SPSS to investigate inter-speaker variation. The repeated measures ANOVAs were followed by pairwise comparisons with Bonferroni corrections and paired-samples *t*-tests to compare verb categories. Similar tests were used in other studies of unaccusativity (Hertel, 2003; Lozano, 2006a; Montrul, 2005b). Statistical significance was set at  $p < 0.05$  for all analyses.

The results of the oral production task will be reported in the following sections. We will list the kinds of verbal constructions that were used by the participants (6.1.1), report the word orders produced in broad focus (6.1.2) and narrow focus (6.1.3), and then compare the broad and narrow focus results (6.1.4). The verbal constructions that were produced will be addressed first.

### **6.1.1 Verbal Constructions**

The participants in this study used several verbal constructions to answer the wh-questions that they heard and most of their answers were included in the analysis, but some were not. Of the 1392 utterances produced, there were 167 that were excluded from the analysis. Some of these were excluded for not having a target verb and an overt subject, as shown below:

#### **(1) Lack of verb**

##### **a. Mi colega. (Participant #5)**

‘My colleague.’

(cf. Progresó mi colega. ‘My colleague progressed.’)

##### **b. Mi cuñada. (Participant #5)**

‘My sister in law.’

(cf. Vivió mi cuñada. ‘My sister in law lived.’)

(2) Lack of overt subject

- a. Persistió en ver los leones. (Participant #23)

‘(She) persisted in seeing the lions.’

(cf. La niña persistió. ‘The girl persisted.’)

- b. Es que no lo pudieron alcanzar porque corrió. (Participant #10)

‘It’s that they could not reach him because (he) ran.’

(cf. Un enemigo corrió. ‘An enemy ran.’)

(3) Target verb not used with overt subject

- a. Una modelo se emocionó y gritó. (Participant #11)

‘A model got excited and screamed.’

(cf. Una modelo gritó. ‘A model screamed.’)

- b. Sintió frío el brasileño. (Participant #2)

‘The Brazilian felt cold.’

(cf. Tembló un brasileño. ‘A Brazilian shivered.’)

The examples in (1) and (2) show that sometimes a verb or subject was not included in the response. The examples in (3) show instances in which another verb, and not the target verb, was produced with the overt subject. All of these were excluded from the analysis.

Of the tokens that were excluded, there were also 28 pseudo-cleft constructions. These were excluded because pseudo-cleft constructions use the verb *ser* ‘to be’ to focus constituents, rather than use word order with one of the target verbs to focus constituents. The following are examples of pseudo-cleft constructions that were produced:

#### (4) Pseudo-cleft constructions

- a. La niña fue la que bostezó. (Participant #11)

‘The girl was the one that yawned.’

(cf. Bostezó la niña. ‘The girl yawned.’)

- b. El que corrió fue el bandido. (Participant #6)

‘The one that ran was the bandit.’

(cf. Corrió el bandido. ‘The bandit ran.’)

Although these were excluded, it is interesting to note that 22 of the 28 pseudo-clefts occurred with the subject first (i.e. the ‘inverted’ order, according to Pinedo, 2000), as in example (4a), and there were only six sentences with the subject at the end of the sentence (i.e. the ‘canonical’ order) as in example (4b).<sup>74</sup> All such pseudo-cleft constructions were excluded from the analysis.

Other sentence types were excluded because there were few tokens of them. For example, those with more than one adverbial phrase were excluded (adverbial phrases underlined):

#### (5) Multiple adverbial phrases

- a. Su amigo ya regresó de la universidad. (Participant #19)

his friend already returned from the university.

‘His friend already returned from the university.’

- b. En un comercial una modelo gritó al ver un... un insecto. (Part. #30)

on a commercial a model screamed upon seeing an... an insect

‘On a commercial a model screamed upon seeing an insect.’

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<sup>74</sup> This preference for the subject-first order is as we would expect because inverted clefts without initial *wh*-clauses, as in (4a), may carry new information in discourse (Prince, 1978), and the pseudo-clefts produced in the present study only occur in new information contexts. The order of the elements in a pseudo-cleft construction appears to be related to the relative newness of the information conveyed (Morales, 2003; Prince, 1978), and does not appear to be related to the lexico-semantics of the verb because the tendency to use the subject-first order was the pattern regardless of the verb’s category along the Split Intransitivity Hierarchy.

Example (5) shows sentences in which there are two adverbial phrases used, and such were omitted from the analysis because there were only four such tokens produced.

Another example of a construction that was excluded for having too few tokens is formed with *al* ‘upon’ and the target verb:

(6) *Al regresar mi hermano, fui por él.* (Participant #9)

To the return my brother (I) went for him

‘Upon my brother’s return, I went to pick him up.’

Example (6) shows *al* ‘upon’ followed by the target verb *regresar* ‘to return’ and the lexical subject *mi hermano* ‘my brother.’ De Mello (1995) observes that although preverbal lexical subjects have been reported to occur in this construction in Caribbean Spanish, it is typical to have postverbal subjects in this construction when the subjects are lexical, as shown in example (6). This type of construction was always produced with a postverbal subject in this study and was excluded from the analysis because it was represented by only seven tokens.

There were six verbal constructions that were retained in the analysis. The first construction retained in the analysis was also the most frequently occurring construction and involved a finite verb and a preverbal or postverbal subject as in (7):

(7) Target verb and subject

a. *Salió el panameño.* (Participant #2)

left the Panamanian

‘The Panamanian left.’

b. *Un panameño salió.* (Participant #5)

a Panamanian left.

‘A Panamanian left.’

Other verbal constructions that were included used the target verb as a present participle or deverbal adverb as in (8) and (9), or as a past participle, as in (10):

(8) *Estar* + target verb as present participle

- a. El delegado está sudando. (Participant #1)

the delegate is sweating

‘The delegate is sweating.’

- b. Estaba temblando el brasileño. (Participant #1)

was shivering the Brazilian

‘The Brazilian was shivering.’

(9) Target verb as a deverbal adverb

- a. Va progresando muy bien mi amigo. (Participant #17)

(he) goes progressing very well my friend

‘My friend is progressing along very well.’

- b. Es que un amigo va progresando con sus estudios. (Participant #4)

it is that a friend go progressing with his studies

‘It’s that a friend is progressing along with his studies.’

(10) *Haber* + target verb as past participle

- a. Ha progresado mi amigo. (Participant #26)

has progressed my friend

‘My friend has progressed.’

- b. Mi amigo ha progresado. (Participant #11)

my friend has progressed

‘My friend has progressed.’

At times, the target verb was used as an infinitive after a prepositional complementizer or after a verb of perception. These were also included in the analysis because they too displayed SV or VS order with the target verb. Examples of these constructions are given in (11) and (12):

(11) Verb + prepositional complementizer + target verb as infinitive

- a. Una nena acaba de bostezar. (Participant #4)

a girl finished of (to) yawn

‘A girl just yawned.’

- b. Acaba de bostezar una nena. (Participant #10)

finished of (to) yawn a girl

‘A girl just yawned.’

(12) Verb of perception + target verb as infinitive<sup>75</sup>

- a. Vi a una chilena nadar. (Participant #31)

I saw DOM a Chilean woman to swim

‘I saw a Chilean woman swim.’

- b. Vi nadar a una chilena y me acorde de mi amiga.

(Participant #4)

(I) saw to swim DOM a Chilean woman and me remembered of my friend

‘I saw a Chilean woman swim and I remembered my friend.’

The descriptive results for the constructions included in the analysis are shown in Table 6.1.

<sup>75</sup> ‘DOM’ is a differential object marker. The direct object *una chilena* ‘a Chilean’ functions here as the subject of the verb *nadar* ‘to swim’.

Table 6.1 Production Task: Descriptive Results for Verbal Constructions

FACTOR GROUP	FACTOR DESCRIPTION	SV ORDER	VS ORDER	TOTAL
Verbal Construction	Target verb and a subject	469 (45.6%)	560 (54.4%)	1029
	Verb + target verb as present participle <sup>76</sup>	59 (79.7%)	15 (20.3%)	74
	<i>Haber</i> + target verb as past participle	28 (65.1%)	15 (34.9%)	43
	Verb + prepositional complementizer + target verb as infinitive	28 (43.8%)	36 (56.2%)	64
	Verb of perception + target verb as infinitive	5 (33.3%)	10 (66.7%)	15
TOTAL		589 (48.1%)	636 (51.9%)	1225

Table 6.1 shows that 1225 tokens of six verbal constructions were retained for the analysis. All of the constructions shown in Table 6.1 were included in the analysis because they exhibited both VS and SV order and because the relationship of verbal construction to word order has received little attention in the literature. The word orders produced in broad and narrow focus contexts will now be reported.

### 6.1.2 Syntax-Lexicon Interface

As discussed in previous chapters, a broad, sentential focus in which the entire sentence constitutes new information is what has been accepted to best represent a discourse-neutral word order that reflects the syntax-lexicon interface. Utterances in broad focus were elicited using a *¿Qué pasó?* ‘What happened?’ question. In the following sections, examples of utterances produced in broad focus will be given and the effects of language-internal and language-external variables on the broad focus word order will be reported.

<sup>76</sup> As exemplified in (8) and (9) above, this category includes the use of *estar* or another verb with the target verb as a present participle or deverbal adverb.

### 6.1.2.1 Examples of Broad Focus Tokens

In broad focus, preverbal and postverbal subjects were produced with verbs from the six verb categories of the Split Intransitivity Hierarchy, perfect and imperfect aspect, adverbial phrases, definite and indefinite subjects, and heavy or light subjects. The following are examples of both word orders produced in broad focus for the unaccusative categories of the hierarchy:

#### (13) Change of Location Verbs (Unaccusative Core)

- a. Llegó el abogado. (Participant #12) (VS)

arrived the lawyer

‘The lawyer arrived.’

- b. El abogado llegó. (Participant #1) (SV)

the lawyer arrived

‘The lawyer arrived.’

#### (14) Change of State Verbs (Unaccusative Less-Core)

- a. Murió el veterano. (Participant #23) (VS)

died the veteran

‘The veteran died.’

- b. El veterano murió. (Participant #24) (SV)

the veteran died

‘The veteran died.’

#### (15) Existence of State Verbs (Unaccusative Periphery)

- a. Vivió mi cuñada. (Participant #9) (VS)

lived my sister-in-law

‘My sister-in-law lived.’



- b. Mi cuñada vivió. (Participant #24) (SV)  
 my sister-in-law lived  
 ‘My sister-in-law lived.’

Although VS is expected for such unaccusative verbs, these examples show that SV is also produced. The next examples show both SV and VS order for unergative verb categories as well:

(16) Non-motional Process Verbs (Unergative Core)

- a. La cubana cantó. (Participant #31) (SV)  
 the Cuban sang  
 ‘The Cuban sang.’
- b. Cantó la cubana. (Participant #2) (VS)  
 sang the cuban  
 ‘The cuban sang.’

(17) Motional Process Verbs. (Unergative Less-Core)

- a. El enemigo corrió. (Participant #18) (SV)  
 the enemy ran  
 ‘The enemy ran.’
- b. Corrió el enemigo. (Participant #16) (VS)  
 ran the enemy  
 ‘The enemy ran.’

(18) Uncontrolled Process Verbs (Unergative Periphery)

- a. La nena bostezó. (Participant #18) (SV)  
 the girl yawned  
 ‘The girl yawned.’

b. Bostezó la nena. (Participant #9) (VS)

yawned the girl

‘The girl yawned.’

These examples show that SV order is produced with the unergative verbs as expected, but that VS order also occurs with these verbs in broad focus. All of the preceding examples show that both unaccusative and unergative verbs from the hierarchy are produced with VS and SV order.

The verbs of the hierarchy are produced with both perfect and imperfect grammatical aspect in this study. We might expect the grammatical aspect to relate to the word order produced because lexical aspect has an important relation to unaccusative or unergative behavior. If this is the case, we would see perfective forms favoring postverbal subjects and imperfect forms favoring preverbal subjects. The following examples are illustrative:

(19) Perfective/imperfect aspect

a. Tembló el brasileño. (Participant #16) (perfective)

shivered the brazilian

‘The Brazilian shivered.’

b. El brasileño temblaba. (Participant #15) (imperfect)

the brasilian shivered

‘The Brazilian was shivering.’

Example (19a) shows that *temblar* ‘to shiver’ was used with the preterite aspect (*tembló* ‘he/she shivered’) and has a postverbal subject, while (19b) shows that the imperfect aspect (*temblaba* ‘he/she was shivering’) is sometimes produced with a preverbal subject in the same context.

Participants also produced adverbs on occasion, and these occurred before, after, or between the verb and subject. This is shown in (20) and (21), with adverbial phrases underlined:

(20) Postverbal adverbial phrases

- a. Un panameño salió del hotel. (Participant #1) (S V X)

a panamanian left from the hotel

‘A Panamanian left the hotel.’

- b. Regresó su hermano de Estados Unidos. (Participant #9) (V S X)

returned his brother from the United States

‘His brother returned from the United States’

(21) Adverbial phrases between the subject and verb

- a. Es que mi amiga ya creció. (Participant #11) (S X V)

(it) is that my friend already grew

‘It’s that my friend has already grown.’

- b. Llegó finalmente el abogado. (Participant #13) (V X S)

arrived finally the lawyer

‘The lawyer finally arrived.’

(22) Preverbal adverbial phrases

- a. Por fin un panameño salió y abordó mi taxi. (Part. #10) (X S V)

At last a Panamanian left and boarded my taxi

‘At last a Panamanian left and got in my taxi.’

- b. Ya llegó el abogado. (Participant #31) (X V S)

already arrived the lawyer.

‘The lawyer already arrived.’

The examples in (20-22) show that sometimes an adverbial phrase is produced after, between, or before the verb and subject and is accompanied by both preverbal and postverbal subjects.

Participants also produced subject NPs that were definite or indefinite and light or heavy.

The sentences in (23) show definite and indefinite subject NPs:

(23) Definite/indefinite subject NP

- a. El caribeño faltó. (Participant #11) (definite)

The Caribbean (man) lacked

‘The man from the Caribbean was missing.’

- b. Faltó un caribeño. (Participant #7) (indefinite)

Lacked a Caribbean (man)

‘The man from the Caribbean was missing’

Example (24) shows that both definite subjects (e.g. *el caribeño* ‘the Caribbean man’) and indefinite subjects (e.g. *un caribeño* ‘a Caribbean man’) were produced in the study. The subject NPs produced in broad focus were also either light or heavy. Examples of light subjects include the subjects previously shown in (23) because they consist only of a determiner and a noun (though they could also include a simple adjective and still be considered ‘light’). Heavy subjects, shown in (24), were also produced in broad focus:

(24) Heavy Subjects

- a. Bostezó una niña que está al lado mío (Participant #17)

yawned a girl that is to the side mine

‘A girl that is next to me yawned.’

- b. Regresó el hermano de mi compañero. (Participant #2)

returned the brother of my co-worker

‘My co-worker’s brother returned.’

The examples in (24) have heavy or long subjects because they include the adjectival phrases *que está al lado mío* ‘that is next to me’ and *de mi compañero* ‘of my co-worker’ in addition to the determiner and subject that the light subjects have.

There are tendencies for particular word orders to be produced according to certain categories of the Split Intransitivity Hierarchy, the positions of adverbial phrases, the imperfect or perfect grammatical aspect, definite and indefinite subjects, and light or heavy subjects. These patterns will be addressed in the next section.

#### **6.1.2.2 Broad Focus: Regression Analysis of Language-Internal Factors**

A binary logistic regression analysis was conducted using SPSS to assess the influence of the language-internal variables on the word orders produced in broad focus. This analysis in SPSS has been used before because it is comparable to the step-up/step-down analysis in Goldvarb X (see Otheguy et al., 2007). To rank the relative influence of the independent variables (‘factor groups’) on the dependent variable (word order) in this analysis, the Wald statistic for each factor group is listed from highest to lowest. Individual factors within each factor group are ranked by calculating the Exponential B (Exp(B)).<sup>77</sup> A factor with an Exp(B) of less than one favors SV order, while a factor with an Exp(B) that is greater than one favors VS order. This section will show which language-internal factors and factor groups are selected as significant, discuss the ranking of the factors within each factor group, and rank the relative strength of each language-internal factor group, thus making observations about word order constraints and variable hierarchies that have received little attention in the literature.

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<sup>77</sup> The Wald statistic, the Exp(B) results, and the Chi-square test of the model were obtained by including all of the independent variables as ‘categorical covariates’ in SPSS. To obtain the Exp(B) results for each factor, two analyses were performed with deviational contrasts in order to reference both the first and the last factor of each factor group. For further details of this type of analysis, see Otheguy et al. (2007).

Table 6.2 shows the results of the binary logistic regression analysis that was performed, including the raw percentage of SV order produced for each factor, the factors ranked in descending order according to the Exp(B) results, and the Wald statistics for each factor group.

Table 6.2 Production Task (Broad Focus): Language-internal variables

Exp(B) >1 indicates that the factor favors VS				
Exp(B) <1 indicates that the factor favors SV				
** p < 0.01				
* p < 0.05				
-2 LOG LIKELIHOOD:				707.967
CHI-SQUARE TEST OF MODEL:				X <sup>2</sup> (15) = 98.140, p=0.000
TOTAL N:				583
<b>Split Intransitivity Hierarchy</b>	EXP(B)	% SV ORDER	N	ORDER FAVORED
Change of Location Verbs	2.035**	36.4%	107	VS
Existence of State Verbs	1.233	48.2%	85	VS
Change of State Verbs	1.205	47.5%	101	VS
Non-motional Process Verbs	0.766	61.1%	95	SV
Motional Process Verbs	0.658	63.2%	95	SV
Uncontrolled Process Verbs	0.657*	63.0%	100	SV
<i>Wald</i>	18.771**			
<b>Verbal Construction</b>				
Verb of perception + target verb as infinitive	2.596	33.3%	15	VS
Target verb and a subject	1.992*	49.1%	446	VS
Prepositional complementizer + target verb as infinitive	1.121	50.0%	46	VS
<i>Haber</i> + target verb as past participle	0.508	75.0%	20	SV
Verb + target verb as present participle	0.340**	83.9%	56	SV
<i>Wald</i>	20.686**			
<b>Heaviness of Subject NP</b>				
Heavy subjects	1.661**	34.0%	47	VS
Light subjects	0.602**	54.7%	536	SV
<i>Wald</i>	7.420**			

<b>Location of Adverbial Phrase</b>				
Before verb and subject	2.810	21.4%	14	VS
Between verb and subject	1.358	37.5%	16	VS
No adverbial phrase	1.019	48.9%	440	VS
After verb and subject	0.257**	75.2%	113	SV
<i>Wald</i>	32.391**			
<b>Definiteness of Subject NP</b>				
Indefinite	1.161	48.9%	221	VS
Definite	0.861	55.5%	362	SV
<i>Wald</i>	2.507			
<b>Grammatical Aspect</b>				
Imperfective	1.283	58.7%	121	VS
Perfective	0.779	51.5%	462	SV
<i>Wald</i>	1.898			

Table 6.2 shows that a statistically significant fit ( $p=0.000$ ) was achieved for the model by iteration 4 and the following factor groups were selected as significant: ‘Split Intransitivity Hierarchy’, ‘Verbal Construction’, ‘Heaviness of Subject NP’, and ‘Location of Adverbial Phrase’. The factor groups ‘Definiteness of Subject NP’ and ‘Grammatical Aspect’ were not selected as significant factor groups in broad focus, but did pattern as expected. Definite subjects preferred SV order ( $\text{Exp}(B)=0.861$ ) and indefinite subjects preferred VS order (1.161), as we would expect. Verbs with perfective aspect preferred SV order (0.779), while verbs with imperfective aspect preferred VS order (1.283), which is also as we might expect.

An examination of the ranking of the factors within each significant factor group shows that the factors generally rank as we might predict. For the factor group ‘Split Intransitivity Hierarchy,’ there appears to be a cutoff point between SV and VS order which occurs between ‘Existence of State’ verbs and ‘Uncontrolled Process’ verbs in the periphery. However, the data-driven order of the verb types in the table shows that the unergative verb categories of the hierarchy all favor the expected SV order, but that core unergative ‘Non-motional Process’ verbs unexpectedly do not favor SV order the most. The unaccusative ‘Change of State’ and ‘Existence

of State' verbs in the periphery of the hierarchy also are reordered by the data, but they both still prefer VS order as expected. The factor group 'Verbal Construction' reveals some constructions to favor SV order (i.e. '*Haber* + past participle' and 'Verb + present participle') or VS order (i.e. 'Prepositional complementizer + target verb as infinitive', 'Target verb and a subject', and 'Verb of perception + target verb as infinitive'). A comparison of the Exp(B) results also shows that the heaviness of the subject NPs is also as expected: heavy subjects favor VS order (1.661) while light subjects favor SV order (0.602). The 'Location of Adverbial Phrase' factor group shows a cline of Exp(B) results that increase from favoring SV order to favoring VS order: postverbal adverbs favor SV order the most (0.257), the absence of an adverbial phrase favors VS order somewhat (1.019), an adverbial phrase between the verb and subject favors VS order more (1.358), and preverbal adverbs have the strongest preference for VS order (2.810).<sup>78</sup>

Although little attention in the literature has been given to comparing the relative effects that these language-internal variables have on word order, a comparison of the Wald statistics shown in Table 6.2 allow us to do so. This is illustrated in Table 6.3.

Table 6.3 Production Task (Broad Focus): Ranking of Language-internal Variables

RANK	VARIABLE	WALD
1 <sup>st</sup>	Location of Adverbial Phrase	32.391**
2 <sup>nd</sup>	Verbal Construction	20.686**
3 <sup>rd</sup>	Split Intransitivity Hierarchy	18.771**
4 <sup>th</sup>	Heaviness of Subject NP	7.420**
5 <sup>th</sup>	Definiteness of Subject NP	2.507
6 <sup>th</sup>	Grammatical Aspect	1.898
** p < 0.01		
* p < 0.05		

<sup>78</sup> The factor 'Before Verb and Subject' is approaching significance at  $p=0.058$ .



Table 6.3 ranks the Wald statistics for each factor group and shows that the strongest constraints on word order are the location of the adverbial phrase (32.391) and the verbal construction (20.686), followed by the Split Intransitivity Hierarchy (18.771) and later by the heaviness of the subject NP (7.420). ‘Grammatical Aspect’ and ‘Definiteness of Subject NP’ were not selected as significant factor groups and have much lower Wald statistics (2.507 and 1.898, respectively).

This regression analysis leads us to several findings. First, ‘Split Intransitivity Hierarchy’, ‘Verbal Construction’, ‘Heaviness of Subject NP’, and ‘Location of Adverbial Phrase’ are selected as significant factor groups, but ‘Definiteness of Subject NP’ and ‘Grammatical Aspect’ are not. Second, the factors within each language-internal factor group pattern as expected: there is a cutoff point between SV order and VS order in the periphery of the Split Intransitivity Hierarchy, heavy subjects favor a postverbal position, and the position of the subject is directly related to the position of the adverbial phrase. We also find that the factor groups ‘Location of Adverbial Phrase’ and ‘Verbal Construction’ are more influential than ‘Split Intransitivity Hierarchy’ and ‘Heaviness of Subject NP’ in broad focus and should be examined further in future studies. Next, word order is studied more closely as it relates to unaccusativity.

### **6.1.2.3 Broad Focus: Analysis of Unaccusativity**

To investigate the relationship between the word orders produced in broad focus and the verb types, repeated measures ANOVAs were performed, followed by post hoc comparisons and a look at standard deviations. We first compare the word orders of unaccusative and unergative verbs both across and within verb categories and then do the same for each verb type of the Split Intransitivity Hierarchy.

The collective results of previous studies shown in Tables 3.1-3.5 of Chapter 3 lead us to see that both comparisons of word orders across and within verb categories should be performed

in all future studies of word order and unaccusativity. The results shown in Chapter 3 indicate that word order comparisons across verb categories will only identify what we may term ‘weaker’ unaccusative/unergative distinctions, but comparisons both across and within verb categories can identify ‘stronger’ unaccusative/unergative distinctions. For example, the raw data of the studies cited in Tables 3.1-3.5 show that there are times in which VS order is produced more for unaccusative verbs than unergative verbs while SV order is clearly produced more than VS order within both unergative and unaccusative verb categories. In such a situation, we could say that there is only a ‘weak’ unaccusative/unergative distinction because we would also expect to see VS order produced more than SV order for unaccusative verbs, but we do not. Many studies that use production tasks only show a ‘weaker’ unaccusative/unergative distinction in the raw data for native speakers (e.g. Hertel, 2000, 2003; Hertel & Pérez-Leroux, 1998; Mayoral Hernández, 2006). On the other hand, there are also times in which across verb categories, VS order is produced more for unaccusative verbs and SV order is produced more for unergative verbs, *and* when within verb categories, unaccusative verbs are clearly produced with more VS order than SV order and unergative verbs are produced with more SV order than VS order. We might term this a theoretically ‘stronger’ unaccusative/unergative distinction, and an example of this is also found in the raw data of a study using production tasks with native speakers of Spanish (Hinch Nava, 2007). In light of this, comparisons both across and within verb categories are made in this study, and comparisons within verb categories are only reported to identify where word order preferences are the strongest.

The word orders produced with unaccusative and unergative verbs were evaluated for comparison with previous studies.<sup>79</sup> In broad focus, it is theoretically expected that VS order will be produced more for unaccusative verbs and SV order will be produced more for unergative verbs, and that VS order will be produced more than SV order for unaccusative verbs and SV order will be produced more than VS order for unergative verbs. The percent of SV and VS word order produced in broad focus was calculated for each speaker and Table 6.4 shows average percent word order produced according to the verb type in broad focus.

Table 6.4 Oral Production Task: Average Percent Word Order in Broad Focus<sup>80</sup>

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	SV	?VS
Oral Production	Native Speakers of the Bajío Zone of Mexican Spanish (n=29)	58.1% (165/293)	41.9% (128/293)	61.0% (181/290)	39.0% (109/290)

This table shows that across verb categories, VS order is produced more with unaccusative verbs and SV order is produced more with unergative verbs. It also shows that within verb categories, VS order is produced more than SV order for unaccusative verbs and SV order is produced more than VS order for unergative verbs. This is as we would expect to see where there is a ‘strong’ unaccusative/unergative distinction.

A one-way repeated measures ANOVA was performed to measure the effect of ‘Unaccusativity’ (unaccusative or unergative) on ‘Word Order’ (preverbal or postverbal subjects). There was no significant effect for ‘Word Order’ or for ‘Unaccusativity’ alone, but there was a significant interaction for ‘Unaccusativity’ by ‘Word Order’ ( $F(1, 28)=25.91$ ,  $p=0.000$ ), as we would expect. Paired samples *t*-tests comparing word orders across verb

<sup>79</sup> We will consider the three most unaccusative categories of the Split Intransitivity Hierarchy to be ‘Unaccusative’ and the three most unergative categories of the hierarchy to be ‘Unergative’, although the cutoff point may shift between categories of the Split Intransitivity Hierarchy.

<sup>80</sup> The percentages shown in this table are averages used in the repeated measures ANOVAs which are calculated using the average word orders produced for each speaker. See Appendix D for percentages calculated using the total tokens produced by all speakers as a whole.

categories show that unaccusative verbs are produced with VS order significantly more than unergative verbs (58.1% to 39.0%, respectively) ( $t(28)=5.09, p=0.000$ ), as we would expect. Similarly, unergative verbs are produced with statistically higher rates of SV order than unaccusative verbs (61.0% to 41.9%) ( $t(28)=5.09, p=0.000$ ), which is also as we would expect. Comparisons within each verb type show no significant results, however. This shows that VS order is produced more with unaccusative verbs and SV order is produced more with unergative verbs when the two verb types are compared, although neither verb type significantly prefers one order over the other. This is a statistically ‘weak’ unaccusative/unergative distinction which is likely due to the inclusion of verbs from all along the hierarchy in the present study.

To explore the word orders produced along the verb categories of the Split Intransitivity Hierarchy, the percentage of SV and VS word order produced for each category of the hierarchy was also calculated for each speaker. Figure 6.1 shows the average percent word order produced for each category of the hierarchy.<sup>81</sup> This figure shows that there is a cutoff point between the three most unaccusative categories and the three most unergative categories of the hierarchy (as indicated by the dashed line). The three most unaccusative categories are produced with more VS order while the three most unergative categories are produced with more SV order.

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<sup>81</sup> Percentages calculated from the total tokens produced by the entire group are found in Appendix D.

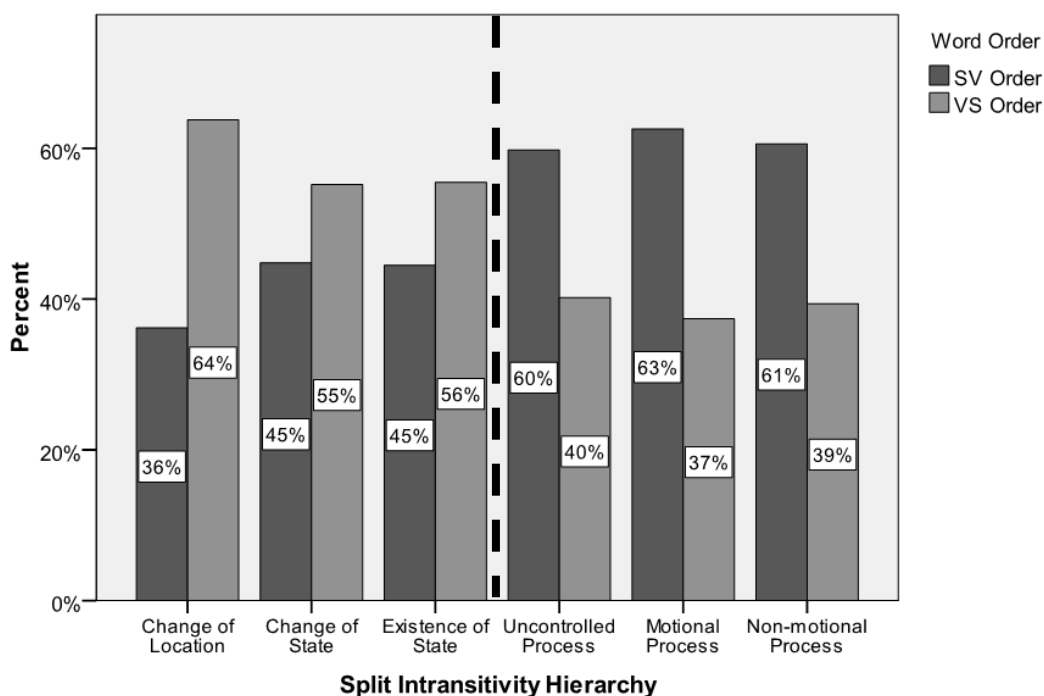


Figure 6.1 Average Percent Word Order Produced in Broad Focus: All Speakers

A one-way repeated measures ANOVA was performed to examine the effect of the Split Intransitivity Hierarchy on word order, and there was a significant ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction ( $F(3.73, 140)=8.25, p=0.000$ ), as expected. Because the percent word order produced in each category totaled 100%, a repeated measures ANOVA was performed to compare only the VS word orders of each category of the Split Intransitivity Hierarchy. When the VS orders were compared, there was a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(3.73, 140)=8.25, p=0.000$ ).<sup>82</sup> Post-hoc tests were conducted to compare the word orders produced both between verb categories and within verb categories to see where word order distinctions are the strongest. Pairwise comparisons with Bonferroni corrections show that the core ‘Change of Location’ unaccusatives were produced with statistically more VS order ( $p<.001$ ) than each of the three most unergative verb classes

<sup>82</sup> Because the word orders were averaged and calculated as a total percent produced by each speaker, the Bonferroni results comparing VS orders for each category were the same as those comparing the SV orders.

(‘Uncontrolled Process’, ‘Motional Process’, and ‘Non-motional Process’ verbs). ‘Change of State’ unaccusative verbs also preferred VS order statistically more than ‘Motional Process’ unergatives ( $p=0.047$ ). All other verb categories were not significantly different from each other. Paired samples *t*-tests were then used to compare the word orders within each category of the Split Intransitivity Hierarchy and show that only core ‘Change of Location’ unaccusative verbs significantly prefer VS order over SV order ( $t(28)=2.27, p=0.031$ ), and ‘Motional Process’ unergatives come close to significantly preferring SV order over VS order ( $t(28)=1.85, p=0.075$ ). These numbers indicate that only the core ‘Change of Location’ unaccusative verbs are significantly different from all unergative verbs and show the strongest unaccusative/unergative distinction. The non-core unaccusative verbs are not significantly different from all of the unergative verbs—which is what we might expect for verb categories that form a transition zone between the two cores of the hierarchy.

The standard deviations calculated for each verb category allow us to compare how unified the participants as a whole are in their production of the word orders for each category of the hierarchy. If the peripheral categories of the hierarchy allow for more optionality and are more variable, then we may see less agreement among the speakers in the word orders produced in these non-core categories. We would expect to see lower standard deviations near the core categories and higher standard deviations in the non-core categories of the hierarchy if this is the case.<sup>83</sup> Figure 6.2 shows the standard deviations for the percentages of word order produced by all speakers for each verb category in broad focus:

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<sup>83</sup> I am grateful to Carrie Jackson for suggesting this possibility.

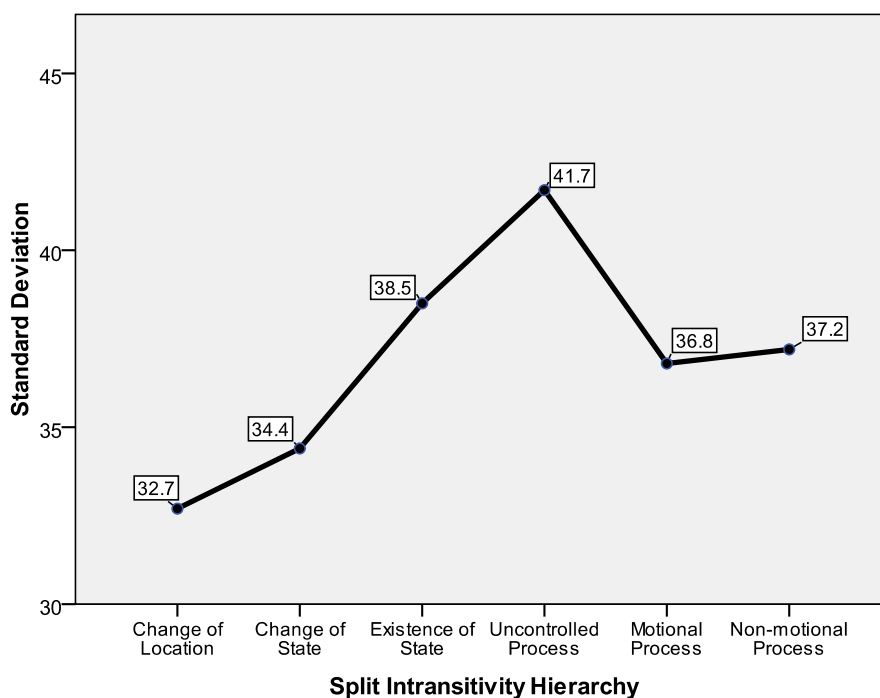


Figure 6.2 Standard Deviations for Broad Focus Production: All Speakers

Figure 6.2 shows that the 29 participants as a whole are the most united in the word orders that they produce for the core ‘Change of Location’ unaccusative verbs ( $SD=32.7$ ).<sup>84</sup> We find that the standard deviation climbs toward the unergative ‘Uncontrolled Process’ verbs in the periphery (41.7), and then drops again toward the unergative core (37.2). This shows that there is more inter-speaker variation in the word orders produced in the periphery of the hierarchy than in the cores of the hierarchy, as we might expect. The fact that the unergative verb categories closest to the unergative end of the continuum have higher standard deviations than the unaccusative verb categories nearest to the unaccusative core hearkens back to how the unergative verbs historically are the most unstable in Spanish.

In summary, when comparing unaccusative and unergative verbs, VS order is produced more with unaccusative verbs and SV order is produced more with unergative verbs when the

<sup>84</sup> Standard deviations for each category are taken from the SV order produced. The reason for the overall high standard deviations is that all speakers were asked to produce a sentence with four different verbs from each category in the production task. Some produced SV order or VS order with 100% or 0% of the verbs in a category.

two verb types are compared. This shows that an unaccusative/unergative distinction is maintained. An exploration of the Split Intransitivity Hierarchy shows that core unaccusative verbs are significantly different from all unergative verbs and that there is a clear cutoff point between unaccusative and unergative behavior that is found between ‘Existence of State’ verbs and ‘Uncontrolled Process’ verbs. The results also indicate that there is more agreement among speakers in the word orders produced at the core categories of the hierarchy and more inter-speaker variation in the periphery of the hierarchy. The influence of language-external factors on word order will be examined in the next sections.

#### **6.1.2.4 Broad Focus: Regression Analysis of Language-External Factors**

Although not a sociolinguistic study, binary logistic regression analyses were performed using SPSS to investigate the possible influence of language-external factors on the word orders produced in broad focus. This section will identify which language-external factor groups are selected as significant, rank the factors of each group, and rank the strength of the factor groups.

To examine the influence of language-external factors on word order, binary logistic regression analyses were conducted with SPSS. These analyses included the language-external variables mentioned previously: ‘Gender’, ‘Highest Level of Education Attained by Parents’, ‘Hometown Population’, ‘Years of English Classes’, ‘Communication with Someone in an English-speaking Country’, and ‘Visits by Someone from an English-speaking Country’. These last three are potential measures of English influence, but they did not agree because those with the most years of English class do not produce SV order the most, those who communicate with someone from an English-speaking country the most produce VS order the most, and those who are visited by someone from an English speaking country produce SV order the most (see



Appendix E: Production Task Results for Language External Factor Groups).<sup>85</sup> A separate regression analysis for each of the language-external factor groups with the language-internal variables did not select ‘Gender’, ‘Highest Level of Education Attained by Parents’, and ‘Years of English Class’ as significant factor groups, and these were excluded from later analyses.

Table 6.5 shows the results of an analysis that includes the significant language-external factor groups along with the language-internal factors.

Table 6.5 Production Task (Broad Focus): Language-internal and External Factors

Exp(B) >1 indicates that the factor favors VS				
Exp(B) <1 indicates that the factor favors SV				
** p < 0.01				
* p < 0.05				
-2 LOG LIKELIHOOD:				660.521
CHI-SQUARE TEST OF MODEL:			X <sup>2</sup> (19) = 145.586, p=0.000	
TOTAL N:				583
<b>Split Intransitivity Hierarchy</b>	EXP(B)	% SV	N	ORDER FAVORED
Change of Location Verbs	2.165**	36.4%	107	VS
Existence of State Verbs	1.248	48.2%	85	VS
Change of State Verbs	1.245	47.5%	101	VS
Non-motional Process Verbs	0.721	61.1%	95	SV
Uncontrolled Process Verbs	0.660	63.0%	100	SV
Motional Process Verbs	0.625*	63.2%	95	SV
<i>Wald</i>	20.365**			
<b>Verbal Construction</b>				
Verb of perception + target verb as infinitive	3.674*	33.3%	15	VS
Target verb and subject	1.947*	49.1%	446	VS
Prepositional complementizer + target verb as infinitive	1.075	50.0%	46	VS
<i>Haber</i> + target verb as past participle	0.362	75.0%	20	SV
Verb + target verb as present participle	0.359**	83.9%	56	SV
<i>Wald</i>	22.190**			

<sup>85</sup> This may be due to language attitudes and social classes in the community: those now part of the higher socioeconomic classes in the state of Guanajuato tend to avoid the use of English loan words while cyclical migrants in the lower socioeconomic classes tend to use English loans to assert prestige (see Matus-Mendoza, 2002a).

<b>Heaviness of Subject NP</b>				
Heavy subjects	1.735**	34.0%	47	VS
Light subjects	0.576**	54.7%	536	SV
<i>Wald</i>	8.193**			
<b>Location of Adverbial Phrase</b>				
Before verb and subject	3.251*	21.4%	14	VS
Between verb and subject	1.217	37.5%	16	VS
No adverbial phrase	1.014	48.9%	440	VS
After verb and subject	0.249**	75.2%	113	SV
<i>Wald</i>	30.907**			
<b>Definiteness of Subject NP</b>				
Indefinite	1.249*	48.9%	221	VS
Definite	0.801*	55.5%	362	SV
<i>Wald</i>	4.923*			
<b>Grammatical Aspect</b>				
Imperfective	1.139	58.7%	121	VS
Perfective	0.878	51.5%	462	SV
<i>Wald</i>	0.465			
<b>Hometown Population</b>				
Rural 1,000-25,000	1.658**	42.6%	188	VS
Urban 60, 000-1,000,000+	0.603**	58.0%	395	SV
<i>Wald</i>	19.375**			
<b>Communication with Someone in an English-speaking Country</b>				
2 or more times per month	1.345*	44.9%	205	VS
Less than three times per year	1.001	58.1%	155	VS
No communication	0.742*	57.0%	223	SV
<i>Wald</i>	6.526*			
<b>Visited by Someone from an English-speaking Country</b>				
Once per 2-3 years or no visits	1.868**	44.3%	219	VS
At least once per year	0.535**	58.2%	364	SV
<i>Wald</i>	30.244**			

In this regression analysis, all of the language-internal and language-external factor groups were selected as significant except for ‘Grammatical Aspect’, and a significant fit for the model was achieved ( $p=0.000$ ) by iteration 5.

Some of the factors within each factor group did not pattern as we would expect, but others did pattern in predictable ways. The factors within each language-internal factor group showed the same ranking patterns as in the previous analysis of only language-internal factor groups. As for the language-external factors, the factor group ‘Hometown Population’ shows that participants from more urban areas favor SV order ( $\text{Exp}(B) = 0.603$ ) while those from the more rural areas prefer VS order (1.658), which is as we might predict because rural areas tend to favor the preservation of more traditional Mexican forms. It was also predicted that the factor group ‘Communication with Someone in an English-speaking Country’ would show that those who communicate the most with people (mostly relatives) in the U.S. would favor SV order more, but the opposite was true. Those who communicated with someone in an English-speaking country at least twice per month preferred VS the most (1.345), followed by those who communicated less than three times per year (1.001), while those who did not communicate at all with someone in an English-speaking country preferred SV order (0.742).<sup>86</sup> The factor group ‘Visited by Someone from an English-speaking Country’ shows that those who are visited at least yearly by someone from an English-speaking country have a preference for SV order (0.535), whereas VS order is strongly favored by those who are only visited once every 2-3 years or not at all (1.868), which is as we would expect.<sup>87</sup>

The Wald statistics allow us to compare the relative strengths of the factor groups. The language-internal variables ranked as before, with ‘Location of Adverbial phrase’ (Wald=30.907), ‘Verbal Construction’ (22.190), and ‘Split Intransitivity Hierarchy’ (20.365) as

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<sup>86</sup> This may be explained by the possibility that those who can afford to have frequent communications with others in the U.S. might also be those of relatively higher socio-economic backgrounds who may want to sound the most ‘Mexican’ and the least like a cyclical migrant. Further studies are needed of these language-external variables.

<sup>87</sup> The factor group ‘Visited by Someone from an English-speaking Country’ originally was coded with three factors: ‘Visited At Least Once per Year’, ‘Visited Once Every 2-3 Years’, and ‘Not Visited’. The factors for each group were merged due to empty cells discovered upon cross-tabulation with other language-external factors.

the strongest factors, followed by ‘Heaviness of Subject NP’ (8.193), ‘Definiteness of Subject NP’ (4.923), and Grammatical Aspect (0.465). A comparison of the language-external factors shows that ‘Visited by Someone from an English-speaking Country’ (30.244) was the strongest factor, followed by ‘Hometown Population’ (19.375), and later by ‘Communication with Someone in an English-speaking Country’ (6.526). These results also indicate that some language-external factors (e.g. ‘Visited by Someone from an English-speaking Country’) more strongly influence the word order than some language-internal factors (e.g. ‘Split Intransitivity Hierarchy’, ‘Verbal Construction’, ‘Heaviness of Subject NP’, ‘Definiteness of Subject NP’, ‘Grammatical Aspect’). This highlights the importance of considering both language-external and language-internal factors in a study of the syntactic interfaces. The addition of any one (or all) of these language-external variables to the language-internal variables significantly improves the model ( $p < 0.001$ ) and the factor ‘Visited by Someone from an English-speaking Country’ is the one factor that improves the model better than the others.<sup>88</sup>

This regression analysis has investigated the importance of language-external factors with respect to word order. We find that the language-external factor group that best influences word order is ‘Visited by Someone from an English-speaking Country’, although other factor groups (‘Hometown Population’ and ‘Communication with Someone in an English-Speaking Country’) also help to explain word order. We find that the factors of the groups ‘Visited by Someone from

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<sup>88</sup> To compare the analyses, separate binary logistic regression analyses were performed and then the -2 log likelihoods of each analysis were compared, with the best log likelihoods being those nearest to zero. Because of differences in the degrees of freedom for each analysis, the log likelihoods of the different analyses were compared using a procedure outlined by Tagliamonte (2006), which allows us to find significant differences between the log likelihoods. The procedure followed here may be summarized as follows (see Tagliamonte, 2006, pp. 148-150): (1) calculate the degrees of freedom for each regression analysis (total factors minus total factor groups), (2) calculate the difference in the degrees of freedom between the two analyses, (3) calculate the absolute value of the difference between log likelihoods of the two analyses to be compared and multiply by 2, (4) look up this number and the difference in the degrees of freedom in a chi-square table (or use the Microsoft Excel ‘CHIDIST’ function), (5) if the  $p$ -value is less than 0.05 then the difference between the two log likelihoods is significant. Where the degrees of freedom of the analyses are the same, the log likelihoods were compared directly.

an English-speaking Country' and 'Hometown Population' pattern as expected—those who are visited at least yearly and those who live in more urban areas prefer SV order. The factors of the group 'Communication with Someone in an English-Speaking Country' pattern the opposite from what we would expect, which may be related to the economic resources of some speakers. The language-external factor group with the strongest relationship to word order was 'Visited by Someone from an English-speaking Country', followed by 'Hometown Population', and 'Communication with Someone in an English-Speaking Country'. The results also show that some language-external factor groups more strongly influence word order than some language-internal factors. Comparisons of analyses with language-external factors added to the language-internal variables show significant improvements of the model. The factor groups 'Gender', 'Years of English Classes', and 'Highest Level of Education Attained by Parents' are not selected as significant factor groups when combined alone with language-internal factors. Overall, the results point to the factor group 'Visited by someone from an English-speaking Country' as being important for explaining word order. The possible influence of being visited by someone from an English-speaking country on the word order of unaccusative or unergative verbs will be explored in the next section.<sup>89</sup>

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<sup>89</sup> In addition to 'Yearly Visits', 'Years of English Class' might be expected to be an important factor to explain the word order variation among these participants. We would expect to see an increase in SV order produced due to an increased exposure to English in school. 'Years of English Class', however, was not selected as significant in the earlier regression analysis. Appendix F: 'Unaccusativity and Years of English Class' shows the average percent word orders produced according to the number of years studying English for both unaccusative and unergative verbs. Although those with the least number of years of English seem to produce the most SV order for both unaccusative and unergative verbs and there is a slight increase in SV order for unergative verbs as the years of English increase from 4-5 years (50.0%), to 5-6 years (56.4%), to 6-7 years (64.7%), to more than 7 years (66.7%), there is no such increase in SV order for unaccusative verbs. A two-way repeated measures ANOVA was performed to compare the word orders of unaccusative and unergative verbs with 'Years of English Class' as the between-subjects factor, but no significant effect was found for 'Word Order' by 'Years of English Class' or for 'Unaccusativity' (or 'Split Intransitivity Hierarchy') by 'Word Order' by 'Years of English Class'. There was also no significant between-subjects effect for 'Years of English Class'. This supports the regression analysis in which 'Years of English Class' was not selected as a significant factor when added alone to language-internal variables.

### 6.1.2.5 Broad Focus: Analysis of Unaccusativity and Language-External Factors

The word orders produced in broad focus by participants who are visited at least yearly were compared with those produced by those who are not visited yearly using repeated measures ANOVAs with post hoc comparisons. The word orders produced by each group were compared using the unaccusative/unergative distinction and the Split Intransitivity Hierarchy.

To investigate the influence of receiving yearly visits by someone from an English-speaking country, the word orders produced with unaccusative and unergative verbs in broad focus contexts were studied further. Table 6.6 shows the average percent preverbal and postverbal subjects produced according to the verb type and frequency of visits received. The table shows that those who are not visited yearly prefer VS order to SV order for unaccusative verbs (61.4% to 38.6%) as we would expect, but surprisingly produce nearly equal rates of SV order (48.7%) and VS order (51.3%) with unergative verbs—a sign of optionality. Those who are visited at least yearly clearly produce more SV order and less VS order for both unaccusative and unergative verbs when compared to those who do not receive yearly visits.

Table 6.6 Oral Production Task: Average percent word order produced in broad focus according to frequency of visits from someone from an English-speaking country.<sup>90</sup>

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	SV	?VS
Oral Production	Not visited yearly (n=11)	61.4% (69/112)	38.6% (43/112)	48.7% (54/107)	51.3% (53/107)
	Visited at least Yearly (n=18)	56.2% (96/181)	43.8% (85/181)	68.5% (127/183)	31.5% (56/183)

To compare the word orders produced by the two groups, a two-way repeated measures ANOVA was performed. This test used ‘Unaccusativity’ (unaccusative or unergative) and ‘Word

<sup>90</sup> The percentages shown in this table are calculated using the percent word order produced for each speaker. See Appendix D for percentages calculated using the total tokens produced by all speakers as a whole.

Order' (preverbal or postverbal) as the within-subjects factors and 'Visited Yearly' (yes or no) as the between-subjects factor. There was a significant interaction for 'Unaccusativity' by 'Word Order' ( $F(1, 27)=22.21, p=0.000$ ), as we would expect, and 'Unaccusativity' by 'Word Order' by 'Visited Yearly' is nearly significant ( $F(1, 27)=3.91, p=0.058$ ). Paired samples *t*-tests of just those who are not visited yearly show that the differences in the SV or VS word orders between verb types only approaches significance ( $t(10)=2.0, p=0.074$ ) and that there are no significant differences in the word orders within the verb types. The lack of statistical significance here is an indication that the unaccusative/unergative distinction is statistically lost for those who are not visited yearly. Those who are visited at least yearly have not lost the unaccusative/unergative distinction, because between verb types, SV order is significantly preferred for unergative verbs (68.5%) when compared with unaccusative verbs (43.8%) ( $t(17)=5.07, p=0.000$ ) and VS order is significantly preferred for unaccusative verbs (56.2%) over unergative verbs (31.5%) ( $t(17)=5.07, p=0.000$ ). Within unergative verbs, SV is significantly preferred to VS order ( $t(17)=2.31, p=0.034$ ), an indication that SV order is the dominant word order for unergative verbs for these speakers. In other words, the unaccusative/unergative distinction has been maintained to a stronger degree by those receiving yearly visits, and SV order has become the dominant word order for the verbs for which those without yearly visits show optional word order preferences in the descriptive results.

The average percent word orders produced for each category of the Split Intransitivity Hierarchy are shown for those who are not visited yearly in Figure 6.3 and for those who are visited yearly in Figure 6.4. In Figure 6.3, we see that those who are not visited yearly produce more VS order with the three unaccusative categories of the hierarchy, as we might expect, but it is surprising to see that VS order is also produced more than SV order for core 'Non-motional

Process' unergative verbs where we would expect to see more SV order produced. It seems that VS order is the preferred word order for these speakers for almost all categories of the hierarchy, but that SV order is increasingly stronger in the peripheral categories. In Figure 6.4, we find that those who are visited yearly produce more VS order with all unaccusative categories and produce higher rates of SV order with all unergative verb categories, as we might expect. These speakers show a cutoff point between 'Existence of State' unaccusative verbs and 'Uncontrolled Process' unergative verbs.

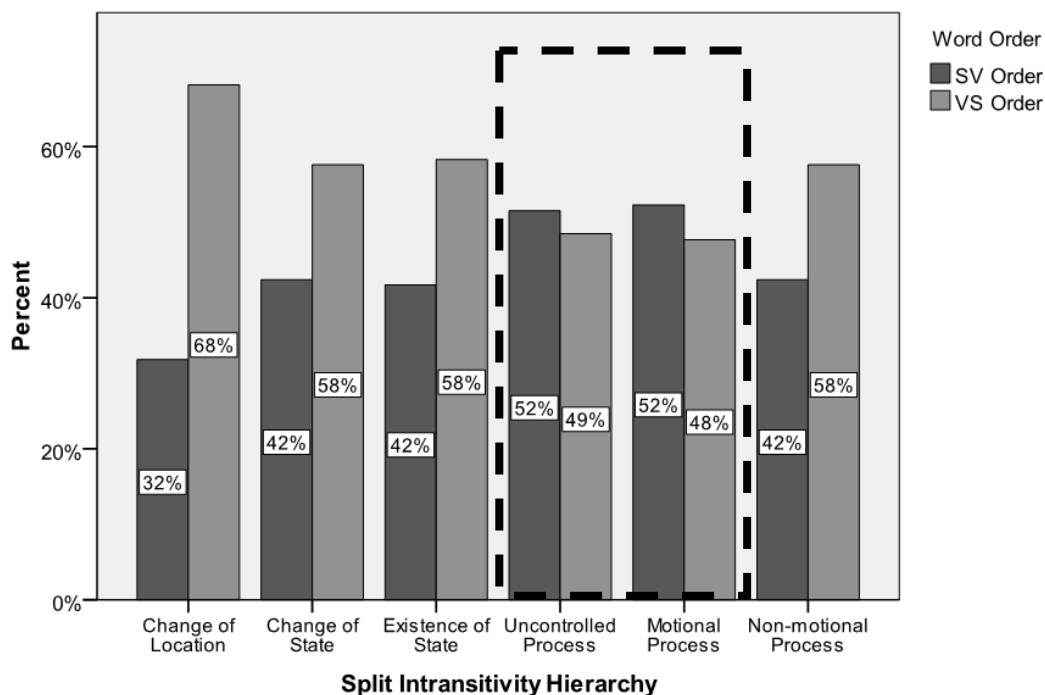


Figure 6.3 Average Percent Word Order Produced in Broad Focus: Not Visited Yearly



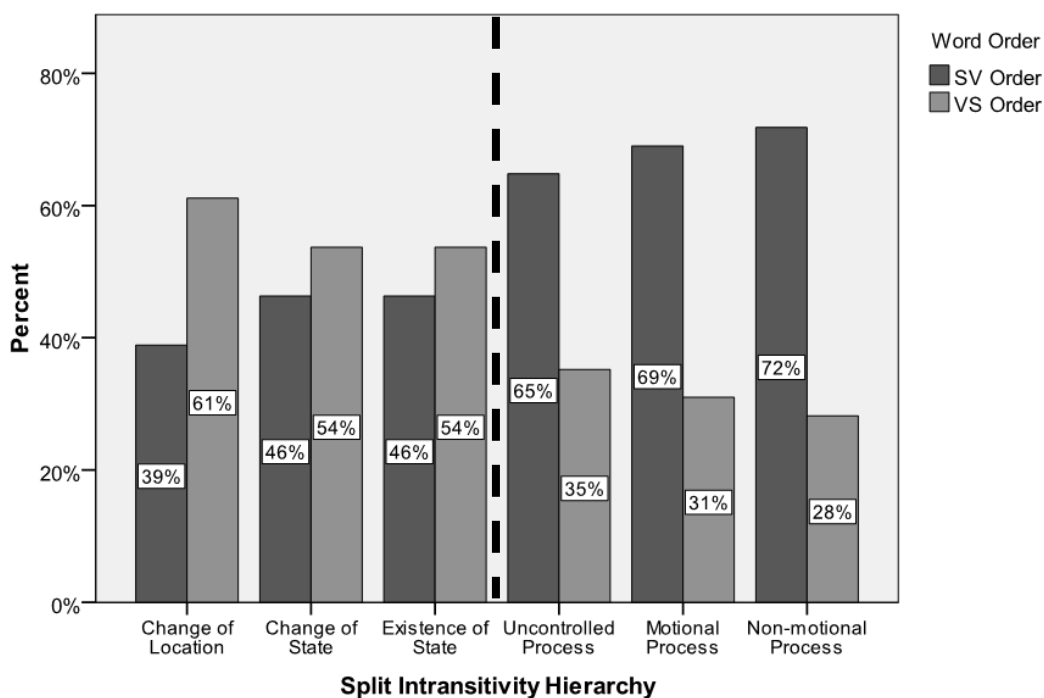


Figure 6.4 Average Percent Word Order Produced in Broad Focus: Visited Yearly

A two-way repeated measures ANOVA was performed to compare the word orders of the categories of the Split Intransitivity Hierarchy for those who are visited yearly and those who are not. There was a significant ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction ( $F(3.69, 99.5)=6.73, p=0.000$ ), but there was no significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Visited Yearly’ or for ‘Word Order’ by ‘Visited Yearly’. Although the descriptive results show differences between the speakers, the fact that ‘Visited Yearly’ does not participate in a statistically significant interaction may mean that there is a similarity between the groups which might be expected for individuals of the same general speech community.

For further investigation, one-way repeated measures ANOVAs were performed for each group. For those who do not receive yearly visits, this test shows that there is no significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’. When same was done for those who are visited yearly, there was a significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ ( $F(3.37, 57.2)=7.86, p=0.000$ ). This shows again that only those who are visited

yearly distinguish between unaccusative and unergative verb types. Because the word orders for each category of the Split Intransitivity Hierarchy total 100%, a repeated measure ANOVA was performed to compare only the SV orders of the hierarchy for those who are visited yearly. This test reveals a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(3.37, 57.2)=7.86, p=0.000$ ). Pairwise comparisons with Bonferroni corrections show that ‘Change of Location’ unaccusatives are significantly different from ‘Uncontrolled Process’ unergative verbs ( $p=0.049$ ), ‘Motional Process’ unergative verbs ( $p=0.000$ ), and ‘Non-motional Process’ unergative verbs ( $p=0.000$ ). ‘Change of State’ unaccusative verbs are also significantly different from ‘Motional Process’ unergative verbs ( $p=0.037$ ) and approach significance with ‘Non-motional Process’ unergative verbs ( $p=0.079$ ). ‘Existence of state’ unaccusative verbs are also significantly different from ‘Non-motional Process’ unergative verbs ( $p=0.044$ ). All other comparisons are not significantly different from each other. Comparisons within verb categories show that the SV word order preference is the strongest for ‘Non-motional Process’ unergative verbs ( $t(17)=2.75, p=0.014$ ) and for ‘Motional Process’ unergative verbs ( $t(17)=2.35, p=0.031$ ). These results indicate that those who are visited yearly make a clear distinction between unaccusative and unergative verbs in support of the Split Intransitivity Hierarchy. In summary, those who are not visited yearly appear to produce more VS order in all verb categories (and SV order seems to be entering the interface through the peripheral categories), while those who do receive yearly visits produce more SV order and have a cutoff point between unaccusative and unergative behavior.

In sum, repeated measures ANOVAS indicate that those who are not visited yearly show optionality for unergative verbs (due to high rates of VS order for unergatives) and do not distinguish between unaccusative and unergative verbs. Those who are visited yearly do distinguish between unaccusative and unergative verbs and strongly prefer SV order for

unergative verbs. As for the Split Intransitivity Hierarchy, those who are not visited yearly produce more VS order overall—even with core unergative verbs, which appears to go against the hierarchy. Although they do not show a clear cutoff point, their results do support the hierarchy because there is an increase in SV order in the periphery of the hierarchy but not in the cores. Those who are visited yearly show a clear cutoff point and a strong preference for SV order with all unergative categories, thus supporting the hierarchy. There was also no significant effect for ‘Yearly Visits’ or any interaction with ‘Yearly Visits’, indicating that the two groups of speakers are not as different from each other as the regression analysis indicated. In the following section, the results of the broad focus analyses will be summarized before continuing on to report the results of narrow focus contexts.

#### **6.1.2.6 Summary of Broad Focus Results**

The previous analyses show that the word orders produced in broad focus can be explained by looking at both language-internal and language-external factors. Both regression analyses and repeated measures ANOVAs with post hoc comparisons were performed.

When all participants are examined together in a regression analysis, the language-internal factors pattern as expected by showing that there is a cutoff point between ‘Existence of State’ verbs and ‘Uncontrolled Process’ verbs, that heavy subjects favor the postverbal position, that the location of the adverbial phrase is directly related to the location of the subject, and that the type of verbal construction is important. We also find that the definiteness of the subject NP and the grammatical aspect are not significant factors in broad focus. The strongest language-internal factors are the location of the adverbial phrase and the verbal construction.

When comparing the word orders produced according to the verb type for all speakers with repeated measures ANOVAs, we find that VS order is produced more with unaccusative

verbs and SV order is produced more with unergative verbs, indicating that the unaccusative/unergative distinction is maintained. The Split Intransitivity Hierarchy shows a clear cutoff point between the three most unaccusative verb categories (produced with more VS order) and the three most unergative verb categories (produced with more SV order).

Comparisons of the standard deviations for the word orders produced at each verb category show that there is more inter-speaker variation in the periphery than at the cores and more inter-speaker variation among unergative verbs than among unaccusative verbs, as we might expect.

Regression analyses with language-external variables show that ‘Hometown Population’, ‘Communication with Someone in an English-speaking Country’, and ‘Visited by Someone from an English-speaking Country’ are the only significant language-external factor groups. We find that ‘Hometown Population’ and ‘Visited by Someone from an English-speaking Country’ pattern as expected, but ‘Communication with Someone in an English-speaking Country’ patterns the opposite from expected. The strongest language-external factor group is ‘Visited by Someone from an English-speaking Country’, and it more strongly influences the word order than some language-internal factor groups and produces the best log likelihood for the model when compared with other language-external factor groups.

The word orders produced by those who are visited at least yearly were compared with the word orders from those who are not visited yearly using repeated measures ANOVAs. We find that those who are not visited at least yearly do not statistically distinguish between unergative and unaccusative verbs. These speakers show optionality with unergative verbs, produce more VS order in all verb categories of the hierarchy (even in the unergative core), use SV order more toward the peripheral categories, and do not show a clear cutoff point. Those who are visited yearly do distinguish between unergative and unaccusative verbs and have a strong

preference for SV order with unergative verbs. They display a clear cutoff point between ‘Existence of State’ verbs and ‘Uncontrolled Process’ verbs. Unlike the regression analysis, the repeated measures ANOVAs show no significant effect or significant interaction using the factor ‘Visited Yearly’ and only approach significance when comparing unaccusative and unergative verbs. This may indicate that these speakers are not so different from each other or that more language-internal variables should be taken into account when comparing word orders.

Overall, the broad focus results identify a number of language-internal and language-external factors that are important for explaining the word orders produced. The results support the Split Intransitivity Hierarchy by displaying a cutoff point between unaccusative and unergative verbs, although both SV and VS orders are produced for each verb type. The Split Intransitivity Hierarchy is also supported by the fact that there is more inter-speaker variation in the non-core categories than in the core categories. In the next section, we will examine the utterances produced in narrow focus.

### **6.1.3 Syntax-Discourse Interface**

As mentioned in Chapter 5, a narrow focus context in which a constituent of a sentence constitutes new information will produce a word order that best reflects the syntax-discourse interface. Utterances were elicited with narrow focus on the subject by using a question beginning with *¿Quién... ?* ‘Who...?’. In the following sections, examples of sentences produced in narrow focus will be given and the effects of language-internal and language-external factors on the word order in narrow focus will be detailed.

#### **6.1.3.1 Examples of Narrow Focus Tokens**

In narrow focus, preverbal and postverbal subjects were produced with the six verb categories of the Split Intransitivity Hierarchy, perfect and imperfect aspect, adverbial phrases,

definite and indefinite subjects, and heavy or light subjects. Although only VS order is expected from unaccusative and unergative verbs in narrow focus, the following are examples of both VS and SV order produced in narrow focus. The following examples show that both word orders were produced in narrow focus with the most unaccusative verb categories of the hierarchy:

(25) Change of Location Verbs (Unaccusative Core)

- a. Volvió la limeña. (Participant #23) (VS)

returned the woman from Lima.

‘The woman from Lima returned.’

- b. La limeña volvió. (Participant #7) (SV)

the woman from Lima returned

‘The woman from Lima returned.’

(26) Change of State Verbs (Unaccusative Less-Core)

- a. Progresó mi amigo. (Participant #3) (VS)

progressed my friend

‘My friend progressed.’

- b. Mi amigo progresó. (Participant #7) (SV)

My friend progressed.

‘My friend progressed.’

(27) Existence of State Verbs (Unaccusative Periphery)

- a. Persistió la niña. (Participant #9) (VS)

persisted the girl

‘The girl persisted.’

b. La niña persistió. (Participant #2) (SV)

the girl persisted

‘The girl persisted.’

These examples show that although we would expect to find only VS order produced in narrow focus—especially for unaccusative verbs—SV order was also produced. The next examples also show that both VS order and SV order were produced in narrow focus for the unergative categories of the Split Intransitivity Hierarchy:

(28) Non-motional Process Verbs (Unergative Core)

a. Silbó un hondureño. (Participant #26) (VS)

whistled the Honduran

‘The Honduran whistled.’

b. Un hondureño silbó. (Participant #24) (SV)

a Honduran whistled

‘A Honduran whistled.’

(29) Motional Process Verbs. (Unergative Less-Core)

a. Saltó la bandida. (Participant #9) (VS)

jumped the (female) bandit

‘The bandit jumped.’

b. La bandida saltó. (Participant #1) (SV)

the (female) bandit jumped

‘The bandit jumped.’

(30) Uncontrolled Process Verbs (Unergative Periphery)

- a. Sudó el delegado. (Participant #16) (VS)

sweated the delegate

‘The delegate sweated.’

- b. El delegado sudó. (Participant #11) (SV)

the delegate sweated

‘The delegate sweated.’

These examples show that although we would only expect VS order, the native speakers in this study produce both VS and SV order with unaccusative and unergative verbs in narrow focus.

The participants of the study also produced both perfective and imperfect grammatical aspect in narrow focus as shown in (31):

(31) Perfective/Imperfect Aspect

- a. Cantó una cubana. (Participant #14) (perfective)

sang a cuban

‘A Cuban sang.’

- b. Una cubana cantaba. (Participant #30) (imperfective)

a cuban was singing

‘A Cuban was singing.’

Example (31) shows that the preterite aspect (*cantó* ‘he/she sang’) is used as well as the imperfect aspect of the verb (*cantaba* ‘he/she used to sing’) in narrow focus.

In narrow focus, adverbial phrases were also sometimes used either before or after the subject and verb. The following are examples of sentences with narrow focus on the subject that were produced with a postverbal adverbial phrase:



(32) Postverbal adverbial phrases

- a. Mi hermano regresó de sus vacaciones. (Participant #19) (S V X)  
my brother returned from his vacations  
'My brother returned from his vacations.'
- b. Silbó una persona muy fuerte y lastimó mis oídos. (Part. #32) (V S X)  
whistled a person very loudly and (he) hurt my ears  
'A person whistled very loudly and he hurt my ears.'

As shown in (32), when an adverbial phrase follows the subject and verb, the subject is sometimes produced preverbally and sometimes postverbally. The participants also produce adverbial phrases before the subject and verb in narrow focus, but all have VS order:

(33) Preverbal adverbial phrases

- a. Hoy nació una morena. (Participant #1) (X V S)  
today was born a brunette  
'Today a brunette was born.'
- b. Sólo volvió la limeña. (Participant #27) (X V S)  
Only returned the limeña  
'Only the woman from Lima returned.'

In (33), the adverbs *hoy* 'today' and *sólo* 'only' precede the subject and verb and are only produced with postverbal subjects.

The subjects produced in narrow focus can also be examined by their definiteness and heaviness. As shown in (34), the subject NPs were definite or indefinite:

(34) Definite/Indefinite Subject NP

- a. Llegó un abogado. (Participant #3) (indefinite)

Arrived a lawyer

‘A lawyer arrived.’

- b. El abogado llegó. (Participant #8) (definite)

the lawyer arrived

‘The lawyer arrived.’

There were also subjects produced in narrow focus that were light (consisting of at most a determiner, noun, and an adjective) or heavy (having more than just a determiner, noun, and adjective). All of the previous examples show light subjects. Examples of heavy subjects are given below (with the subjects underlined):

(35) Heavy Subjects

- a. Progresó un amigo que antes sacaba notas bajas. (Participant #13)

progressed a friend that before got grades low

‘A friend progressed who before got low grades.’

- b. Tosió un madrileño que está al lado mío. (Participant #17)

Coughed a man from Madrid that is to the side (of) mine

‘A man from Madrid that is next to me coughed.’

The examples in (35) show subject NPs that are heavy. Had the subject in (35a) been *un amigo* ‘a friend’ or *un buen amigo* ‘a good friend’ it would have been considered a ‘light’ subject. The following section will show that the word order produced in narrow focus is dependent on a number of language-internal factors.

### 6.1.3.2 Narrow Focus: Regression Analysis of Language-Internal Factors

The language-internal factors were investigated for their effect on the word orders produced in narrow focus using a binary logistic regression analysis. This section will identify the significant language-internal factor groups, rank the factors within each factor group, and determine the relative strength of each factor group.

To assess the influence of the language-internal variables on the word order of each sentence produced in narrow focus, a binary logistic regression analysis was conducted with SPSS. The results of this analysis are presented in Table 6.7.

Table 6.7 Production Task (Narrow Focus): Language-internal variables

Exp(B) >1 indicates that the factor favors VS				
Exp(B) <1 indicates that the factor favors SV				
** p < 0.01				
* p < 0.05				
-2 LOG LIKELIHOOD:			770.140	
CHI-SQUARE TEST OF MODEL:			X <sup>2</sup> (12) = 98.947, p=0.000	
TOTAL N:			633	
	EXP(B)	% SV ORDER	N	ORDER FAVORED
<b>Split Intransitivity Hierarchy</b>				
Change of Location Verbs	2.138**	30.9%	110	VS
Existence of State Verbs	1.398	41.0%	100	VS
Non-motional Process Verbs	0.942	43.8%	105	SV
Motional Process Verbs	0.871	51.0%	102	SV
Change of State Verbs	0.712	45.3%	106	SV
Uncontrolled Process Verbs	0.573**	53.6%	110	SV
<i>Wald</i>	22.844**			
<b>Verbal Construction</b>				
Prepositional complementizer + target verb as infinitive	2.341	27.8%	18	VS
Target verb and a subject	1.398	43.4%	576	VS
<i>Haber</i> + past participle	0.566	61.9%	21	SV
Verb + target verb as present Participle	0.540	66.7%	18	SV
<i>Wald</i>	6.676			

<b>Heaviness of Subject NP</b>				
Heavy subjects	1.583*	23.1%	52	VS
Light subjects	0.632*	46.1%	581	SV
<i>Wald</i>	6.203*			
<b>Location of Adverbial Phrase</b>				
No adverbial phrase	1.740**	41.3%	559	VS
After verb and subject	0.575**	66.2%	74	SV
<i>Wald</i>	15.283**			
<b>Definiteness of Subject NP</b>				
Indefinite	1.922**	27.6%	239	VS
Definite	0.520**	54.3%	394	SV
<i>Wald</i>	44.749**			
<b>Grammatical Aspect</b>				
Imperfective	1.071	41.7%	36	VS
Perfective	0.933	44.4%	597	SV
<i>Wald</i>	0.062			

A statistically significant fit for the model was achieved ( $p=0.000$ ) by iteration 4 and the factor groups that were selected as significant include ‘Split Intransitivity Hierarchy’, ‘Heaviness of subject NP’, ‘Location of Adverbial Phrase’, and ‘Definiteness of subject NP’. The factor groups ‘Verbal Construction’ and ‘Grammatical Aspect’ were not selected as significant.<sup>91</sup>

The factors of each factor group were ranked almost as they were ranked in broad focus, but there were some changes in narrow focus. For the factor group ‘Split Intransitivity Hierarchy’, the ‘Change of State’ unaccusative verbs favored SV order, indicating that SV order had spread into the unaccusative categories across the unaccusative cutoff point that we saw in broad focus. The core unergative ‘Non-motional Process’ verbs also were the best of the unergative verbs to respond to the expected VS order in narrow focus and unexpectedly favored VS order more than the other unergative verb categories (‘Uncontrolled Process’ and ‘Motional

<sup>91</sup> There were seven tokens of preverbal adverbial phrases and all had VS order. There were also two tokens with adverbial phrases that occurred between the subject and verb and these also had VS order. As knockouts, these tokens were removed, leaving the remaining 633 tokens for the regression analysis.

Process' verbs). As in broad focus, light subjects favored SV order (0.632) and heavy subjects preferred VS order (1.583). The location of adverbial phrases also impacts word order: sentences with no adverbial phrase preferred VS order (1.740) and those with an adverbial phrase after the verb and subject strongly preferred SV order (0.575). Additionally, definite subjects favored SV word order (0.520) and indefinite subjects favored VS order (1.922), as expected.

Using the calculated Wald statistics, we can rank the relative influence of each factor group on word order. This is shown in Table 6.8.

Table 6.8 Production Task (Narrow Focus): Ranking of Language-internal Variables

RANK	VARIABLE	WALD
1 <sup>st</sup>	Definiteness of Subject NP	44.749**
2 <sup>nd</sup>	Split Intransitivity Hierarchy	22.844**
3 <sup>rd</sup>	Location of Adverbial Phrase	15.283**
4 <sup>th</sup>	Heaviness of Subject NP	6.203*
5 <sup>th</sup>	Verbal Construction	6.676
6 <sup>th</sup>	Grammatical Aspect	0.062
** p < 0.01		
* p < 0.05		

The strongest constraint on word order is 'Definiteness of Subject NP' (Wald=44.749). This is because indefinite subjects have increased from 51.1% VS order in broad focus to 72.4% VS order in narrow focus. 'Split Intransitivity Hierarchy' (22.844) and 'Location of Adverbial Phrase' (15.283), followed later by 'Heaviness of Subject NP' (6.203), had the next highest rankings. The factor group 'Location of Adverbial Phrase' may have been ranked higher had it not had 'knockout' factors that were excluded from the analysis. The factors 'Verbal Construction' and 'Grammatical Aspect' are not significant factor groups and are ranked lowest.

This regression analysis shows that the language-internal variables that are the most important for explaining word order in narrow focus are ‘Definiteness of subject NP’, ‘Split Intransitivity Hierarchy’, ‘Location of Adverbial Phrase’, and ‘Heaviness of subject NP’. The analysis also reveals patterns in each factor group: SV order has spread in narrow focus to the ‘Change of State’ unaccusative category of the hierarchy, indefinite subjects strongly favor VS order, heavy subjects favor VS order, and postverbal adverbial phrases favor SV order. A comparison of the Wald statistics shows that the strongest language-internal factor group is ‘Definiteness of subject NP’ followed by ‘Split Intransitivity Hierarchy’, ‘Location of Adverbial Phrase’, and ‘Heaviness of Subject NP.’ The influence of the unaccusative or unergative verb type on the word order in narrow focus will be examined further in the following section.

#### **6.1.3.3 Narrow Focus: Analysis of Unaccusativity**

The relationship between word order and verb type in narrow focus was investigated further through repeated measures ANOVAs followed by post hoc comparisons. The unaccusative/unergative distinction and the Split Intransitivity Hierarchy were also tested for possible effects in narrow focus contexts.

In narrow focus, both unergative and unaccusative verbs were produced with VS and SV order, although VS order is the expected word order for all verb types with the subject in narrow focus. Table 6.9 shows the average percent word order produced in narrow focus for all speakers. This table shows that more VS order (60.6%) was produced than SV order (38.2%) for unaccusative verbs, as we would expect. For unergative verbs, however, almost equal amounts of VS and SV order were produced, which is unexpected for native speakers of Spanish.

Table 6.9 Oral Production Task: Average Percent Word Order Produced in Narrow Focus<sup>92</sup>

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	VS	?SV
Oral Production	Native Speakers from Bajío Zone of Mexican Spanish (n=29)	60.6% (193/316)	38.2% (123/316)	49.8% (160/317)	49.0% (157/317)

To compare the word orders produced, a one-way repeated measures ANOVA was performed. This test reveals a significant effect for ‘Unaccusativity’ by ‘Word Order’ ( $F(1, 28)=11.12, p=0.002$ ), which is not what we would expect for narrow focus because we would only expect ‘Word Order’ be significant since VS is theoretically expected for both verb types in narrow focus. Comparisons between verb categories reveal that unergative verbs are produced with significantly more SV order (49.0%) than unaccusative verbs (38.2%) ( $t(28)=3.0, p=0.006$ ), and VS order is produced significantly more with unaccusative verbs (60.6%) than unergative verbs (49.8%) ( $t(28)=3.53, p=0.001$ ). Comparisons within verb categories show that the preference for VS order over SV order is only approaching significance for unaccusative verbs ( $t(28)=1.73, p=0.095$ ). It is important to note that the optionality for unergative verbs in narrow focus here is similar to the optionality for unergative verbs in narrow focus shown in contact Spanish (Lozano, 2006a; Zapata et al., 2005). These results show overall that the unaccusative/unergative distinction is maintained to a degree in narrow focus.

Figure 6.5 shows the average percent word order produced in narrow focus for each category of the Split Intransitivity Hierarchy. This figure shows that VS order is produced more than SV order for all three unaccusative categories of the hierarchy, as we would expect. VS order is again produced unexpectedly more than SV order for core unergative ‘Non-motional

<sup>92</sup> The percentages shown in this table are averages used in the repeated measures ANOVAs which are calculated using the percent word orders produced for each speaker. See Appendix D for percentages calculated using the total tokens produced by all speakers as a whole.

Process' verbs. It would appear that VS order is produced in every category and that SV order is entering through the peripheral categories of the hierarchy.

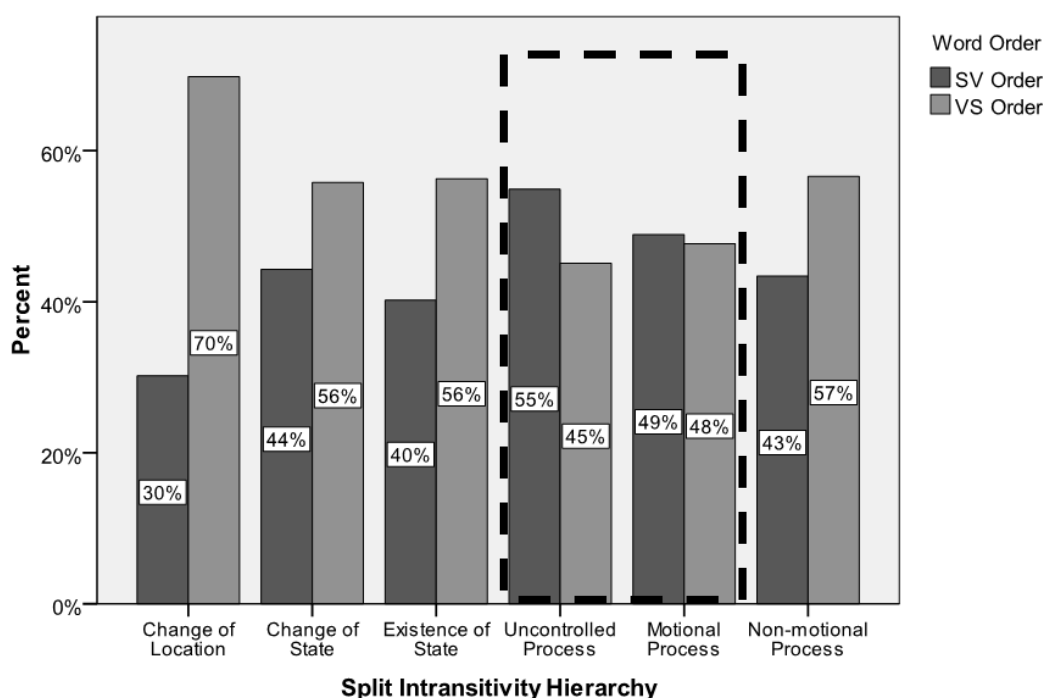


Figure 6.5 Average Percent Word Order Produced in Narrow Focus: All Speakers

A repeated measures ANOVA was performed to test the Split Intransitivity Hierarchy with respect to word order in narrow focus (which has not been investigated in the literature so far as I am aware). The analysis reveals a significant interaction for 'Split Intransitivity Hierarchy' by 'Word Order' ( $F(5, 140)=6.411, p=0.000$ ). A repeated measures ANOVA that only compares the SV orders of each category of the hierarchy reveals a significant effect for the 'Split Intransitivity Hierarchy' ( $F(3.35, 93.8)=5.87, p=0.001$ ). Pairwise comparisons with Bonferroni corrections show that the core 'Change of Location' unaccusatives are produced with significantly less SV order than 'Uncontrolled Process' verbs in the periphery ( $p=0.004$ ). The unergative core 'Non-motional Process' verbs are almost significantly different from 'Uncontrolled Process' verbs ( $p=0.086$ ). This appears to show that VS order is preferred the most in the core categories and that SV order is encroaching in the peripheral categories. When



comparing the word orders within verb categories, only ‘Change of Location’ unaccusatives significantly prefer VS to SV order ( $t(28)=29.3, p=0.007$ ) and are the closest to what is theoretically expected for narrow focus.

The standard deviations for each verb category were compared to see where there is more or less agreement among the participants for the word orders produced in narrow focus. Figure 6.6 shows the standard deviations for the word orders produced in narrow focus for each category of the Split Intransitivity Hierarchy:

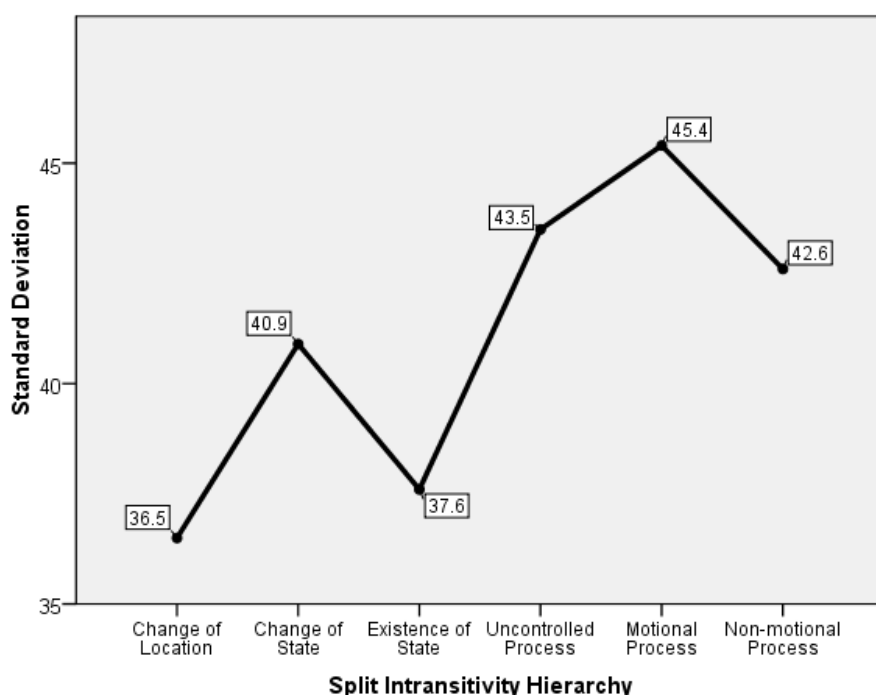


Figure 6.6 Standard Deviations for Narrow Focus Production: All Speakers

This figure shows that the participants agreed more on the word orders produced for the ‘Change of Location’, ‘Change of State’ and ‘Existence of State’ unaccusative verbs overall ( $SD=36.5$  to  $40.9$ ) than for the unergative verb categories ( $SD=42.6$  to  $45.4$ ). This is also consistent with the historical development of Spanish in which the unergative verbs were more unstable and changed as a whole before the unaccusative verbs. While the participants agree that unaccusative verbs should prefer VS order, they disagree the most about the ‘Uncontrolled Process’ and

‘Motional Process’ unergative categories in the periphery—the only two categories where SV order was previously shown to be produced more than VS order in narrow focus (see Figure 6.5).

The previous analyses unexpectedly show that unaccusative verbs are produced with significantly more VS order than unergative verbs and that unergative verbs are produced with significantly more SV order. This indicates that the unaccusative/unergative distinction is unexpectedly maintained to some degree in narrow focus. The results also appear to show optionality or a slight preference for SV order for the two unergative verb categories in the periphery of the hierarchy, and the most inter-speaker variation exists for these two categories. The Split Intransitivity Hierarchy is also found to be relevant for narrow focus because VS order is used with both core categories of the hierarchy while SV order appears to be used progressively more toward the peripheral categories. These results are unanticipated because we only expect to see VS order for all verb types in narrow focus unless there is variation among native speakers of Spanish at the syntax-discourse interface. The next section examines the effects that language-external factors might have word order in narrow focus.

#### **6.1.3.4 Narrow Focus: Regression Analysis of Language-External Factors**

A binary logistic regression analysis was performed to investigate how language-external factors might explain the word orders produced in narrow focus. The analysis reveals significant language-external factor groups, the rankings of the factors within each factor group, and the relative strength of each language-external factor group.

A binary logistic regression analysis of the word orders produced in narrow focus was conducted using the three language-external variables found to be significant for broad focus. Table 6.10 shows the results of this regression analysis.

Table 6.10 Production Task (Narrow Focus): Language-Internal and External Variables

Exp(B) >1 indicates that the factor favors VS				
Exp(B) <1 indicates that the factor favors SV				
** p < 0.01				
* p < 0.05				
-2 LOG LIKELIHOOD:				706.954
CHI-SQUARE TEST OF MODEL:		X <sup>2</sup> (16) = 162.133, p=0.000		
TOTAL N:				633
<b>Split Intransitivity Hierarchy</b>	EXP(B)	% SV ORDER	N	ORDER FAVORED
Change of Location Verbs	2.397**	30.9%	110	VS
Existence of State Verbs	1.385	41.0%	100	VS
Non-motional Process Verbs	0.918	43.8%	105	SV
Motional Process Verbs	0.840	51.0%	102	SV
Change of State Verbs	0.703	45.3%	106	SV
Uncontrolled Process Verbs	0.556**	53.6%	110	SV
<i>Wald</i>	24.562**			
<b>Verbal Construction</b>				
Prepositional complementizer + target verb as infinitive	1.936	27.8%	18	VS
Target verb and a subject	1.716	43.4%	576	VS
Verb + target verb as present Participle	0.783	66.7%	18	SV
<i>Haber</i> + past participle	0.384	61.9%	21	SV
<i>Wald</i>	8.596*			
<b>Heaviness of subject NP</b>				
Heavy subjects	1.829**	23.1%	52	VS
Light subjects	0.547**	46.1%	581	SV
<i>Wald</i>	10.130**			
<b>Location of Adverbial Phrase</b>				
No adverbial phrase	1.763**	41.3%	559	VS
After verb and subject	0.567**	66.2%	74	SV
<i>Wald</i>	13.958**			
<b>Definiteness of subject NP</b>				
Indefinite	2.049**	27.6%	239	VS
Definite	0.488**	54.3%	394	SV
<i>Wald</i>	46.279**			

<b>Grammatical Aspect</b>				
Perfective	1.126	44.4%	597	VS
Imperfective	0.888	41.7%	36	SV
<i>Wald</i>	0.169			
<b>Hometown Population</b>				
Rural 1,000-25,000	1.293*	40.7%	209	VS
Urban 60, 000-1,000,000+	0.773*	46.0%	424	SV
<i>Wald</i>	5.553*			
<b>Communication with someone in an English-speaking country</b>				
2 or more times per month	1.736**	31.7%	230	VS
Less than three times per year	0.762	56.3%	167	SV
No communication	0.756*	47.9%	236	SV
<i>Wald</i>	15.690**			
<b>Visited by someone from an English-speaking country</b>				
Once per 2-3 years or no visits	2.057**	32.6%	227	VS
At least once per year	0.486**	50.7%	406	SV
<i>Wald</i>	39.657**			

A statistically significant fit was achieved for the model ( $p=0.000$ ) by iteration 4. All of the language-internal factor groups were selected as significant except for ‘Grammatical Aspect’. The language-external factor groups ‘Hometown Population’, ‘Communication with Someone in an English-speaking Country’, and ‘Visited by Someone from an English-speaking Country’ were each found to be significant.

The factors within each language-internal factor group were ranked based on the Exp(B) results and generally pattern as they did in the previous regression analysis for narrow focus. For the factor group ‘Split Intransitivity Hierarchy’, SV order was not only favored for all unergative verbs categories, but also for the unaccusative ‘Change of State’ verbs (Exp(B)=0.703), showing that SV order is making inroads into the non-core unaccusative categories of the hierarchy in narrow focus. The heaviness of the subject NP also patterned as we would expect: ‘Light

Subjects' favored SV order (0.547) and 'Heavy Subjects' favored VS order (1.829). The category 'Location of Adverbial Phrase' also patterned as before: postverbal adverbial phrases favored SV order (0.567), while sentences with no adverbial phrase favored VS order (1.763). As for the factor group 'Definiteness of subject NP', definite subjects preferred SV order (0.488) and indefinite subjects preferred VS order (2.049), as expected.

The Exp(B) results for the factors of each language-external factor group were also examined. The factor group 'Hometown Population' showed the expected results: those who are from a more urban hometown favor SV order (0.773), while those from more rural hometowns favor VS order (1.293). The factor group 'Communication with Someone in an English-speaking Country' shows that those who communicate with someone in an English-speaking country two or more times per month favor VS order (1.736), but those who communicate less than three times per year or who have no communication prefer SV order (0.762 and 0.756, respectively). The factor group 'Visited by Someone from an English-speaking Country' shows that those who are visited by someone at least once per year favor SV order (0.486), while those who are visited only once every 2-3 years or not at all favor VS order (2.057). These results show that language-external variables have an influence on the word order in narrow focus.

The relative strength of the factor groups to influence the word order in narrow focus is shown through a comparison of their Wald statistics. The language-internal factor groups patterned as in the previous analysis with only language-internal factors: the strongest factor groups were 'Definiteness of Subject NP' (Wald=46.279) and 'Split Intransitivity Hierarchy' (24.562), while the last groups were ranked much lower: 'Location of Adverbial Phrase' (13.958), 'Heaviness of Subject NP' (10.130), 'Verbal Construction' (8.596), and 'Grammatical Aspect' (0.169). As for language-external variables, the factor group 'Visited by Someone from

an English-speaking Country' had the highest ranking (39.657). This factor group was followed by 'Communication with Someone in an English-speaking Country' (15.690) and 'Hometown Population' (5.553). The language-internal factor groups 'Location of Adverbial Phrase', 'Heaviness of Subject NP', 'Verbal Construction', and 'Grammatical Aspect' were all weaker than the top two language-external factor groups ('Visited by Someone from an English-speaking Country' and 'Communication with Someone in an English-speaking Country'), which points to the importance of investigating language-external factors for native speakers. The addition of these three language-external variables to the language-internal variables significantly improves the model ( $p < 0.001$ ) and the factor 'Visited by Someone from an English-speaking Country' is the language-external factor group that improves the model significantly more than any of the others ( $p < 0.001$ ). This all shows that it is important to give consideration to language-external variables in addition to language-internal variables.

The preceding analysis shows how language-external factors relate to the word orders produced in narrow focus. When combined with the language-external variables, all of the language-internal variables generally pattern as they did without the language-external variables. The language-external factors that were selected as significant include 'Hometown Population', 'Communication with Someone in an English-speaking Country', and 'Visited by Someone from an English-speaking Country'. Those who communicate with people in English speaking countries favor VS order and those with less frequent communication favor SV order. Those who are from more rural areas favor VS order while those who are from the city favor SV order. Expected results were also obtained for the factor group 'Visited by Someone from an English-speaking Country' because those who are visited at least yearly favor SV order while those who are not favor VS order. The analysis also shows that the strongest language-external factor is

‘Visited by Someone from an English-speaking Country’, which is a stronger predictor of word order than the language-internal factors of ‘Split Intransitivity Hierarchy’, ‘Heaviness of Subject NP’, ‘Verbal Construction’ and ‘Grammatical Aspect’. Comparisons of the models with and without language-external factors show that the addition of the three language-external factor groups significantly improves the model. The relationship between these language-external variables, unaccusativity, and word order in narrow focus are explored next.

#### **6.1.3.5 Narrow Focus: Analysis of Unaccusativity and Language-External Factors**

Repeated measures ANOVAs and post hoc comparisons were used to compare the word orders produced in narrow focus by participants who are visited at least yearly and those who are not. The word orders that each group produced were compared using the unaccusative/unergative distinction and the Split Intransitivity Hierarchy.

We now compare the word orders produced in narrow focus by participants who are visited yearly and those who are not visited yearly by someone in an English-speaking country. Table 6.11 shows the total percent of SV and VS order produced by these speakers. This table shows that those who are not visited yearly produce higher percentages of VS order than SV order for both unaccusative verbs (73.2% to 23.7%) and for unergative verbs (57.6% to 42.4%), as we would expect for narrow focus. Those who are visited yearly produce only slightly more VS order than SV order for unaccusative verbs (52.9% to 47.1%), and slightly more SV order than VS order for unergative verbs (53.1% to 45.1%), which is not what we would predict.

Table 6.11 Oral Production Task: Average percent word order produced in narrow focus according to yearly visits by someone in an English-speaking country<sup>93</sup>

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	VS	?SV
Oral Production	Not visited yearly (n=11)	73.2% (84/112)	23.7% (28/112)	57.6% (69/115)	42.4% (46/115)
	Visited yearly (n=17)	52.9% (109/204)	47.1% (95/204)	45.1% (91/202)	53.1% (111/202)

To compare the word orders produced for the two groups, a two-way repeated measures ANOVA was conducted with ‘Yearly Visits’ as the between-subjects factor. The results show that ‘Unaccusativity’ by ‘Word Order’ is significant ( $F(1, 27)=13.67, p=0.001$ ), but ‘Unaccusativity’ by ‘Word Order’ by ‘Yearly Visits’ is not significant.

A repeated measures ANOVA to compare unaccusative and unergative verbs for only those who are not visited yearly shows a significant effect for ‘Unaccusativity’ by ‘Word Order’ ( $F(1, 10)=7.01, p=0.024$ ). Comparisons between verb categories show that unergative verbs are produced with SV order significantly more than unaccusative verbs ( $t(10)=2.54, p=0.030$ ), and that unaccusative verbs are produced with VS order significantly more than unergative verbs ( $t(10)=2.67, p=0.024$ ). Within verb categories, VS order is only produced significantly more than SV order for unaccusative verbs (73.2% to 23.7%) ( $t(10)=4.01, p=0.002$ ). This indicates that those who are not visited yearly maintain an unaccusative/unergative distinction in narrow focus and strongly prefer to produce VS order over SV order for unaccusative verbs in narrow focus.

The situation is somewhat different when we examine the word orders produced by those who are visited yearly by someone from an English-speaking country. A repeated measures ANOVA again shows a significant effect for ‘Unaccusativity’ by ‘Word Order’ ( $F(1, 17)=4.59$ ,

<sup>93</sup> The percentages shown in this table are averages used in the repeated measures ANOVAs which are calculated using the average word orders produced for each speaker. See Appendix D for percentages calculated using the total tokens produced by all speakers as a whole.



$p=0.047$ ) and comparisons between verb categories show that unaccusative verb prefer VS order (52.9%) significantly more than unergative verbs (45.1%) ( $t(17)=2.35, p=0.031$ ), but that unaccusative SV order (47.1%) is not significantly different from unergative SV order (53.1%). Within verb categories, VS order is not produced significantly more than SV order for either verb type. Overall, these numbers appear to indicate an increase in word order optionality for those who are visited yearly as compared with those who are not.

The word orders produced by these groups were also examined with respect to the Split Intransitivity Hierarchy. The average percent word order produced by those with yearly visits and those without yearly visits are shown in Figures 6.7 and 6.8. Figure 6.7 shows that those who are not visited prefer VS order in almost all of the categories of the Split Intransitivity Hierarchy, as we would expect in narrow focus. We do find, however, that SV order is produced more with ‘Uncontrolled Process’ unergative verbs in the periphery. The use of SV order steadily declines from ‘Uncontrolled Process’ verbs toward the unaccusative and unergative core categories. For these speakers, VS order is produced more in almost every category, but SV order has found a weakness in the periphery and is starting to spread to the cores.

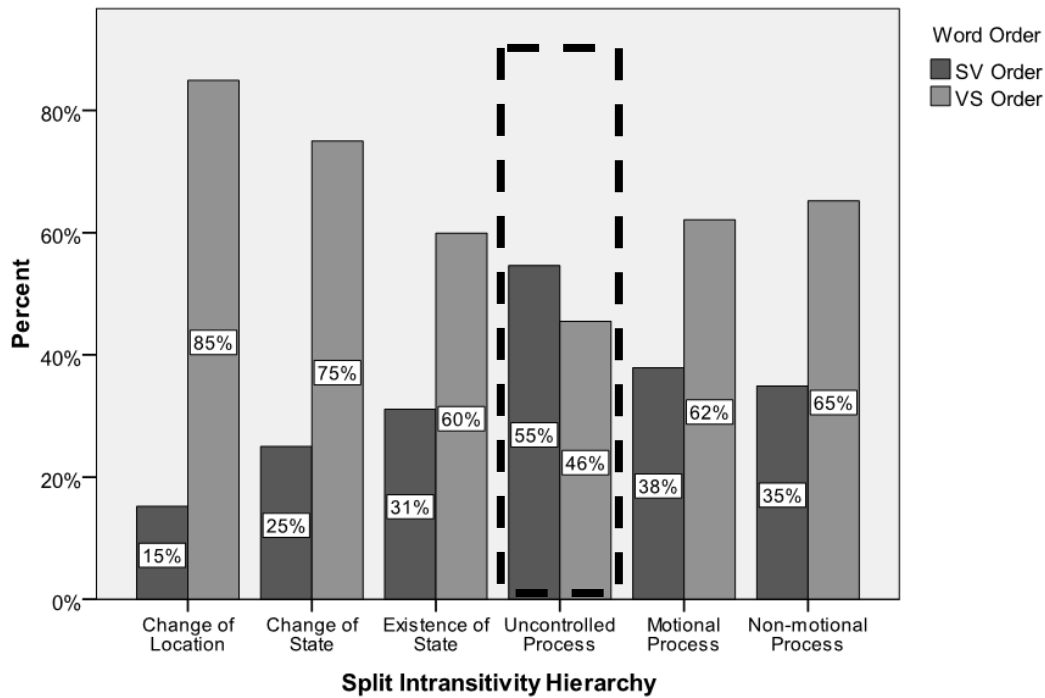


Figure 6.7 Average Percent Word Order Produced in Narrow Focus: Not Visited Yearly

Figure 6.8 shows that those who are visited yearly only produce more VS order with core ‘Change of Location’ unaccusatives, ‘Existence of State’ unaccusatives, and core ‘Non-motional Process’ unergative verbs. SV order is produced more than VS order in the non-core verb categories while VS order is only produced more in the core categories. A comparison of Figures 6.7 and 6.8 appears to show an expansion of SV order from being produced more in only one non-core category in Figure 6.7 to being produced in three non-core categories in Figure 6.8 (as indicated by the dashed boxes).

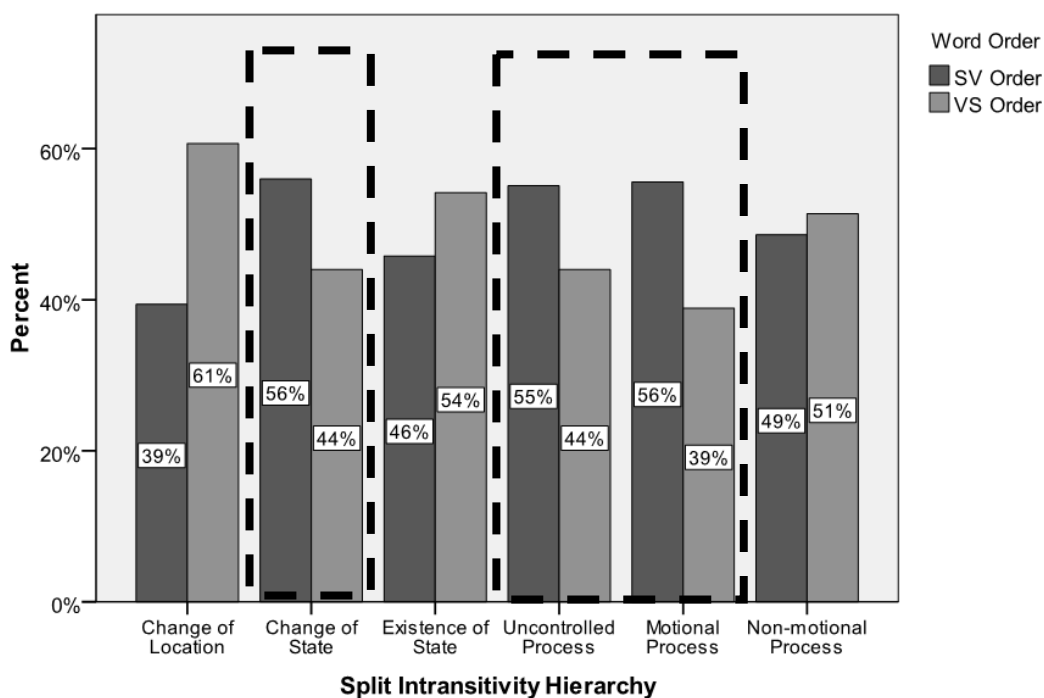


Figure 6.8 Average Percent Word Order Produced in Narrow Focus: Visited Yearly

To compare the word orders produced by these two groups, a two-way repeated measures ANOVA was performed to examine the word orders of the Split Intransitivity Hierarchy with ‘Yearly Visits’ as the between-subjects factor. The results showed a significant effect for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ ( $F(3.36, 90.6)=7.56, p=0.000$ ). It also reveals a significant effect for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Yearly Visits’ ( $F(3.36, 90.6)=2.62, p=0.049$ ). The reason why this effect is almost not significant may be due to the imprecision of the language history questionnaire, to the relatively low number of participants who report not being visited frequently, or to contact between classmates.

When a repeated measures ANOVA is performed for those who receive no yearly visits, we find a significant ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction ( $F(5, 50)=4.81, p=0.001$ ). A repeated measures ANOVA comparing only SV orders shows a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(5, 50)=4.21, p=0.003$ ). Pairwise comparisons with

Bonferroni corrections show that the difference between ‘Change of Location’ unaccusatives and ‘Uncontrolled Process’ unergatives approaches significance ( $p=0.060$ ), and comparisons between the other categories show no significant differences between them (they are almost all produced with more VS than SV order). Paired samples  $t$ -tests for comparing within verb types show that ‘Change of location’ unaccusatives significantly prefer VS order to SV order ( $p=0.001$ ) as do ‘Change of State’ unaccusatives ( $p=0.013$ ).

Those receiving yearly visits show a significant ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction ( $F(3.36, 57.16)=3.79, p=0.012$ ). A repeated measures ANOVA comparing only the SV orders of the categories of the hierarchy also finds a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(3.25, 55.24)=3.22, p=0.026$ ), however pairwise comparisons with Bonferroni adjustments show no significant differences between each verb category, and paired samples  $t$ -tests comparing the word orders within each category also show that no category of the hierarchy significantly prefers SV or VS order. The lack of statistical differences here suggests an increase in word order optionality in narrow focus, which is what we would expect to find for the syntax-discourse interface.

To summarize, the preceding analysis of the word orders produced in narrow focus compares those who are visited yearly by someone from an English-speaking country and those who are not using both the unaccusative/unergative distinction and the Split Intransitivity Hierarchy. For the unaccusative/unergative distinction, those who are not visited yearly use VS order more than SV order with both unaccusative and unergative verbs, as expected for narrow focus. However, an unaccusative/unergative distinction is maintained because VS order is used statistically more with unaccusative verbs and SV order is used statistically more with unergative verbs. Unaccusative verbs also significantly prefer VS to SV order, but there is no statistical

preference for one word order over another for unergative verbs for these speakers. Those who are visited yearly produce slightly more SV order for unergative verbs and only slightly more VS order for unaccusative verbs. For these speakers, VS order is preferred for unaccusative verbs over unergative verbs, but there is no significant difference between unaccusative and unergative SV order and neither verb type prefers VS order to SV order—pointing to an increase in word order optionality. When comparing unaccusative and unergative verbs, there is no significant interaction for ‘Unaccusativity’ by ‘Word Order’ By ‘Yearly Visits’.

The results are slightly different when looking at the Split Intransitivity Hierarchy. Those who are not visited produce more VS order in almost all categories of the hierarchy except for the ‘Uncontrolled Process’ unergative verbs. For these speakers, SV order appears to have entered in the peripheral categories and is slowly spreading out to the cores. These speakers who are not visited yearly have a significant ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction and significantly prefer VS to SV for ‘Change of Location’ and ‘Change of State’ unaccusative verbs. Those visited yearly only produce more VS order with core ‘Change of Location’ unaccusative verbs, ‘Existence of State’ unaccusative verbs, and core ‘Non-motional Process’ unergative verbs. These speakers show a significant ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction, but no category significantly prefers one order over another. When examining the Split Intransitivity Hierarchy in narrow focus, there is a slightly significant effect for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Visited Yearly.’ The results indicate that those who are visited yearly have more word order optionality than those who are not. We now turn to a summary of the narrow focus analyses.

#### 6.1.3.6 Summary of Narrow Focus Results

The previous analyses show that the word orders produced in narrow focus can be explained by investigating a number of factors. Regression analyses and repeated measures ANOVAs with post hoc comparisons were used to examine these language-internal and language-external factors.

A regression analysis of the language-internal variables shows that the most important factor groups for explaining the word order in narrow focus are ‘Definiteness of Subject NP’, ‘Split Intransitivity Hierarchy’, ‘Heaviness of Subject NP’, and ‘Location of Adverbial Phrase’. This analysis shows that SV order has spread in narrow focus to the ‘Change of State’ unaccusative category of the hierarchy, that definite subjects favor SV order, that heavy subjects favor VS order, and that postverbal adverbial phrases favor SV order. The strongest language-internal factor group is ‘Definiteness of subject NP’, followed by ‘Split Intransitivity Hierarchy’, ‘Location of Adverbial Phrase’, and ‘Heaviness of Subject NP.’

This analysis was followed with repeated measures ANOVAs to examine the word orders produced according to unaccusativity and the Split Intransitivity Hierarchy. The results indicate that the unaccusative/unergative distinction is unexpectedly maintained in narrow focus and that there is optionality in the word orders produced for unergative verbs. The Split Intransitivity Hierarchy is found to be important for narrow focus because VS order is used with the core unaccusative and unergative categories of the hierarchy while SV order appears to be used more toward the peripheral categories. Greater inter-speaker variation is also found in the non-core unergative verb categories of the hierarchy, as we might expect.

Another regression analysis tested for the relationship of language-external factors to the word orders produced in narrow focus. The language-external factors that were selected as

significant include ‘Hometown Population’, ‘Communication with Someone in an English-speaking Country’, and ‘Visited by Someone from an English-speaking Country’.

‘Communication with Someone in an English-speaking Country’ does not pattern as expected because VS order is favored by those who have the most communication with someone in an English-speaking country. Other factors do pattern as we might predict: participants from more rural areas favor VS order and those visited at least yearly by someone in an English-speaking country favor SV order. The analysis also reveals that the strongest language-external factor is ‘Visited by Someone from an English-speaking Country’, a factor group that is stronger than many language-internal factors, including ‘Split Intransitivity Hierarchy’ and ‘Heaviness of Subject NP’. When the log likelihoods are compared from analyses with each language-external factor group, we find that ‘Visited by Someone from an English-speaking Country’ is the factor group that produces the best analysis.

Repeated measures ANOVAs were used to further study the word orders produced in narrow focus for those who are visited yearly by someone from an English-speaking country and those who are not. These tests show that although those who are not visited yearly use VS order more than SV order with both unaccusative and unergative verbs (as expected for narrow focus), an unaccusative/unergative distinction is maintained. Unaccusative verbs are produced with significantly more VS order than SV order, but for unergative verbs, there is no statistical preference for one word order over another for these speakers. These speakers who are not visited produce more VS order in almost all categories of the hierarchy except for the ‘Uncontrolled Process’ unergative verbs and SV order appears to have entered in the peripheral categories. They show a significant ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction and significantly prefer VS order to SV order for ‘Change of Location’ and ‘Change of State’

unaccusative verbs. Those who are visited yearly produce slightly more SV order for unergative verbs and only slightly more VS order for unaccusative verbs. For them, VS order is preferred for unaccusative verbs over unergative verbs, but there is no significant difference between unaccusative and unergative SV order and neither verb type prefers VS order to SV order. They only produce more VS order with core ‘Change of Location’ unaccusative verbs, ‘Existence of State’ unaccusative verbs, and core ‘Non-motional Process’ unergative verbs. These speakers also show a significant ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction, but no category significantly prefers one order over another. An examination of the Split Intransitivity Hierarchy in narrow focus shows that there is only a slightly significant effect for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Visited Yearly.’

The preceding analyses show that both language-internal and language-external variables help to explain the word orders produced in narrow focus contexts. These results indicate that those who are visited yearly display more word order optionality (due to increases in SV order) than those who are not visited yearly. The next sections will compare the word orders produced in broad and narrow focus.

#### **6.1.4 Comparison of Syntax-Lexicon and Syntax-Discourse Interfaces in Production**

To compare the syntax-lexicon and syntax-discourse interfaces, the results of previous regression analyses were compared and additional repeated measures ANOVAs were performed to examine the word orders produced. The following sections compare both the language-internal and language-external factors in broad and narrow focus.

##### **6.1.4.1 Interface Comparison: Regression Analyses of Language-Internal Factors**

The regression analyses of the word orders produced in broad and narrow focus can be compared by significant factor groups, factor rankings, and the relative strength of the factor



groups. The regression analyses for broad and narrow focus both show that the significant factor groups are ‘Split Intransitivity Hierarchy’, ‘Heaviness of Subject NP’, and ‘Location of Adverbial Phrase’, but ‘Grammatical Aspect’ is not significant in either analysis. In broad focus, ‘Verbal Construction’ is also a significant factor group, but not ‘Definiteness of Subject NP’, and the opposite was true in narrow focus. This may relate to the fact that factor ‘Verbal Construction’ may be more closely linked to the syntax-lexicon interface and ‘Definiteness’ may be more closely linked to the syntax-discourse interface. The factor rankings in both broad and narrow focus for the factor groups ‘Heaviness of Subject NP’, ‘Location of Adverbial Phrase’, and ‘Definiteness of Subject NP’ are as we would expect. For ‘Split Intransitivity Hierarchy’ however, there is cutoff point in broad focus between the top three unaccusative and the top three unergative categories of the hierarchy, while in narrow focus SV order has spread across the cutoff point into the ‘Change of State’ unaccusative verbs and the core unergative ‘Non-motional Process’ verbs have increased in VS order. In both broad and narrow focus, ‘Location of Adverbial Phrase’ is a strong language-internal factor group and is stronger than ‘Heaviness of Subject NP’ or ‘Grammatical Aspect’.

#### **6.1.4.2 Interface Comparison: Analysis of Unaccusativity**

To compare the word orders produced in broad and narrow focus for all speakers, repeated measures ANOVAs were performed. A first test was conducted with ‘Word Order’, ‘Focus’ and ‘Unaccusativity’ as the within-subjects factors. For this analysis, although ‘Focus’ by ‘Word Order’ approaches significance ( $F(1, 28)=3.77, p=0.062$ ) as does ‘Focus’ by ‘Unaccusativity’ by ‘Word Order’ ( $F(1, 28)=3.64, p=0.067$ ), there was a significant effect for ‘Unaccusativity’ by ‘Word Order’ ( $F(1, 28)=29.63, p=0.000$ ). Another repeated measures ANOVA was conducted to investigate focus and word order in relation to the Split Intransitivity

Hierarchy. This test finds ‘Split Intransitivity Hierarchy’ by ‘Word Order’ to be a significant interaction ( $F(3.61, 101.17)=13.11, p=0.000$ ). There was no significant interaction involving ‘Focus’, although ‘Focus’ by ‘Word Order’ approaches significance ( $F(1, 28)=3.77, p=0.062$ ).

A comparison of the standard deviations for the percentages of the word orders produced in both broad and narrow focus show where there is inter-speaker variation in the word orders produced. Figure 6.9 shows the standard deviations of the percentages of word orders produced by all speakers in broad and narrow focus.

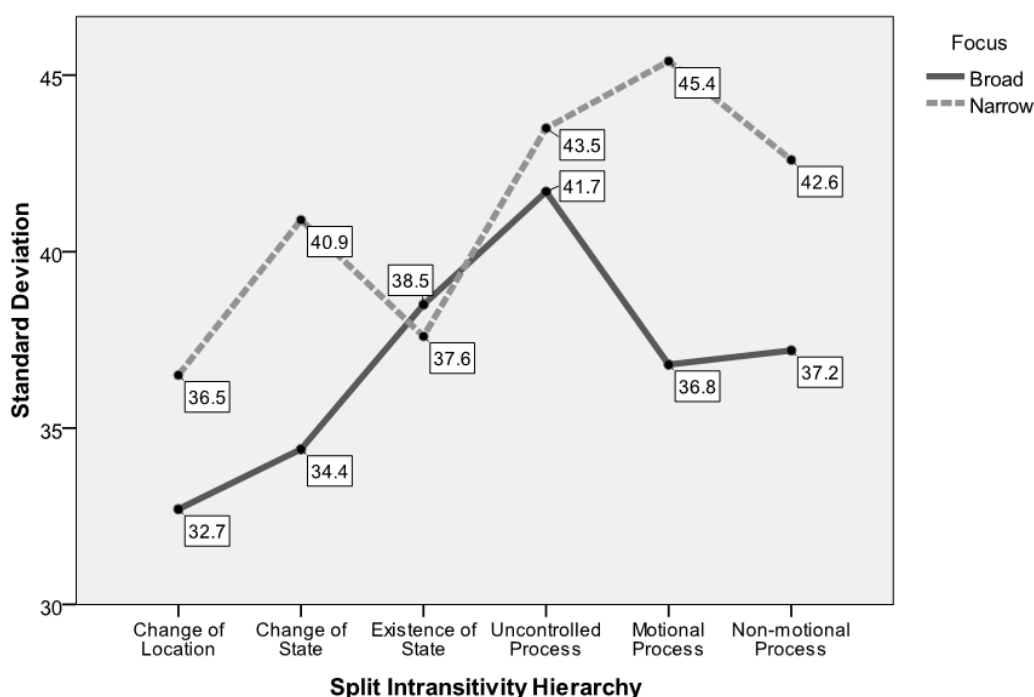


Figure 6.9 Standard Deviations for Broad and Narrow Focus Production: All Speakers

This figure shows that the native speakers of this study agree more on the word orders for broad focus than for narrow focus, as shown by the overall higher standard deviations for narrow focus. This is as we might expect because the syntax-discourse interface has frequently shown more variation than other interfaces in the studies of language contact discussed in earlier chapters. We also might expect the unaccusative/unergative distinction to be showing signs of being lost first among the unergative verbs (as it was historically, among second language learners of Spanish,

and among heritage speakers of Spanish), and this may explain why unergative verbs have an overall higher standard deviations than the unaccusative verbs. The non-core categories in the middle of the hierarchy also tend to have higher standard deviations than the core categories of the hierarchy and this is what we would expect for the Split Intransitivity Hierarchy.

Although the raw results show differences between broad and narrow focus, the difference between broad and narrow focus only approaches significance. However, we will see later that there is a significant difference between broad and narrow focus when we consider language-external variables. Language-external variables in both broad and narrow focus will be the subject of the next section.

#### **6.1.4.3 Interface Comparison: Regression Analyses of Language-External Factors**

The regression analyses that test the influence of language-external factors on the word orders produced in broad and narrow focus were compared by significant factor groups, factor rankings, and the relative strength of the factor groups. The significant language-external factor groups shared by the broad and narrow focus analyses include ‘Visited by Someone from an English-speaking Country’, ‘Hometown Population’, and ‘Communication with Someone in an English-Speaking Country’. In both focus contexts, the factors of the groups ‘Visited by Someone from an English-speaking Country’ and ‘Hometown Population’ ranked as we would expect because those who are visited at least yearly and those who live in more urban areas prefer SV order. The factors of the group ‘Communication with Someone in an English-Speaking Country’ pattern the opposite from what we would expect because those with who communicate the most with people in English-speaking countries favor VS order more. The strongest language-external factor group of both broad and narrow focus is ‘Visited by Someone from an English-speaking Country’, which is a stronger factor group than ‘Split Intransitivity

Hierarchy' and 'Heaviness of Subject NP' in both analyses. 'Visited by Someone from an English-speaking Country' is also the language-external variable that produces the best log likelihood when compared with other analyses of language-external variables combined with language-internal variables in both broad and narrow focus. The word orders produced in the two focus contexts were also compared according to unaccusativity.

#### **6.1.4.4 Interface Comparison: Unaccusativity and Language-External Factors**

To investigate the effect of being visited yearly by someone from an English-speaking country, a two-way repeated measures ANOVA was conducted. This test used 'Focus', 'Unaccusativity', and 'Word Order' as the within-subjects factors and 'Yearly Visits' as the between-subjects factor. Again, 'Unaccusativity' by 'Word Order' was significant ( $F(1, 27)=26.11, p=0.000$ ), 'Focus' by 'Unaccusativity' by 'Word Order' was not significant, and 'Focus' by 'Word Order' was nearly significant ( $F(1, 27)=3.97, p=0.057$ ). Importantly, there is a significant effect for 'Focus' by 'Unaccusativity' by 'Word Order' by 'Yearly Visits' ( $F(1, 27)=10.07, p=0.004$ ), which shows unless 'Yearly Visits' is taken into account there would be no statistical difference between the word orders used for unaccusative and unergative verbs in broad and narrow focus.

To investigate the Split Intransitivity Hierarchy as it relates to focus, a two-way repeated measures ANOVA was performed using 'Focus', 'Split Intransitivity Hierarchy', and 'Word Order' as the within-subjects factors and 'Yearly Visits' as the between-subjects factor. The results show a significant interaction for 'Focus' by 'Split Intransitivity Hierarchy' by 'Word Order' by 'Visits' ( $F(4.18, 112.76)=2.722, p=0.031$ ). As with previous tests using 'Unaccusativity' rather than 'Split Intransitivity Hierarchy', 'Focus' by 'Word Order' approaches significance ( $F(1, 27)=3.97, p=0.057$ ). 'Split Intransitivity Hierarchy' by 'Word

Order' is significant ( $F(3.49, 94.11)=12.57, p=0.000$ ), but 'Focus' by 'Split Intransitivity Hierarchy' by 'Word Order' was not a significant interaction. 'Word Order' by 'Yearly Visits' was also not significant, and 'Yearly Visits' was also not significant alone as a between-subjects factor, which shows that the increase in SV order for those who do receive yearly visits targets certain interface areas.

When the repeated measures ANOVA is performed to compare only SV orders, there is a significant effect for 'Focus' ( $F(1, 27)=4.33, p=0.047$ ) and for 'Split Intransitivity Hierarchy' ( $F(3.44, 92.95)=11.99, p=0.000$ ). There is also a significant effect for 'Focus' by 'Split Intransitivity Hierarchy' by 'Yearly Visits' ( $F(4.21, 113.5)=2.75, p=0.021$ ), as expected. 'Yearly Visits' alone as a between-subjects factor is again not significant, showing that lexical and discourse factors must also be taken into account along with the language-external factor of having been visited yearly or not.

### **6.1.5 Summary of Oral Production Task Results**

The broad and narrow focus analyses used both regression analyses and repeated measures ANOVAs with post hoc comparisons to investigate language-internal and language-external factors related to word order. The word orders were examined in broad focus, narrow focus, and then the two focus contexts were compared.

The broad focus analysis of all speakers showed that the unaccusative/unergative distinction is maintained overall, that there is a cutoff point between 'Existence of State' unaccusative verbs and 'Uncontrolled Process' unergative verbs, and that there is more interspeaker variation toward the peripheral categories of the hierarchy. When the participants are separated according to whether or not they are visited yearly by someone from an English-speaking country, we find that those who are not visited at least yearly do not distinguish

between unergative and unaccusative verbs, show optionality with unergative verbs, produce more VS order in all verb categories of the hierarchy (even in the unergative core), use SV order more towards the peripheral categories, and do not show a clear cutoff point between unaccusative and unergative behavior. Those who are visited yearly do distinguish between unergative and unaccusative verbs, have a strong preference for SV order with unergative verbs, and display a clear cutoff point between ‘Existence of State’ verbs and ‘Uncontrolled Process’ verbs. Although there were descriptive differences between the word orders produced by the two groups, there was no statistical difference between the two groups in broad focus. The broad focus results largely support the Split Intransitivity Hierarchy, although both SV and VS orders are produced for each verb type along the hierarchy.

The narrow focus results for the participants as a whole show that the unaccusative/unergative distinction is unexpectedly maintained in narrow focus, that unergative verbs show optionality, that VS order is used with the core unaccusative and unergative categories of the hierarchy, and that SV order appears to be used more toward the peripheral categories where there is also more inter-speaker variation. When the participants are grouped according to the frequency of visits that they receive, we find that those who are not visited yearly use VS order more than SV order with both unaccusative and unergative verbs (as expected in narrow focus) and that they maintain an unaccusative/unergative distinction, produce more VS order than SV order for unaccusative verbs, show optionality for unergative verbs, and produce more VS order in almost all categories of the hierarchy (except for the ‘Uncontrolled Process’ unergative verbs in the periphery where we might expect SV order to enter). Those who are visited yearly produce slightly more SV order for unergative verbs, prefer VS order for unaccusative verbs over unergative verbs, show no significant difference between unaccusative

and unergative SV, do not prefer VS order or SV order for any verb type, and produce more SV order overall than those who are not visited. Unlike broad focus, there is a significant effect for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Visited Yearly’, indicating that those who are visited yearly display more word order optionality (due to increases in SV order) than those who are not visited yearly in narrow focus.

The broad and narrow focus results were also compared. The regression analyses for broad and narrow focus both show that the significant factor groups are ‘Split Intransitivity Hierarchy’, ‘Heaviness of Subject NP’, and ‘Location of Adverbial Phrase,’ which all pattern as we would expect. In both broad and narrow focus, ‘Location of Adverbial Phrase’ is a strong language-internal factor group and is stronger than ‘Heaviness of Subject NP’. ‘Verbal Construction’ and ‘Definiteness of Subject NP’ are the highest ranked factor groups in broad and narrow focus, respectively, but are not significant in the other focus context, and this may each be due to a special relationship with the syntax-lexicon or syntax-discourse interface. Without considering language-external factors, ‘Focus’ was not found to be a significant factor when combined with ‘Unaccusativity’ (or ‘Split Intransitivity Hierarchy’) and ‘Word Order’ or only ‘Word Order’, although it approaches significance. However, we did find significant effects for ‘Unaccusativity’ (or ‘Split Intransitivity Hierarchy’) by ‘Word Order.’ Significant language-external factor groups in both the broad and narrow focus analyses include ‘Visited by Someone from an English-speaking Country’, ‘Hometown Population’, and ‘Communication with Someone in an English-Speaking Country’. Both analyses find that those who are visited at least yearly and those who live in more urban areas favor SV order, and that VS is favored by those who communicate the most with people in an English-speaking country. Analyses in both focus contexts show that ‘Visited by someone from an English-speaking Country’ is the strongest

language-external factor group (and is stronger than the language-internal factor groups of ‘Split Intransitivity Hierarchy’ and ‘Heaviness of Subject NP’), and that it produces the best model in a comparison of log likelihoods. In repeated measures ANOVAs that only consider language-internal variables, ‘Focus’ is not found to be a significant factor, but when we include the factor ‘Yearly Visits’, there is a significant effect for ‘Focus’ by ‘Unaccusativity’ (or ‘Split Intransitivity Hierarchy’) by ‘Word Order’ by ‘Yearly Visits’. This shows that there is no statistical difference between broad and narrow focus for these speakers unless ‘Yearly Visits’ is taken into account. At the same time, ‘Yearly Visits’ is also not significant alone, indicating that the infusion of SV order targets certain areas of the interfaces and that both language-internal and external factors must be considered. We now turn to the acceptability judgment task.

## 6.2 Acceptability Judgment Task Results

As described in Chapter 5, the judgment task consisted of listening to stories, hearing a question, and then rating possible answers to the question aloud using a five-point Likert scale while the ratings were recorded. The questions established a broad or narrow presentational focus for the answer to be rated. The ratings of 34 participants were transcribed and coded. Each speaker produced 48 ratings (6 verb categories X 2 target verbs per category X 2 possible word orders X 2 focus contexts), resulting in 1632 utterances. Of these, the results of 29 participants were retained, leaving 1392 ratings for the analysis.<sup>94</sup> The following sentences representing the categories of the Split Intransitivity Hierarchy were judged in both broad and narrow focus:

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<sup>94</sup> The five speakers who were not retained for the analysis included Participant #33, with two parents who were from Tampico, Mexico (outside of the Bajío Zone of Mexican Spanish); Participant #34, whose age was far above the average age of the participants; and Participants #15, #18, and #28 who had almost no variation in their responses—all gave the highest rating for both SV and VS order in almost all cases.



- (36)
- a. Change of Location (Core Unaccusative)
    - i. Llegó un abogado./Un abogado llegó. ‘A lawyer arrived.’
    - ii. Un panameño salió./Salió un panameño. ‘A Panamanian left.’
  - b. Change of State (Less-core Unaccusative)
    - i. Creció una colega./Una colega creció. ‘A colleague grew.’
    - ii. Un veterano murió./Murió un veterano. ‘A veteran died.’
  - c. Existence of State (Peripheral Unaccusative)
    - i. Vivió una cuñada./Una cuñada vivió. ‘A sister-in-law lived.’
    - ii. Un caribeño faltó./Faltó un caribeño. ‘A man from the Caribbean was lacking.’
  - d. Uncontrolled Process (Peripheral Unergative)
    - i. Tembló un brasileño./Un brasileño tembló. ‘A Brazilian shivered.’
    - ii. Un delegado sudó./Sudó un delegado. ‘A delegate sweated.’
  - e. Motional Process (Less-core Unergative)
    - i. Corrió un enemigo./Un enemigo corrió. ‘An enemy ran.’
    - ii. Una chilena nadó./Nadó una chilena. ‘A Chilean swam.’
  - f. Non-motional Process (Core Unergative)
    - i. Gritó una modelo./Una modelo gritó. ‘A model screamed.’
    - ii. Una cubana cantó./Cantó una cubana. ‘A Cuban sang.’

SPSS was used to analyze the acceptability judgments. First, the verbally-expressed judgments were transcribed and then converted to numbers with *suena raro* ‘sounds strange’ being equal to 1 and *suena bien* ‘sounds good’ being equal to 5. SPSS and Excel were used to calculate the average word orders produced for each verb category for each speaker. SPSS was

then used to perform repeated measures ANOVAs to test for the effects of focus type, the unaccusative/unergative distinction, the Split Intransitivity Hierarchy, and language-external factors. The repeated measures ANOVAs were followed by pairwise comparisons with Bonferroni corrections and paired-samples *t*-tests to compare word orders across and within verb categories, as in the production task. Comparisons across and within verb types are made because we found in Tables 3.1-3.3 of Chapter 3 that some native speakers only show what we may call a ‘weaker’ unaccusative/unergative distinction that occurs between verb categories in acceptability judgment tasks (e.g. Hertel & Pérez-Leroux, 1998; Montrul, 2003, 2005a, 2005b, 2006) while other native speakers make a ‘stronger’ unaccusative/unergative distinction in which the distinction occurs both between and within verb categories in the raw results (e.g. De Miguel Aparicio, 1993; Domínguez & Arche, 2008; Hertel, 2000; Lozano, 2003, 2006a, 2006b). In addition, because participants rated both SV and VS orders separately (i.e. it was not a forced choice task like the production task), separate analyses were performed for each word order across verb categories, as in previous studies. Standard deviations were also calculated to identify variations in judgments between participants. Statistical significance was set at  $p < 0.05$ .

In the following sections, the results of the acceptability judgment task will be reported. We begin with analyses of the judgments of sentences in broad focus (6.2.1) and narrow focus (6.2.2) and then compare narrow and broad focus judgments (6.2.3).

### **6.2.1 Syntax-Lexicon Interface**

The word order of the syntax-lexicon interface is best represented by a sentence in a broad focus context. The participants in this study judged the acceptability of sentences with both SV order and VS order in a broad focus context after hearing a story and then a *¿Qué pasó?*

‘What happened?’ question about the story. In the following sections, the acceptability judgments of sentences in the broad focus context will be reported.

### 6.2.1.1 Broad Focus: Analysis of Unaccusativity

The average acceptance ratings for VS and SV orders with unaccusative and unergative verbs in broad focus were calculated and then tested. Table 6.12 shows the acceptance ratings for both word orders according to the unaccusative or unergative verb type.

Table 6.12 Acceptability Judgment Task: Average Percent Acceptance in Broad Focus<sup>95</sup>

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	SV	?VS
Acceptability Judgment Task	Native Speakers from Bajío Zone of Mexican Spanish (n=29)	78.8% (4.15)	81.0% (4.24)	79.3% (4.17)	78.0% (4.12)

Table 6.12 shows that the ratings of sentences in broad focus contexts are all near 79% (a rating of about 4.15 out of 5.0). A repeated measures ANOVA shows that there is no significant effect for ‘Unaccusativity’ or for ‘Word Order’, and the ‘Unaccusativity’ by ‘Word Order’ interaction was also not significant. Significant effects are found, however, when we make recourse to the Split Intransitivity Hierarchy rather than the simple unaccusative/unergative dichotomy. Figure 6.10 shows the average judgment for verb categories of the hierarchy in broad focus.

<sup>95</sup> Judgments on the 5-point Likert scale were converted to percentages for comparison with the results of other studies using the following formula:  $((\text{Mean Rating}-1)/4)*100=\%$ . Average acceptability judgments are in parentheses.

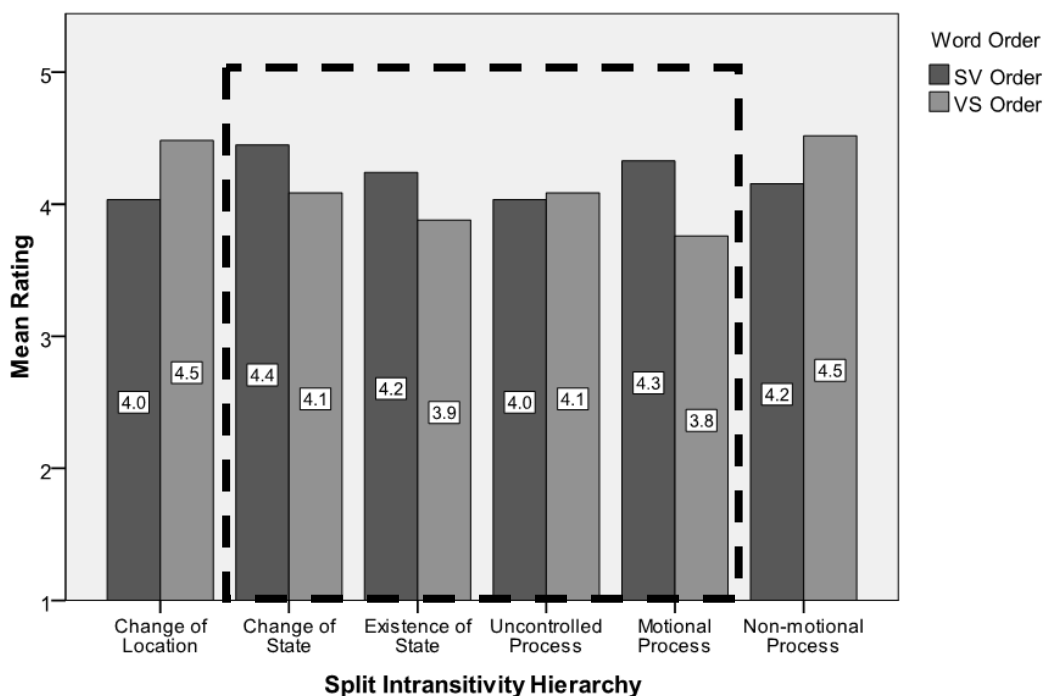


Figure 6.10 Average Judgment in Broad Focus: All Participants

This figure shows that VS order is preferred over SV order in the unaccusative core, as we would expect, but the same is true in the unergative core, which is the opposite from what we would expect. This result points to a possible distinction between the cores and the periphery, rather than a cline from core unaccusativity to core unergativity. In this figure, we see that VS order is judged the most acceptable for the core categories of the hierarchy, but the least acceptable in the four non-core categories (as indicated by the dashed box), where SV order is preferred and optionality is found. A repeated measures ANOVA was conducted to investigate the acceptance rates for each word order along the hierarchy, and although ‘Split Intransitivity Hierarchy’ nearly approaches significance ( $F(3.59, 100.47)=2.46, p=0.056$ ), there was a significant effect for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ ( $F(3.83, 107.27)=3.68, p=0.008$ ).

Because participants rated SV and VS orders separately in the acceptability judgment task, the acceptance rates for the SV and the VS orders for each category of the hierarchy were compared separately. A repeated measures ANOVA comparing only the SV orders along the

hierarchy reveals no significant differences between the ratings for SV order along the categories of the hierarchy. However, an analysis comparing the VS orders along the hierarchy shows a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(3.35, 93.67)=4.55, p=0.004$ ). Pairwise comparisons with Bonferroni adjustments show that the core ‘Non-motional process’ unergative verbs are accepted with VS order significantly more than ‘Existence of State’ unaccusative verbs ( $p=0.007$ ) and ‘Motional Process’ unergative verbs ( $p=0.006$ ), which are both verb categories in the periphery of the hierarchy. Within verb categories, participants significantly prefer SV order over VS order for less-core ‘Motional Process’ unergative verbs ( $t(28)=2.65, p=0.013$ ), but significantly prefer VS order over SV order for the core ‘Non-motional process’ unergative verbs ( $t(28)=2.09, p=0.046$ ), which is not as we would expect. At the other end of the continuum, the preference for VS order over SV order for ‘Change of Location’ verbs is only approaching significance ( $t(28)=1.87, p=0.072$ ). These results clearly point to a distinction between the core and the non-core categories of the hierarchy, rather than to a cline with a cutoff point somewhere between two opposing extremes of the hierarchy. Although we would expect to see the emergence of a preference for SV order in the non-core categories of the hierarchy (which we do), it is surprising to see VS order preferred for the core unergative category of the hierarchy.

The standard deviations of the word order preferences help us to see the inter-participant variation in the word order preferences. Figure 6.11 shows the standard deviations in the word order ratings for both SV and VS order for each category along the hierarchy.

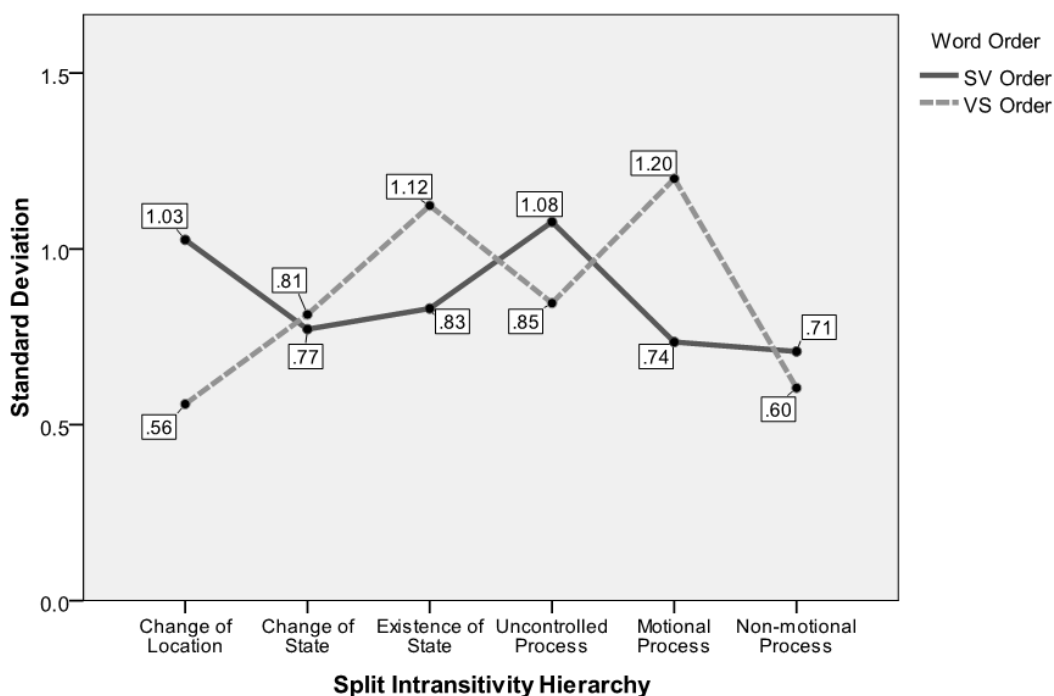


Figure 6.11 Standard Deviations for Broad Focus Judgments: All Speakers

In this figure, we see that the standard deviations are generally higher for both SV and VS order in the non-core categories of the hierarchy than in the core categories. Although the standard deviation is unexpectedly high for the SV order ratings with core ‘Change of Location’ verbs ( $SD=1.03$ ), the standard deviation for VS order for these core unaccusative verbs (0.56) is lower than the standard deviations in the middle of the hierarchy (0.74 to 1.20). The core unergative ‘Non-motional Process’ verbs at the other end of the continuum also have lower standard deviations for SV order (0.71) and VS order (0.60) than the rest of the non-core verb categories where SV order was found to predominate in the raw data. The lower standard deviations for these core ‘Non-motional Process’ verbs also show that the participants tend to agree in their unexpected preference for VS order over SV order for these core unergative verbs. This all shows that the increased preference for SV order in the non-core categories of the hierarchy is accompanied by an overall greater variation in the judgments between speakers.

To summarize, although there are no significant interactions involving the unaccusative/unergative distinction, there is a significant ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction that highlights a core-periphery distinction. VS order was preferred in both of the core categories of the hierarchy while SV order dominated in the periphery, where greater variation in the judgments between speakers was also found. The broad focus judgments of those who are visited or not by someone from an English-speaking country will be explored in the next section.

### 6.2.1.2 Broad Focus: Yearly Visits

Tests were performed to compare the acceptability judgments from those who are visited yearly by someone from an English-speaking country and those who are not visited yearly. Table 6.13 shows the ratings of sentences for those with and without yearly visits.

Table 6.13 Acceptability Judgment Task: Average percent word order preferred in broad focus according to yearly visits from someone in an English-speaking country

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	SV	?VS
Acceptability Judgment	Not visited yearly (n=11)	85.3% (4.41)	79.3% (4.17)	79.3% (4.17)	86.0% (4.44)
	Visited yearly (n=18)	74.8% (3.99)	82.3% (4.29)	79.5% (4.18)	73.3% (3.93)

This table shows that those who are not visited yearly rate VS order higher than SV order for both unaccusative and unergative verbs and make no apparent unaccusative/unergative distinction in broad focus. These speakers who are not visited yearly rate VS order higher than SV order for unergative verbs where we would expect to see SV order preferred. Those who are visited yearly also do not appear to make an unaccusative/unergative distinction because they prefer SV order over VS order for both unaccusative verbs and unergative verbs, which is not as

we would expect. Thus, those without yearly visits prefer VS order for both verb types while those with yearly visits prefer SV order for both verb types.

To investigate these acceptability judgments, a two-way repeated measures ANOVA was conducted with ‘Unaccusativity’ and ‘Word Order’ as the within-subjects factors and ‘Yearly Visits’ as the between-subjects factor. This test reveals no significant effect for ‘Unaccusativity’, ‘Word Order’ or any other interaction, although the ‘Word Order’ by ‘Yearly Visits’ interaction approaches significance ( $F(1, 27)=3.81, p=0.061$ ). A test to compare only the SV orders also shows no significant effects for ‘Unaccusativity’, ‘Word Order’, or ‘Yearly Visits’, and there are no significant interactions. However, when we compare the judgments of the VS orders, there is a significant effect for the between-subjects factor ‘Yearly Visits’ ( $F(1, 27)=6.19, p=0.019$ ), indicating that participants who do not receive yearly visits prefer VS order in broad focus significantly more than those who are visited yearly.

Figures 6.12 and 6.13 show the average acceptability ratings according to the Split Intransitivity Hierarchy for participants with and without yearly visits from someone in an English-speaking country.



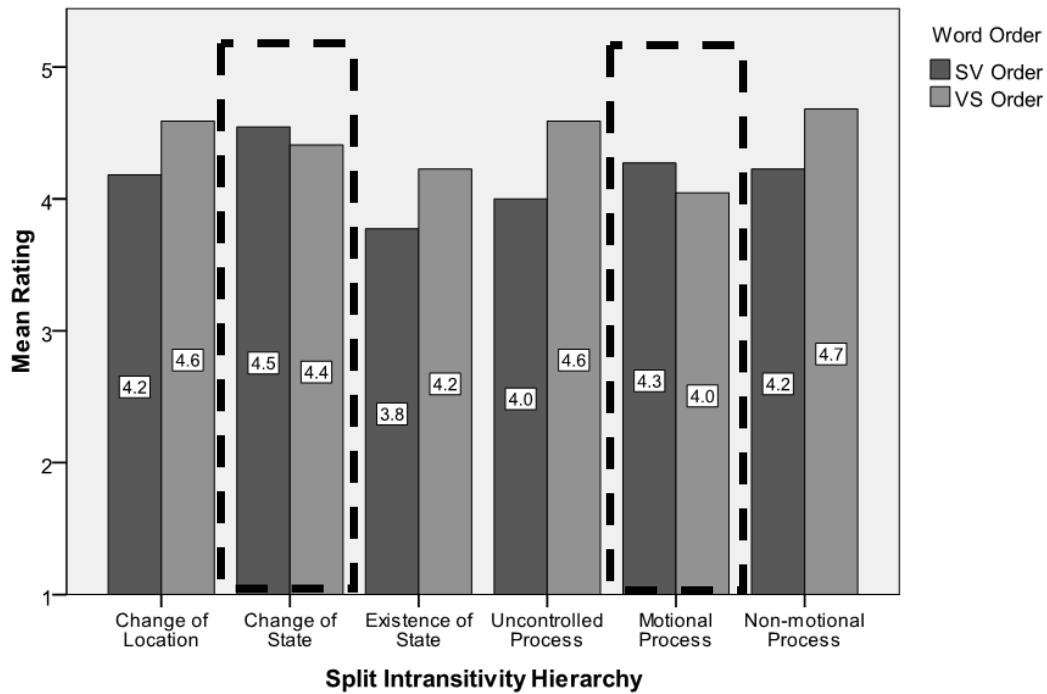


Figure 6.12 Average Judgment in Broad Focus: Participants Not Visited Yearly

Figure 6.12 shows that those who receive no yearly visits prefer VS order in all of the categories of the hierarchy except for two in the periphery (as indicated by the dashed boxes), where they are tending more toward optionality.

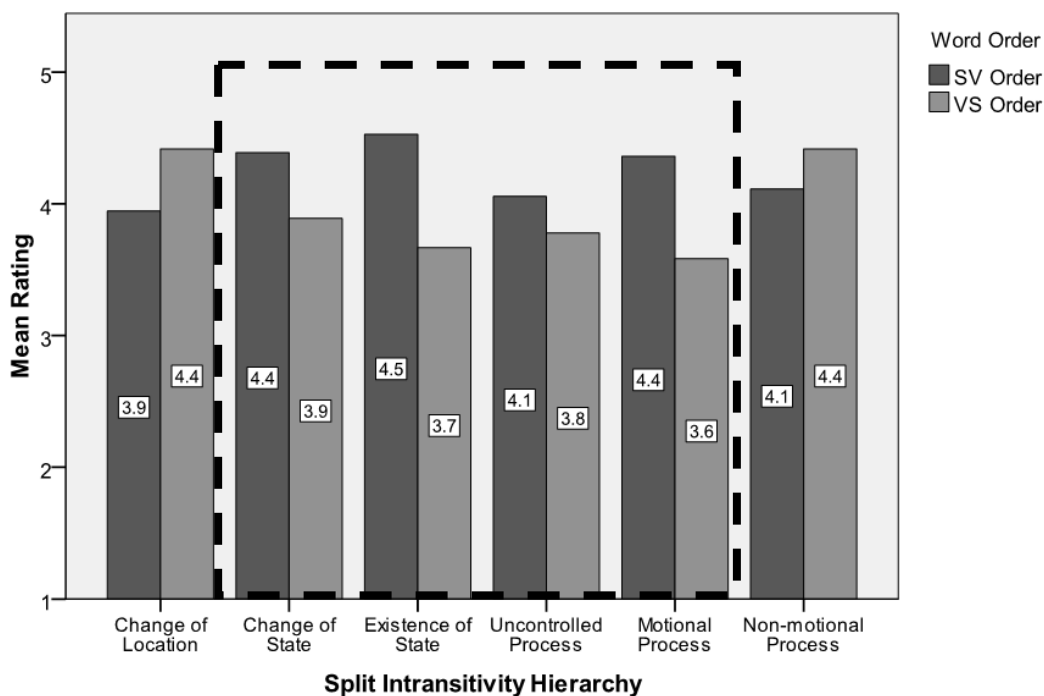


Figure 6.13 Average Judgment in Broad Focus: Participants Visited Yearly

Figure 6.13 shows that those who are visited yearly appear to have expanded this SV preference to all of the peripheral categories of the hierarchy (as also indicated by the dashed box). For these speakers, VS order is only preferred in the core unaccusative and core unergative categories. It appears that there is an overall preference for VS order in broad focus and that the acceptance of SV order has grown between the groups in the non-core categories of the hierarchy.

A two-way repeated measures ANOVA with ‘Split Intransitivity Hierarchy’ and ‘Word Order’ as the within-subjects variables and ‘Yearly visits’ as the between-subjects variable was performed. Although the effect for ‘Split Intransitivity Hierarchy’ nearly approaches significance ( $F(3.50, 94.4) = 2.55, p = 0.052$ ), there is a significant effect for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ ( $F(3.81, 102.78) = 2.98, p = 0.025$ ). ‘Word Order’ by ‘Yearly Visits’ also only approaches significance ( $F(1, 27) = 3.81, p = 0.062$ ). When the same test is performed to compare only SV orders along the hierarchy, there are again no significant effects for ‘Split Intransitivity Hierarchy’, ‘Word Order’, or ‘Yearly Visits’ or any of their interactions. When

comparing VS orders along the hierarchy there are no interactions that are significant, but there is a significant effect for ‘Yearly Visits’ as a between-subjects factor ( $F(1, 27)=6.19, p=0.019$ ), indicating that those with no yearly visits prefer VS order significantly more than those with yearly visits. In sum, there is no statistical difference in the groups’ acceptance of SV order, and the distinction between those who receive yearly visits and those who do not is determined statistically by their level of acceptance or not of VS order.

The judgments of each group were also investigated separately. When we examine the word order preferences of just those who receive no visits, we find that there are no significant effects for ‘Split Intransitivity Hierarchy’, ‘Word Order’, or for ‘Split Intransitivity Hierarchy’ by ‘Word Order’. The results are different when testing the preferences for only those with yearly visits, who show a significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ ( $F(3.01, 52.09)=3.41, p=0.023$ ). When a repeated measures ANOVA is performed to compare the SV orders of the hierarchy for those who are visited yearly, there are no significant effects or interactions. However, when the same test is used to compare the VS orders of the categories of the hierarchy for those receiving yearly visits, there is a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(2.95, 50.10)=3.53, p=0.022$ ). Pairwise comparisons with Bonferroni corrections show that the acceptance rates for VS order with ‘Motional Process’ unergative verbs and ‘Non-motional Process’ unergative verbs are found to be significantly different ( $p=0.015$ ), a fact that punctuates the difference between core and non-core categories. The difference between ‘Change of Location’ unaccusatives and ‘Change of State’ unaccusatives approaches significance ( $p=0.093$ ), as do ‘Existence of State’ unaccusatives and ‘Non-motional Process’ unergatives ( $p=0.061$ ), an indication that core unaccusative and unergative categories are tending to prefer VS order more than in the non-core categories. Within verb categories, the judgments

given by those who are visited yearly show that SV order is significantly preferred over VS order for the non-core ‘Existence of State’ unaccusatives ( $t(17)=2.29, p=0.035$ ) and ‘Motional Process’ unergatives ( $t(17)=2.66, p=0.016$ ), which shows that SV order has become strongly preferred for these speakers in the non-core categories.

Overall, these results appear to show that those who receive yearly visits prefer SV order more for the non-core categories of the hierarchy than those who are not visited yearly. While there is no statistical difference between the SV orders of both groups, the participants who do not receive yearly visits prefer VS order in broad focus significantly more than those who are visited yearly. Those who are not visited show no significant interactions involving ‘Split Intransitivity Hierarchy’, but a significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ is achieved for those who are visited yearly. Those who are visited yearly prefer SV order in the non-core categories and VS order in the core categories. The acceptability judgments for sentences in a narrow focus context will be addressed next.

### **6.2.2 Syntax-Discourse Interface**

Because the word order of the syntax-discourse interface is best shown in a narrow focus context, participants judged sentences contextualized by the question *¿Quién... ?* ‘Who...?’. In the following sections, the acceptability judgments of sentences in narrow focus will be reported.

#### **6.2.2.1 Narrow Focus: Analysis of Unaccusativity**

Participants judged both VS and SV orders with unaccusative and unergative verbs in narrow focus. In this context we would expect to see that VS order is rated higher than SV order for both unaccusative and unergative verbs and Table 6.14 shows that this is the case.

Table 6.14 Acceptability Judgment Task: Percent Acceptance in Narrow Focus

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	?SV	VS
Acceptability Judgment Task	Native Speakers from Bajío Zone of Mexican Spanish (n=29)	86.3% (4.45)	73.3% (3.93)	77.0% (4.08)	87.8% (4.51)

This table shows that VS order is rated higher than SV order for both unaccusative verbs (4.45 to 3.93) and unergative verbs (4.51 to 4.08), as we would expect.

A repeated measures ANOVA was performed to compare the average judgments made of VS order and SV order with both unaccusative and unergative verbs in narrow focus. We would expect that unaccusativity would have no effect in narrow focus, and the test shows that this is true: there are no significant effects for ‘Unaccusativity’ or for ‘Unaccusativity’ by ‘Word Order’. What we do find is a significant effect for ‘Word Order’ ( $F(1, 28)=7.43, p=0.011$ ), which indicates that there is a significant preference for VS order for both verb types in narrow focus. Comparisons of word orders within verb types confirm this pattern by showing that VS order is significantly preferred to SV order for both unaccusative verbs ( $t(28)=2.31, p=0.029$ ) and unergative verbs ( $t(28)=2.90, p=0.007$ ).

The acceptability judgments of sentences in narrow focus were also tested according to the verb categories of the Split Intransitivity Hierarchy. The average ratings for the word orders along the categories of the hierarchy are shown in Figure 6.14.

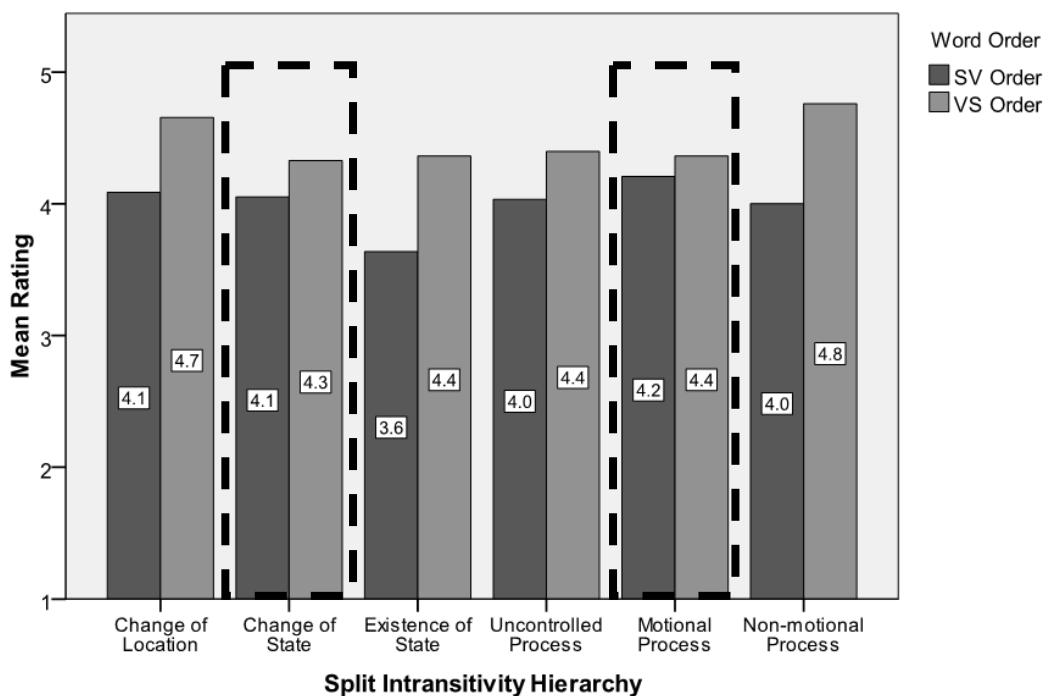


Figure 6.14 Average Judgment in Narrow Focus: All Participants

In Figure 6.14, we see that VS order is rated higher than SV order for each category of the hierarchy. Two categories in the periphery (indicated by dashed boxes) are approaching optionality between VS and SV order.

A repeated measures ANOVA was performed to investigate the word order preferences along the Split Intransitivity Hierarchy in narrow focus. This test reveals a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(3.44, 96.35)=3.92, p=0.008$ ) and for ‘Word Order’ ( $F(1, 28)=7.41, p=0.011$ ). The ‘Split Intransitivity Hierarchy’ by ‘Word Order’ interaction only approaches significance ( $F(5, 140)=1.99, p=0.084$ ), as we might expect for narrow focus. Pairwise comparisons with Bonferroni corrections show that ‘Change of Location’ unaccusatives are significantly different from ‘Existence of State’ unaccusatives ( $p=0.045$ ), as are ‘Non-motional Process’ unergatives ( $p=0.004$ ), which supports a distinction between core and non-core categories.

A comparison of only the SV orders along the hierarchy shows that ‘Split Intransitivity Hierarchy’ is a significant factor ( $F(5, 140)=2.35, p=0.044$ ), and a similar comparison of VS orders also shows that ‘Split Intransitivity Hierarchy’ is significant ( $F(5, 140)=3.40, p=0.006$ ). Between verb types, however, there are no significant differences, as we would hope to see for narrow focus. Within verb types, VS order is significantly preferred to SV order for ‘Change of Location’ unaccusatives ( $t(28)=2.39, p=0.024$ ), ‘Existence of State’ unaccusatives ( $t(28)=2.31, p=0.028$ ), ‘Uncontrolled process’ unergatives ( $t(28)=2.18, p=0.038$ ), and ‘Non-motional Process’ unergative verbs ( $t(28)=3.90, p=0.001$ ). Only two less-core categories (‘Change of State’ unaccusative verbs and ‘Motional Process’ unergative verbs) show no significant word order preference. These two categories show statistical optionality—an indication of a permeable area of the syntax-discourse interface.

The standard deviations of the acceptability ratings show where there is variation among the participants in their judgments of word order. Figure 6.15 shows the standard deviations for the ratings of SV order and VS order in narrow focus for each category of the Split Intransitivity Hierarchy.

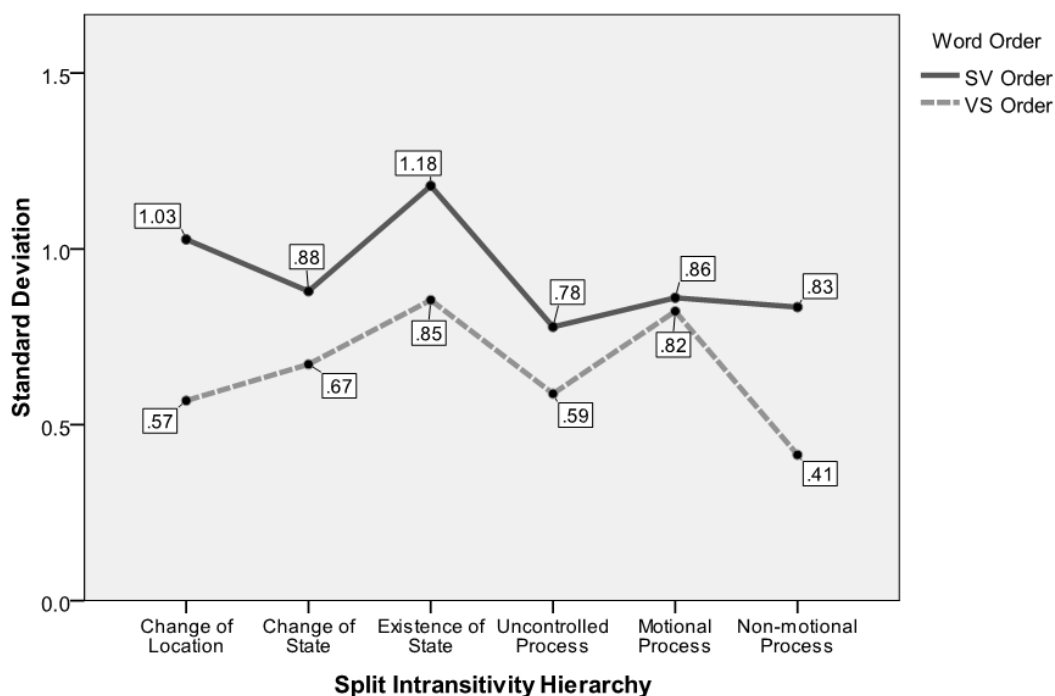


Figure 6.15 Standard Deviations for Narrow Focus Judgments: All Speakers

In this figure, the higher standard deviations for VS order in the non-core categories of the hierarchy when compared with the core categories shows that there is more inter-participant variation in the non-core categories in narrow focus. We also can see that the standard deviations for VS order are lower than those for SV order in every category of the hierarchy. This means that the speakers as a whole are more united in their overall preference for VS order in narrow focus, but tend to disagree more about the acceptability of SV order in narrow focus. This supports the observation in other studies that VS order is the preferred word order where there is narrow focus on the subject. The two categories that showed statistical optionality earlier ('Change of State' unaccusative verbs and 'Motional Process' unergative verbs) do not have the highest standard deviations for SV and VS order, and this may mean that the participants are relatively more agreed in their preference for optionality in these non-core categories.

Overall, these results show that VS order is judged more acceptable than SV order in almost all verb categories. There is a significant effect for 'Word Order' but not for



‘Unaccusativity’, which shows a significant preference for VS order for both unergative and unaccusative verb types in narrow focus. An examination of the Split Intransitivity Hierarchy reveals significant differences between the core and non-core categories. For all participants, VS order is strongly preferred to SV order in narrow focus in all categories of the hierarchy but two that are non-core categories, as we might expect. The standard deviations for the acceptability judgments show that the participants are more unified in their judgments of VS order than SV order and are less unified in their judgments of word order in the non-core categories of the hierarchy. The effect of yearly visits by someone from an English-speaking country will be reported in the next section.

#### 6.2.2.2 Narrow Focus: Yearly Visits

The judgments of sentences in narrow focus were also examined according to whether or not participants were visited yearly by someone from an English-speaking country for both unaccusativity and the Split Intransitivity Hierarchy. The narrow focus judgments for these two groups are shown in Table 6.15.

Table 6.15 Acceptability Judgment Task: Percent word order preferred in narrow focus according to yearly visits by someone from an English-speaking country

TASK TYPE	PARTICIPANTS	UNACCUSATIVE		UNERGATIVE	
		VS	?SV	?SV	VS
Acceptability Judgment	Not visited yearly (n=11)	89.0% (4.56)	75.5% (4.02)	78.0% (4.12)	91.0% (4.64)
	Visited yearly (n=18)	84.5% (4.38)	71.8% (3.87)	76.5% (4.06)	85.8% (4.43)

Table 6.15 shows that each group prefers VS order to SV order for both unaccusative and unergative verbs, but that the difference between accepting VS and SV order shrinks between groups from 13.5% to 12.75% for unaccusative verbs (0.75% less) and from 13% to 9.25% (3.75% less) for unergative verbs. In other words, there appears to be an increase toward

optionality in narrow focus for both verb types for those who are visited at least yearly by someone from an English-speaking country. We would expect to see an increase toward optionality in narrow focus and this should tend to happen more with unergative verbs, and we see indications of this here.

A repeated measures ANOVA with ‘Unaccusativity’ and ‘Word Order’ as the within-subjects factors and ‘Yearly Visits’ as the between-subjects factor shows a significant effect for ‘Word Order’ ( $F(1, 27)=7.07, p=0.013$ ), but no significant effect for ‘Unaccusativity’ or ‘Yearly Visits’ or any of their interactions. When the preferences for those who do not receive yearly visits are tested, there is a significant effect for ‘Word Order’ ( $F(1, 10)=5.72, p=0.038$ ). Neither word order is significantly preferred between verb categories, but comparisons of word orders within verb categories show that the preference for VS order over SV order for unaccusative verbs approaches significance ( $t(10)=1.90, p=0.086$ ), while VS order is significantly preferred over SV order for unergative verbs ( $t(10)=2.67, p=0.023$ ).

When the preferences of those who are visited yearly are tested, there is no significant effect for ‘Unaccusativity’, ‘Word Order’ (although it approaches significance:  $F(1, 17)=3.10, p=0.096$ ), or ‘Unaccusativity’ by ‘Word Order’ and no word order is significantly preferred across or within verb categories. The increased lack of significant effects for ‘Unaccusativity’ and ‘Word Order’ for those with yearly visits is an indication of increased optionality, which is expected for the syntax-discourse interface.

Figures 6.16 and 6.17 show average ratings for SV and VS order in narrow focus for each verb category along the Split Intransitivity Hierarchy for those visited and not visited yearly. Figure 6.16 shows that those who are not visited yearly judge VS order higher than SV order for all verb categories. Only the judgments for the one less-core ‘Motioal Process’ unergative verbs

are the closest to optionality. In Figure 6.16, the participants who are visited yearly also rate VS order higher than SV order for all of the categories of the hierarchy, however three categories in the periphery show optionality (as marked by the dashed boxes): “Change of State” unaccusative verbs, ‘Uncontrolled Process’ unergative verbs, and ‘Motional Process’ unergative verbs. A comparison of the two figures shows an increase in optionality in the periphery of the hierarchy.

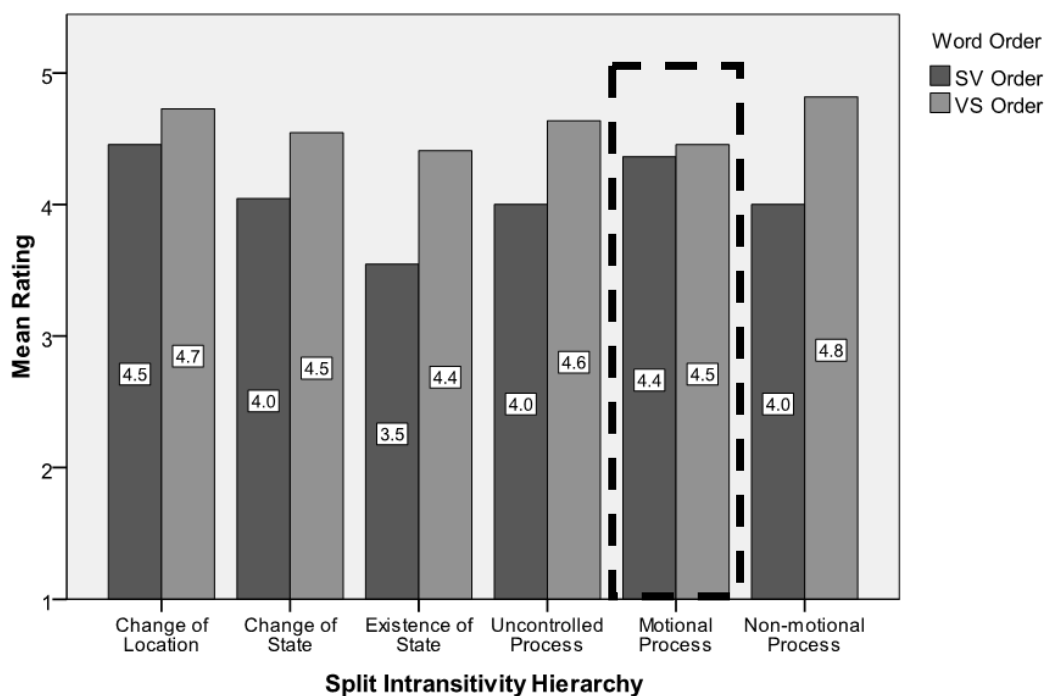


Figure 6.16 Average Judgment in Narrow Focus: Participants Not Visited Yearly

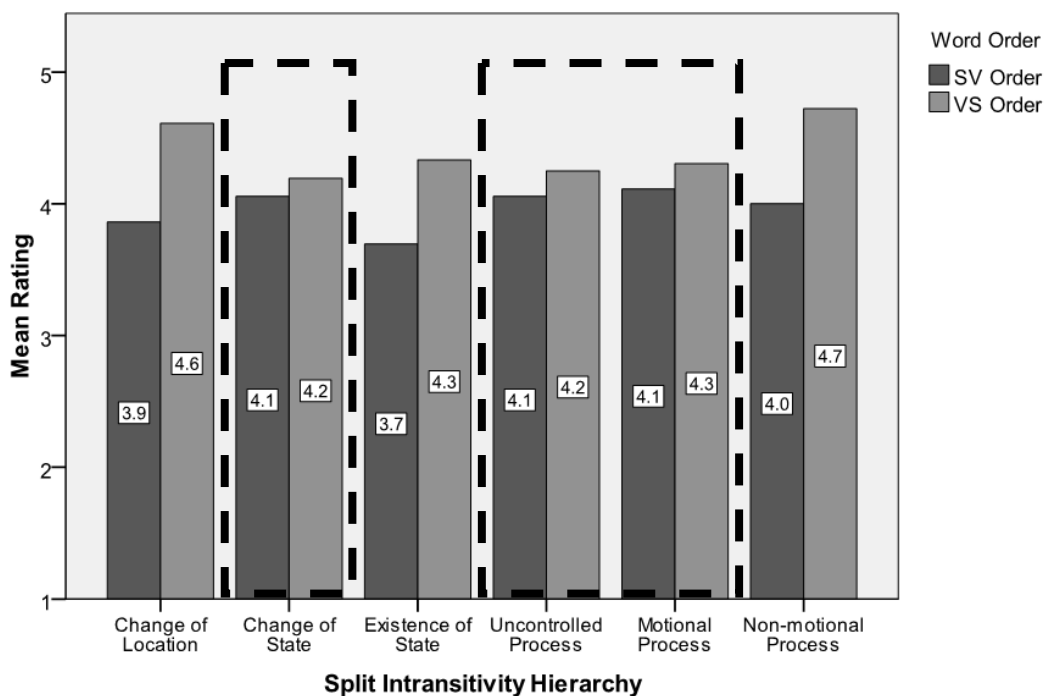


Figure 6.17 Average Judgment in Narrow Focus: Participants Visited Yearly

To compare the acceptability judgments for the two groups according to the Split Intransitivity Hierarchy, a repeated measures ANOVA was performed. This test used ‘Split Intransitivity Hierarchy’ and ‘Word Order’ as the within-subjects factors and ‘Yearly Visits’ as the between-subjects factor. The results show significant effects for ‘Split Intransitivity Hierarchy’ ( $F(3.41, 92.08)=4.24, p=0.005$ ) and for ‘Word Order’ ( $F(1, 27)=7.06, p=0.013$ ). There were no significant interactions between ‘Split Intransitivity Hierarchy’, ‘Word Order’, and ‘Yearly Visits’, and ‘Yearly Visits’ was not significant as a between-subjects factor. When the same test is performed to compare the acceptance of SV orders between groups for each category, there is again a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(5, 135)=2.735, p=0.022$ ), and no significant effect for ‘Split Intransitivity’ by ‘Yearly Visits’ or for ‘Yearly Visits’ as a between-subjects factor. The same test comparing VS orders also shows a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(5, 135)=2.885, p=0.017$ ), but not for ‘Split Intransitivity Hierarchy’ by ‘Yearly Visits’ or for ‘Yearly Visits’ as a between-subjects factor.

Each group was also examined individually. A repeated measures ANOVA of the judgments of those who are not visited yearly reveals significant effects for ‘Split Intransitivity Hierarchy’ ( $F(2.61, 26.06)=3.63, p=0.031$ ) and ‘Word Order’ ( $F(1, 10)=5.71, p=0.038$ ). There was no significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ because VS order is rated highly in narrow focus for each category of the hierarchy. Pairwise comparisons with Bonferroni adjustments show that only ‘Change of Location’ unaccusative verbs are significantly different from ‘Change of State’ unaccusative verbs ( $p=0.018$ ), while ‘Existence of State’ unaccusatives are almost significantly different from ‘Change of Location’ unaccusatives ( $p=0.063$ ) and ‘Non-motional Process’ unergatives ( $p=0.099$ ). Comparisons of word orders within verb categories show that VS order is significantly preferred to SV order for ‘Uncontrolled process’ unergatives ( $t(10)=3.13, p=0.011$ ), and ‘Non-motional Process’ unergatives ( $t(10)=3.33, p=0.008$ ) and approaches significance for ‘Existence of State’ unaccusatives ( $t(10)=1.93, p=0.083$ ). This shows that VS order is strongly preferred to SV order for unergative verbs (but not so much for unaccusative verbs), which is not as we would expect. A repeated measures ANOVA used to compare SV orders of the hierarchy shows a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(5, 50)=2.82, p=0.025$ ), but pairwise comparisons with Bonferroni corrections show that the difference between ‘Change of Location’ unaccusative verbs and ‘Existence of State’ unaccusative verbs only approaches significance ( $p=0.069$ ). When the same test is performed to compare VS orders along the hierarchy, there is no significant effect for ‘Split Intransitivity Hierarchy’. These results show that those who are not visited yearly prefer VS order overall in narrow focus.

Those who are visited yearly by someone from an English-speaking country show signs of accepting SV order in narrow focus at higher rates than those who are not visited. A repeated

measures ANOVA was performed to compare the judgments of the word orders along the Split Intransitivity Hierarchy and shows no significant effect for ‘Split Intransitivity Hierarchy’ or ‘Word Order’, although the effect for ‘Word Order’ approaches significance ( $F(1, 17)=3.09$ ,  $p=0.097$ ). There is also no significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’. Comparisons of word orders within verb categories show that the VS order is significantly preferred over SV order for core ‘Change of Location’ unaccusatives ( $t(17)=2.20$ ,  $p=0.042$ ) and for core ‘Non-motional process’ unergatives ( $t(17)=2.57$ ,  $p=0.020$ ). Neither order is significantly preferred in the peripheral categories of the hierarchy—a sign of optionality that we would expect to see for the syntax-discourse interface. A repeated measures ANOVA conducted of only the SV orders shows that there is no significant effect for ‘Split Intransitivity Hierarchy,’ but there is a significant effect for ‘Split Intransitivity Hierarchy’ when only VS orders are compared ( $F(5, 85)=2.42$ ,  $p=0.042$ ). Pairwise comparisons with Bonferroni corrections do not show significant differences between the categories, however.

To review, there is no significant difference in the narrow focus judgments of those visited and those not visited—they all tend to rate VS order higher than SV order in narrow focus. However, those who are not visited show a significant effect for ‘Word Order’ (preferring VS to SV overall) and strongly prefer VS to SV order for unergative verbs. Those who are visited yearly do not have a significant effect for ‘Word Order’ and do not significantly prefer VS or SV order for unergative verbs, which is an indication of an increase towards optionality. For all speakers, there were significant effects for ‘Split Intransitivity Hierarchy’ and ‘Word Order’, but not a significant interaction between the two factors, which shows that the unaccusative/unergative distinction is lost, but the core-periphery feature of the Split Intransitivity Hierarchy is maintained. The increase in optionality appears to occur in the

periphery of the hierarchy as opposed to the core categories, but there is no significant difference between the two groups. Both groups show signs of an overall preference for VS order in narrow focus and optionality in the periphery, which is what we might expect for the syntax-discourse interface. The syntax-discourse interface and the syntax-lexicon interface will be compared next.

### **6.2.3 Comparison of Syntax-Lexicon and Syntax-Discourse Interfaces**

Acceptability judgments at the syntax-lexicon and syntax-discourse interfaces were also studied using repeated measures ANOVAs, post-hoc comparisons, and an examination of standard deviations. The following sections compare the broad and narrow focus results according to unaccusativity and the possible influence of being visited yearly by someone from an English-speaking country.

#### **6.2.3.1 Interface Comparison: Unaccusativity**

To compare the syntax-discourse and syntax-lexicon interfaces, repeated measures ANOVAs were performed. A repeated measures ANOVA was conducted with ‘Focus’ (narrow or broad), ‘Unaccusativity’, and ‘Word Order’ as the between-subjects variables. There was a significant effect for ‘Focus’ by ‘Word Order’ ( $F(1, 28)=24.61, p=0.000$ ), which is as we would expect because VS order should be preferred more in narrow focus than in broad focus. Also as expected,  $t$ -tests show that VS order is preferred significantly more for unaccusatives in narrow focus than in broad focus ( $t(28)=3.61, p=0.001$ ), and SV order is preferred significantly more for unaccusatives in broad focus than in narrow focus ( $t(28)=2.778, p=0.010$ ). For unergative verbs, there is no significant difference between the SV order in broad focus and narrow focus, but VS order is preferred significantly more for narrow focus than for broad focus ( $t(28)=3.59, p=0.001$ ). This shows that the participants in this study do not significantly differentiate between the SV orders in different focus contexts for unergative verbs, and we might anticipate a

weakness in the grammar for these unergative verbs based on the history of the language.

Overall, these results show that the native speakers do significantly differentiate between broad and narrow focus by preferring VS order for narrow focus.

A repeated measures ANOVA was also conducted to investigate the Split Intransitivity Hierarchy in the different focus contexts. This test used ‘Split Intransitivity Hierarchy’, ‘Word Order’, and ‘Focus’ as the between-subjects factors. There was a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(3.49, 97.80)=4.40, p=0.004$ ) and for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ ( $F(5, 140)=4.51, p=0.001$ ), as expected. The interaction ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Focus’ was not significant, but there was a significant interaction for ‘Focus’ by ‘Word Order’ ( $F(1, 28)=24.60, p=0.000$ ), reflecting the fact that VS order is preferred more for all verb types in narrow focus. This shows that neither the unaccusative/unergative distinction nor the Split Intransitivity Hierarchy was a significant factor in distinguishing between broad and narrow focus in the acceptability judgment task.

For further investigation, repeated measures ANOVAs were also performed to compare the SV orders and the VS orders of the hierarchy individually. A repeated measures ANOVA comparing only the SV orders of the hierarchy in broad and narrow focus shows that ‘Focus’ by ‘Split Intransitivity’ is nearly significant ( $F(5, 140)=2.28, p=0.050$ ) and that there is a significant effect for ‘Focus’ ( $F(1, 28)=7.62, p=0.010$ ). When the repeated measures ANOVA is performed to compare VS orders, there is a significant effect for ‘Split Intransitivity Hierarchy’ ( $F(3.47, 97.12)=8.11, p=0.000$ ) and for ‘Focus’ ( $F(1, 28)=28.56, p=0.000$ ), but not for the ‘Split Intransitivity Hierarchy’ by ‘Focus’.<sup>96</sup> These results reflect the fact that regardless of the verb

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<sup>96</sup> The average preferred word orders for each of the categories of the hierarchy for the combined judgments of both broad and narrow focus show that there is a greater overall acceptance of the VS orders in the core categories as opposed to the non-core categories for all participants. The mean ratings from the core unaccusative ‘Change of Location’ verbs to the core unergative ‘Non-motional process’ verbs are as follows: 4.57 (core unaccusative), 4.21,



type in the acceptability judgment task, there is a general decrease in the acceptance of SV order and an increase in the acceptance for VS order in narrow focus when compared to broad focus.

A comparison of the standard deviations of the judgments in broad and narrow focus shows where there is inter-participant variation in the acceptability judgments. The standard deviations for VS order in broad and narrow focus are shown in Figure 6.18.

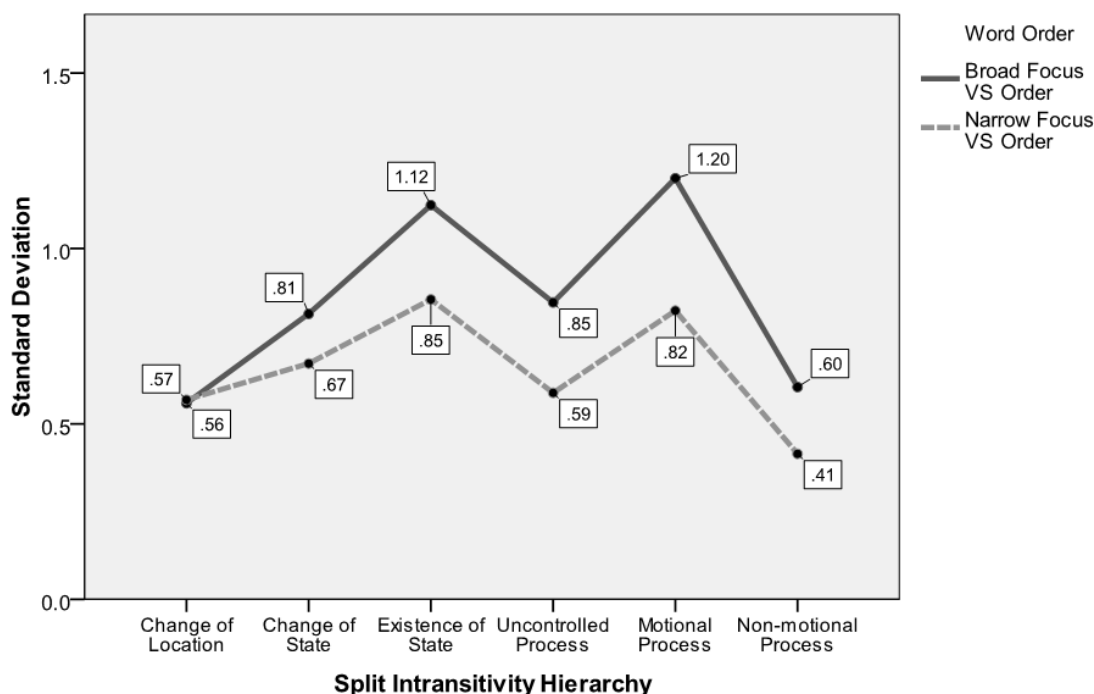


Figure 6.18 Standard Deviations for VS Order Judgments by Focus Type: All Speakers

Figure 6.18 shows that the standard deviations for VS order in both broad and narrow focus are the highest for the non-core categories of the hierarchy and are the lowest for the core categories, as we might expect where there is a core-periphery distinction. The fact that narrow focus has lower standard deviations for VS order than broad focus shows that the participants are more

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4.12, 4.24, 4.06, 4.64 (core unergative). Pairwise comparisons with Bonferroni corrections of the average acceptance rates of VS orders show that the core unaccusative ‘Change of Location’ verbs are significantly different from the non-core ‘Change of State’ unaccusatives ( $p=0.002$ ), ‘Existence of State’ unaccusatives ( $p=0.043$ ), and ‘Motional Process’ unergatives ( $p=0.012$ ), and approaches significance with ‘Uncontrolled Process’ unergatives ( $p=0.091$ ). The core unergative ‘Non-motional process’ verbs are also significantly different from non-core ‘Change of State’ unaccusatives ( $p=0.002$ ), ‘Existence of State’ unaccusatives ( $p=0.008$ ), ‘Uncontrolled Process’ unergatives ( $p=0.005$ ), and ‘Motional process’ unergatives ( $p=0.001$ ).

unified in their preference for VS order in narrow focus and disagree more in their ratings of VS order in broad focus. Figure 6.19 shows standard deviations for SV order by focus type.

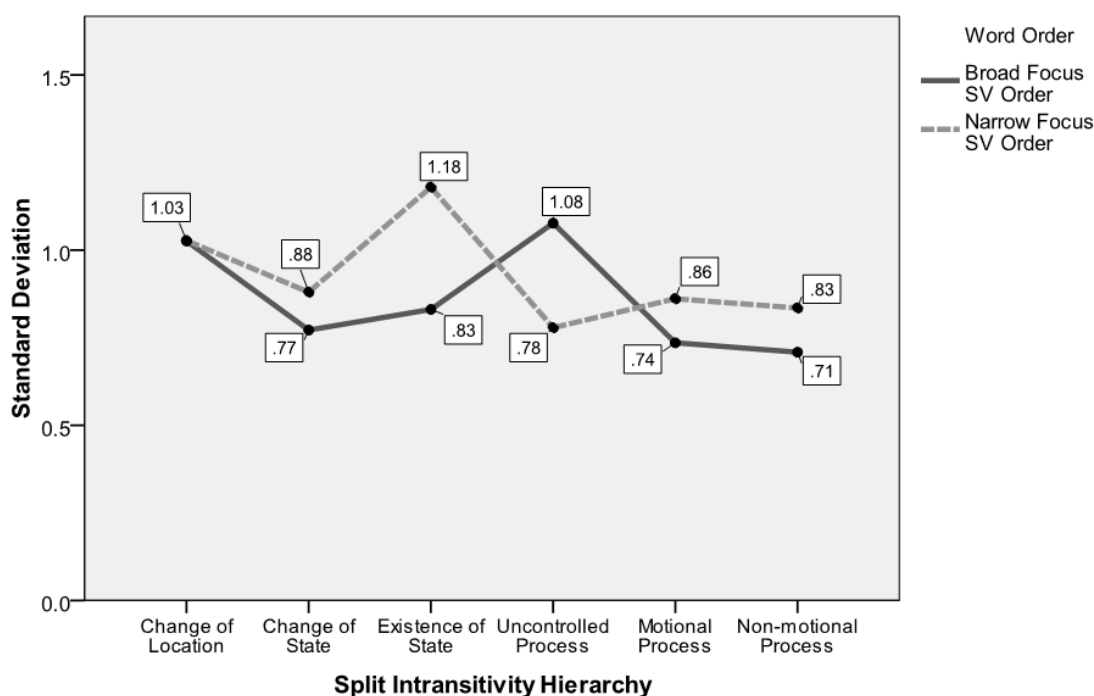


Figure 6.19 Standard Deviations for SV Order Judgments by Focus Type: All Speakers

Figure 6.19 shows that the standard deviations peak more in the periphery of the hierarchy than in the cores and this is what we might predict. There is also less agreement among the participants in this study in their acceptance of SV order in narrow focus than in broad focus (as indicated by its higher overall standard deviations). This also is what we might anticipate when comparing the syntax-lexicon interface with the syntax-discourse interface which has shown to be the generally more problematic interface in previous studies.

To summarize, the native speakers do significantly differentiate between broad and narrow focus by preferring VS order in narrow focus, but do not significantly differentiate between the SV orders in different focus contexts for unergative verbs. We do not find ‘Unaccusativity’ or ‘Split Intransitivity Hierarchy’ to be significant factors in distinguishing

broad and narrow focus when only considering ‘Word Order’, ‘Focus’ and ‘Unaccusativity’ or ‘Split Intransitivity Hierarchy’. There is also more inter-participant variation in the judgments of SV and VS order in the non-core categories in both broad and narrow focus, as we might expect. The most inter-speaker variation is found for judgments of SV order in narrow focus and VS order in broad focus. This can be taken to mean that the syntax-lexicon interface shows more variation between speakers for judgments of VS order and that the syntax-discourse interface shows more variation for judgments of the theoretically non-target SV order. The high-peaking standard deviations in the non-core categories for both SV order and VS order in both focus contexts supports the idea of a core-periphery distinction. The interfaces will be compared further in the following section according to whether or not the participants are visited yearly.

#### **6.2.3.2 Interface Comparison: Yearly Visits**

Repeated measures ANOVAs were performed to study the judgments of sentences in broad and narrow focus for those who are and are not visited yearly while accounting for unaccusativity and the Split Intransitivity Hierarchy. A two-way repeated measures ANOVA was performed with ‘Unaccusativity’ and ‘Focus’ as the within-subjects factors and ‘Yearly Visits’ as the between-subjects factor. The test shows a significant ‘Focus’ by ‘Word Order’ interaction ( $F(1, 27)=21.05, p=0.000$ ) and a significant ‘Focus’ by ‘Word Order’ by ‘Yearly Visits’ interaction ( $F(1, 27)=4.24, p=0.049$ ). ‘Unaccusativity’ was not found to be significant with any interaction. This appears to confirm what we see in the descriptive results: SV order is generally preferred for broad focus over narrow focus, and those who are visited yearly accept SV order more overall in both broad and narrow focus than those who are not visited yearly.

To compare the two groups with respect to focus and the Split Intransitivity Hierarchy, a two-way repeated measures ANOVA was performed with ‘Split Intransitivity Hierarchy’,

‘Focus’, and ‘Word Order’ as the within-subjects factors and ‘Yearly Visits’ as the between-subjects factor. There are significant effects for ‘Split Intransitivity Hierarchy’ ( $F(3.41, 92.06)=4.82, p=0.002$ ), ‘Split Intransitivity Hierarchy’ by ‘Word Order’ ( $F(5, 106.64)=3.92, p=0.002$ ), and ‘Focus’ by ‘Word Order’ ( $F(1, 27)=21.03, p=0.000$ ), as before. The interaction of ‘Focus’ by ‘Word Order’ by ‘Yearly Visits’ is nearly significant ( $F(1, 27)=4.19, p=0.050$ ).

These results indicate that the difference between broad and narrow focus can be further explained by considering the language-external factor ‘Yearly Visits’. Those who are visited yearly accept significantly more SV order more in broad focus and less VS order in narrow focus than those who are not visited yearly. The overall results of the acceptability judgment task will be summarized in the following section.

#### **6.2.4 Summary of Acceptability Judgment Task Results**

The acceptability judgments of the participants were studied using repeated measures ANOVAs to investigate broad focus contexts, narrow focus contexts, and to compare the two focus contexts. In broad focus, the unaccusative/unergative distinction was not a significant factor in any interaction, but there was a significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’. The participants as a whole prefer VS order in both of the core categories of the hierarchy and SV order in the peripheral categories, and this core-periphery distinction is supported by peaking inter-participant variation in the periphery. Those who are not visited show no significant interactions involving ‘Split Intransitivity Hierarchy’, but those who are visited yearly do have a significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’. There is no statistical difference for the judgments of the SV orders between those who are visited or not, but there is for VS order, which is preferred significantly more in broad focus by the participants who do not receive yearly visits than for those who are visited yearly. Those who

are visited yearly strongly prefer SV order in the non-core categories and prefer VS order in the core categories of the hierarchy in broad focus.

In narrow focus, VS order is judged to be more acceptable than SV order in almost all verb categories. For the participants as a whole, VS order is strongly preferred to SV order in all categories of the hierarchy except for two non-core categories—showing significant differences between the core and non-core categories of the Split Intransitivity Hierarchy. Although the unaccusative/unergative distinction is generally lost in narrow focus for these speakers, a core-periphery dichotomy is maintained, and this is particularly evident in the increased inter-participant variation for judgments of VS order in the non-core categories. There is no significant difference in the narrow focus judgments when comparing those who are visited yearly and those who are not visited yearly, because they all tend to rate VS order higher than SV order in narrow focus. When each group is examined individually, however, we see that those who are not visited show a significant effect for ‘Word Order’, prefer VS to SV overall, and strongly prefer VS to SV order for unergative verbs. Those who are visited yearly do not have a significant effect for ‘Word Order’ and do not significantly prefer VS or SV order for unergative verbs, indicating an increase towards optionality. Although both groups show an overall preference for VS order in narrow focus and signs of optionality in the periphery of the Split Intransitivity Hierarchy, there is no significant difference between the two groups.

When we compare judgments given for the broad and narrow focus contexts, we find that the native speakers do significantly differentiate between broad and narrow focus by preferring VS order in narrow focus. These speakers also do not significantly differentiate between the SV orders in different focus contexts for unergative verbs. ‘Unaccusativity’ and ‘Split Intransitivity Hierarchy’ are not found to be significant factors for distinguishing between broad and narrow

focus. The general increase in inter-participant variation in the non-core categories of the hierarchy in both focus contexts points to the preservation of a core-periphery distinction. The results also show that those who are visited yearly accept significantly more SV order in broad focus and less VS order in narrow focus than those not visited yearly, which is as we would expect. The results of both the acceptability judgment task and the production task will be summarized in the next section.

### **6.3 Summary of Results**

In this chapter, a number of language-internal and language-external variables were considered as they relate to word order. SPSS was used to study the broad and narrow focus results of the production task and the acceptability judgment task.

For the production task, the broad focus analysis shows that the participants as a whole maintain the unaccusative/unergative distinction, show a cutoff point between ‘Existence of State’ unaccusative verbs and ‘Uncontrolled Process’ unergative verbs, and display greater inter-speaker variation in the non-core categories of the hierarchy. Those who are not visited at least yearly by someone from an English-speaking country do not distinguish between unergative and unaccusative verbs, produce more VS order in all verb categories of the hierarchy (including in the unergative core), and use SV order more only in the peripheral categories. Those who are visited yearly do distinguish between unergative and unaccusative behavior and show a strong preference for SV order with unergative verbs.

The narrow focus results of the production task show that the unaccusative/unergative distinction is unexpectedly maintained in narrow focus for the speakers as a whole, that there is optionality with unergative verbs, that VS order is used with the core unaccusative and unergative categories of the hierarchy, and that SV order appears to be used more in the

peripheral categories. There is also greater overall inter-speaker variation in the non-core unergative categories of the hierarchy. Those who are not visited yearly produce more VS order than SV order in almost all categories of the hierarchy and yet maintain an unaccusative/unergative distinction. Those who are visited yearly produce more SV order in narrow focus than those who are not visited, which leads to a significant effect for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Visited Yearly’.

The broad and narrow focus results of the production task were then compared. The regression analyses show that the factor groups ‘Split Intransitivity Hierarchy’ and ‘Heaviness of Subject NP’ pattern as we would expect in both focus contexts, but ‘Verbal Construction’ and ‘Definiteness’ seem to be favored either by the syntax-lexicon interface or the syntax-discourse interface. When not considering language-external factors, ‘Focus’ was not found to be a significant factor in the production task. The significant language-external factor groups in both focus contexts include ‘Visited by Someone from an English-speaking Country’, ‘Hometown Population’, and ‘Communication with Someone in an English-Speaking Country’. The analyses find that those who are visited at least yearly and those who live in more urban areas favor SV order, and that VS order is favored by those who communicate the most with people in an English-speaking country. The strongest language-external factor group in both focus contexts is ‘Visited by someone from an English-speaking Country’ which also produces the best models when comparing log likelihoods. When we consider this language-external factor, there is a significant effect for ‘Focus’ by ‘Unaccusativity’ (or ‘Split Intransitivity Hierarchy’) by ‘Word Order’ by ‘Yearly Visits’.

The broad focus results for the judgment task show that the Split Intransitivity Hierarchy (but not the unaccusative/unergative distinction) was a significant factor. The participants as a

whole unexpectedly prefer VS order in both of the core categories of the hierarchy and SV order in the periphery, where there tends to also be greater inter-participant variation. The participants who are not visited yearly show no significant effect for ‘Split Intransitivity Hierarchy’, but those who are visited yearly do have a significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’. The participants who do not receive yearly visits prefer significantly more VS order in broad focus than those who are visited yearly. Those who are visited yearly strongly prefer SV order in the non-core categories of the hierarchy and prefer VS order in the cores.

For narrow focus, the acceptability judgment task shows that VS order is judged to be more acceptable than SV order in almost all verb categories for the participants as a whole. VS order is strongly preferred in all categories of the hierarchy except for two non-core categories. The unaccusative/unergative distinction appears to have been lost in narrow focus, but a core-periphery distinction is preserved, and this distinction is evident in the inter-participant variation found for VS order judgments in the non-core categories. Both those who are visited yearly and those who are not visited yearly all tend to rate VS order higher than SV order in narrow focus. Although there is no significant difference between the two groups, those who are not visited yearly strongly prefer VS to SV order for unergative verbs, while those who are visited yearly do not and show signs of optionality.

The acceptability judgment task also shows that the participants do significantly differentiate between broad and narrow focus because they prefer VS order more overall in narrow focus. ‘Unaccusativity’ and ‘Split Intransitivity Hierarchy’ are not part of any significant interactions involving ‘Focus’ in the judgment task, but there is more overall inter-participant variation in the non-core categories of the hierarchy. The results of the judgment task show that



those who are visited yearly accept significantly more SV order in broad focus and less VS order in narrow focus than those not visited yearly, which is as we might expect.

In the following chapter, the results of the production task and the acceptability judgment task will be discussed further and the previously posed research questions will be addressed.

## Chapter 7

### Discussion of Split-Intransitivity in Bajío Mexican Spanish

#### 7.0 Discussion of Split-Intransitivity in Bajío Mexican Spanish

In previous chapters, the language-internal and language-external factors related to word order variation in Spanish were identified and the results of a study of syntactic interfaces were reported. In this chapter, research questions regarding the syntax-lexicon interface, the syntax-discourse interface, and language-external factors will each be addressed in turn.

#### 7.1 Syntax-Lexicon Interface

The research questions related to the syntax-lexicon interface ask (i) if there is variation at the syntax-lexicon interface, (ii) what the sources of the variation might be, and (iii) if the Split Intransitivity Hierarchy can account for the data. We will now discuss the answers to each of these questions in light of current research.

##### 7.1.1 Variation at the Syntax-Lexicon Interface

The first question regarding the syntax-lexicon interface is as follows:

- (1) Research Question 1: Is there variation at the syntax-lexicon interface in Bajío Mexican Spanish?

The answer to this question is ‘yes’ because the results of the production task and the results of the acceptability judgment task do show that variable word orders are produced and accepted in broad focus contexts.

##### 7.1.1.1 Word Order Variation in the Production Task

In the production task, the participants as a whole produce both the theoretically non-target SV order with unaccusative verbs (42% SV order) and the theoretically non-target VS

order with unergative verbs (39% VS order). Even core ‘Change of Location’ unaccusative verbs are produced with SV order (36%), and core ‘Non-motional Process’ unergative verbs are produced with VS order (39%). The speakers as a whole, however, do continue to distinguish between unaccusative verbs and unergative verbs (and between categories of the Split Intransitivity Hierarchy) by producing statistically more VS order with unaccusative verbs than with unergative verbs and more SV order with unergative verbs than with unaccusative verbs. Although this is true, the production of the deviant word orders increases from the core to the periphery for unaccusative verbs (from 39% in the core to 46% in the periphery) and for unergative verbs (from 28% in the core to 35% in the periphery). Only the core ‘Change of Location’ unaccusative verbs are produced with significantly more VS order than SV order and is the only unaccusative category with a statistically ‘strong’ unaccusative/unergative distinction. This leads us to believe that if there is a change in progress in Bajío Mexican Spanish, the core ‘Change of Location’ unaccusative verbs will be the last verbs to change preference from VS order to SV order. This would follow the historical changes in Old Spanish auxiliary selection because (i) VS order may eventually cede to SV order just as *ser* gave way to *haber* and (ii) the core unaccusative verbs should be the last to change to SV order just as they were the last to historically change in auxiliary selection (see Aranovich, 2003; Legendre, 2007b; Mateu, 2006).

The percent of the theoretically non-target SV word order produced with unaccusative verbs is within the range of results for previous oral production tasks with native Spanish speakers, but the same is not true for VS order produced with unergative verbs. Unaccusative verbs are produced with 42% SV order in the present study—about midway between the 29% produced orally in Hinch Nava’s (2007) study of native Spanish speakers and the 52% produced orally in Hertel and Pérez-Leroux’s (1998) study of native Spanish speakers. These results for

unaccusative verbs in oral production tasks are also below the 54%-60% SV order produced with unaccusative verbs in studies using written production tasks (Hertel, 2000, 2003; Mayoral Hernández, 2006). The VS order produced with unergative verbs in the present study (39%) is much higher than in Hinch Nava's (2007) study (18%) or than in Hertel and Pérez-Leroux's (1998) study (0%). The increase in VS order with unergative verbs may be related to the very low number of tokens of VS order produced with unergative verbs in those studies (17-38 tokens of unergative verbs versus 290 tokens in the present study). The increase also may be due to those participants in the present study who are not visited yearly by cyclical migrants who produce more VS order than SV order with unergative verbs. Overall, the results of the production task show that native speakers do in fact produce variable word orders in broad focus contexts at rates that we might expect.

#### **7.1.1.2 Word Order Variation in the Acceptability Judgment Task**

Like the production task, the results of the judgment task show variation in the word order preferences at the syntax-lexicon interface. The participants as a whole judge SV and VS to be equally acceptable for both unaccusative and unergative verbs (both are rated at about 4.15 or 79%). Similarly high acceptance rates are found in other studies that investigate word order with 5-point Likert-scale judgment tasks (Hertel & Pérez-Leroux, 1998; Montrul, 2003, 2005a, 2005b, 2006), however studies that control for focus show that an unaccusative/unergative distinction is maintained by participants who are mostly Spanish-dominant bilinguals (Domínguez & Arche, 2008; Hertel, 2000; Lozano, 2003, 2006a, 2006b). The broad focus results of the acceptability task in the present study are theoretically non-target because we would expect the unaccusative/unergative distinction to be statistically maintained. We would at least expect to see VS order preferred significantly more for unaccusative verbs and SV order preferred more for

unergative verbs. The unexpected loss of such a distinction is reflected in the Split Intransitivity Hierarchy where VS order is judged to be more acceptable in the core categories of the hierarchy and SV order is judged more acceptable in three of the four non-core categories. Because the unaccusative/unergative difference is lost, this would appear at first glance to be evidence against the Split Intransitivity Hierarchy, but the core/periphery distinction of the hierarchy does appear to be maintained. Rather than there be an unaccusative/unergative distinction, there is only a core/periphery distinction that explains the word order judgments. SV order appears to have spread through the periphery from unergative verbs to unaccusative verbs because SV order is preferred more than VS order for the two non-core unaccusative categories. The increased preference for SV order in the non-core categories in this study supports other studies that show that theoretically non-target judgments in contact Spanish are often found in the non-core categories of the hierarchy (Montrul, 2005b, 2006).

It is important to address the fact that VS order is preferred significantly more than SV order for core ‘Non-motional Process’ unergative verbs where we would expect SV order to be the most strongly preferred. VS order is also preferred significantly more for this core unergative category than for the non-core ‘Existence of State’ unaccusative verbs and ‘Motional Process’ unergative verbs where SV order is rated higher than VS order. The increased acceptance of VS order with core unergative verbs is not unique to this study—Montrul (2005b) also reports that native Spanish speakers show an unexpected increase in the acceptance of bare plural subjects with the core ‘Non-motional Process’ unergative verbs.

There are several possible explanations for the unexpected preference for VS order with core ‘Non-motional Process’ unergative verbs in the present study. First, the loss of a broad/narrow focus distinction resulting in the preference for VS order could have unexpectedly

occurred with these core unergative verbs. A second possible explanation is that if VS order is considered the most accepted order in Bajío Mexican Spanish and if these prototypical unergative verbs are more easily monitored by the speaker, then they may be more likely to be changed to VS order.

A third possibility is that VS order may be the preferred word order in this community just as *essere* ‘to be’ and not *avere* ‘to have’ is the preferred auxiliary for both unergative and unaccusative verbs in some Italian communities (Kinder, 2004; Tuttle, 1986). In those Italian dialects, the unaccusative/unergative distinction has been lost and the auxiliary is selected based on whether or not the verb is first-, second-, or third-person singular or plural. Because the grammatical person also relates to the preverbal or postverbal position of subjects in Caribbean Spanish interrogatives (Ordóñez & Olarrea, 2006), additional studies of Bajío Mexican Spanish may find that the VS order preference with core unergative verbs is associated with the grammatical person.<sup>97</sup>

A fourth possibility is that VS order may have come from the substrate influence of an indigenous language, but there is little evidence for this. The Purépecha and Chichimeca Jonaz languages were historically the most influential in the area (INFDM, 2010), and these languages are reported to be SOV languages (Chamoreau, 2007; Suárez, 1983). Today, however, speakers from several indigenous languages live in the state of Guanajuato, but these only comprise less than 0.2% of the total population of the state (INEGI, 2005). These inhabitants speak languages considered historically to be both subject-initial languages such as Chichimeca Jonaz

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<sup>97</sup> Most Italian dialects that prefer the unaccusative auxiliary *essere* ‘to be’ for both unaccusative and unergative verb types tend to conserve the unergative auxiliary *avere* ‘to have’ for the third person and *essere* ‘to be’ for all other persons. In the Terracina region of Italy, however, both the unaccusative and the unergative auxiliaries are reported to be used in the third person (see Tuttle, 1986). If grammatical person is related to the word order in Bajío Mexican Spanish, this variety of Spanish may resemble the Terracina variety of Italian because only third-person singular subjects were used in the present study and these occurred with both VS and SV orders. Further studies are needed to investigate the possible relationship between grammatical person and word order in Bajío Mexican Spanish.

(Suárez, 1983) and Purépecha (Chamoreau, 2007), and verb-initial languages such as Otomí (Hekking & Bakker, 2007), Nahuatl (Canger & Jensen, 2007), Mazahua (Yasugi, 1995), Mixtec (Macaulay, 1996), and Zapotec (Woodard, 2008). Today, there are more speakers of these historically verb-initial languages residing in Guanajuato (2, 516) than historically subject-initial languages (1,862) (INEGI, 2005), so it is remotely possible that the combined influence of these languages may have given rise to some VS order in Spanish. However, not only is there a small number of speakers of these languages in the area, but studies report that several of these verb-initial languages have become more subject-initial languages due to contact with Spanish (Canger & Jensen, 2007; Chamoreau, 2007; Hekking & Bakker, 2007; MacSwan, 1999). Whether due to one of these four possibilities or not, VS order may be preferred for core verb categories and SV order may be preferred for the non-core verbs because SV order may be entering the periphery of the hierarchy in a community where VS order may be the norm.

The unexpected acceptance rates in the acceptability judgment task are comparable to those found in previous studies of native Spanish speakers. The high acceptability for SV order with unaccusative verbs in the present study (81%) is between the 63% in Lozano's study of mostly core unaccusative and core unergative verbs in broad focus (2003, 2006a) and the 98% in Montrul's study in which verbs from all along the hierarchy are used with no focus context (2003, 2005a, 2005b, 2006). The same is true for VS order with unergative verbs: it is accepted at 78% in the present study, which is between the 47% in Lozano's study and 88% in Montrul's study. These comparisons indicate that studies of only core unaccusative and unergative verbs will produce more target-like results than one using verbs from all of the categories of the hierarchy, as we might expect. The comparisons also show that contextualizing the judgments for broad and narrow focus contexts also will produce more target-like results. Thus, the overall

acceptance rates for the word orders in the present study are where we might expect to find them. This confirms both the uniqueness of core verb categories and the importance of accounting for focus contexts.

#### **7.1.1.3 Summary of Word Order Variation at the Syntax-Lexicon Interface**

To summarize, both the oral production task and the acceptability judgment task show that there is word order variation at the syntax-lexicon interface in Bajío Mexican Spanish. The production task shows that the unaccusative/unergative distinction is maintained although much word order variation is produced with verbs of each category of the Split Intransitivity Hierarchy. The theoretically non-target word orders occur the least for the core ‘Change of Location’ unaccusative verbs that historically were the last to change to the unergative auxiliary in Spanish. The acceptability judgment task shows that the unaccusative/unergative distinction is not maintained, that VS order is accepted significantly more for core ‘Non-motional Process’ unergative verbs than expected, and that the peripheral categories of the hierarchy prefer SV order in abundance. These unexpected judgments in the non-core categories and in the core unergative category are similar to the patterns found in other studies of the Split Intransitivity Hierarchy in Spanish and may reflect a tendency for the community to prefer VS order just as some Italian dialects have shifted towards using *essere* ‘to be’ more than *avere* ‘to have’ in auxiliary selection. Both the production task and the acceptability judgment task show results that are generally within the ranges of the results reported in other studies. The sources of the word order variation at this interface will be addressed next.



### 7.1.2 Sources of Variation at the Syntax-Lexicon Interface

The second research question about the syntax-lexicon interface asks about the sources of the word order variation at this interface:

- (2) Research Question 2: If there is variation at the syntax-lexicon interface, what is its source?
- a. The inherent complexity of the interface itself?
  - b. Individual factors?

The answer to this question is that both the inherent complexity of the interface and individual factors can explain the variation in the word orders produced and accepted at the syntax-lexicon interface by the participants in this study.

#### 7.1.2.1 The Inherent Complexity of the Interface

The production task shows that the inherent complexity of the interface is one source of word order variation. The non-core verb categories of the hierarchy may be considered more complex than the prototypical core categories because in addition to the lexico-semantics of the verb, the compositional telicity and agentivity of the sentence are often needed to determine the word order of a sentence.<sup>98</sup> Word order variation is found in production for both unaccusative and unergative verbs all along the Split Intransitivity Hierarchy, but the statistical results for all speakers show that three peripheral categories (‘Change of State’ unaccusative verbs, ‘Existence of State’ unaccusative verbs, and ‘Uncontrolled Process’ unergative verbs) are not statistically different from each other and neither one significantly prefers one word order over another. It is the core ‘Change of Location’ unaccusative verbs and the core ‘Non-motional Process’ unergative verbs, on the other hand, that contrast significantly in their word order preferences as

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<sup>98</sup> It might be thought that the presence of adverbial phrases or ‘heavy’ subjects may be the main cause of the word order variation, but these were found all along the categories of the hierarchy and much word order variation remains even when removed from the data.

we would expect. The inherent complexity of these categories may also have lead to the greater inter-speaker variation in the non-core categories of the hierarchy.

The acceptability judgment task shows that the complexity of the interface partially explains the word order variation at the syntax-lexicon interface. SV order is preferred in three of the four non-core categories of the hierarchy, and we may attribute this to the inherent complexity of the interface that is found in the non-core categories of the hierarchy. The inherent complexity of the interface appears to also be the cause of the peaking inter-participant variation in the non-core categories. We also see, however, that VS order is accepted significantly more than SV order with the ‘Non-motional Process’ unergative verbs found in the unergative core of the hierarchy, and this is not what we would expect. This preference for VS order with unergative verbs is not due to the inherent complexity of the interface, but may be due to the variety of Spanish in question.

#### **7.1.2.2 Individual Factors and Variation in the Production Task**

In addition to the complexity of the interface, the individual factor ‘Yearly Visits’ helps to explain the word order variation that is produced and accepted at the syntax-lexicon interface. In the results of the production task, some of the overall word order variation is produced by those who are not visited yearly because they do not statistically maintain an unaccusative/unergative distinction, they show optionality for unergative verbs as a whole, and they produce more VS order than SV order with core ‘Non-motional Process’ unergative verbs. These speakers produce VS order for almost all verb types and SV order is only preferred over VS with the two non-core unergative verb categories in the periphery. This shows that that the unergative periphery is where SV order has managed to emerge for the speakers who are not visited yearly. These speakers produce more SV order in the non-core categories and more VS

order in the core categories of the hierarchy just as the participants as a whole judge SV order more acceptable in the periphery and VS order more acceptable in the cores.<sup>99</sup> The overall preference for VS order produced by those who are not visited yearly is again reminiscent of the dialects of Italian that prefer the unaccusative auxiliary *essere* ‘to be’ for both unaccusative and unergative verbs (Kinder, 2004; Tuttle, 1986).

On the other hand, those who are visited yearly show more target-like productions. Unlike those who are not visited yearly, they do statistically maintain an unaccusative/unergative distinction, have a clear cutoff point between unaccusative and unergative verbs, and they produce significantly more target SV order than VS order with unergative verbs (including with the core ‘Non-motional Process’ unergative verbs). When those who are not visited yearly are excluded from all speakers, leaving only those who are visited yearly, the cutoff point is strengthened because the peripheral ‘Existence of State’ unaccusative verbs become significantly different from core ‘Non-motional Process’ unergative verbs. The statistical optionality between VS and SV order produced by all speakers in the peripheral categories of the hierarchy is explained by the fact that VS order increases with non-core unergative verbs for those without yearly visits and SV order increases with non-core unaccusative verbs for those with yearly visits. Because one group produces more SV order in the periphery while the other group favors an increase in VS order in the periphery, this shows that both the inherent complexity of the interface (i.e. changes occurring in the periphery) and the language-external factor ‘Yearly Visits’ help to explain the word order variation.

The increase in SV order produced by those that are visited yearly is comparable to the previously reported percentages of SV order produced by heritage speakers of Spanish. Hinch

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<sup>99</sup> The reason why the judgments of the participants as a whole so closely resemble the word orders produced by those who are not visited yearly may be because they all may be judging the productions of those who are not visited yearly to be prestige forms in this variety of Spanish.

Nava (2007) finds that the native speakers of Spanish in her study orally produce 31% SV order for core ‘Change of Location’ unaccusative verbs and the heritage speakers of Spanish in her study produce 39% SV order with the same verb category. In the present study, the participants who are not visited yearly produce 32% SV order with core ‘Change of Location’ unaccusative verbs and those who are visited yearly produce 39% SV order. Those who are visited yearly appear to be almost exactly like heritage speakers of Spanish. Those who are visited yearly, however, are not exactly like the heritage speakers because they have spent their entire lives in a community where Spanish is the language of nearly all interactions. This raises the question of what the source is for the increase in SV order produced by heritage speakers of Spanish in general. Heritage speakers of Mexican Spanish in the U.S. (i) may be undergoing attrition in the U.S. due to contact with English, (ii) may have acquired Spanish incompletely in the U.S. due to limited input and use, (iii) may have acquired Spanish in Mexico and then suffered attrition in Mexico due to contact with cyclical migrant Spanish even before coming to the U.S., or (iii) they may have acquired a different variety of Mexican Spanish that has long been influenced by cyclical migrant Spanish. It may be that a combination of these factors will explain the word orders produced by heritage speakers of Spanish in the U.S. More studies are needed to investigate these and other possible sources for word orders produced by heritage speakers.

### **7.1.2.3 Individual Factors and Variation in the Acceptability Judgment Task**

The results of the acceptability judgment task also show that the language-external factor ‘Yearly Visits’ helps to explain the word order judgments in broad focus contexts. First, the participants as a whole judge SV and VS order to be almost equally acceptable for both unaccusative and unergative verbs, and this is likely due to the fact that those who are not visited yearly rate VS order higher than SV order for both unaccusative and unergative verb types, while

those who do receive yearly visits prefer SV order over VS order for both verb types. Second, in the acceptability judgments of the participants as a whole, there is an unexpected loss of the unaccusative/unergative distinction and the lack of an unaccusative/unergative cutoff point in the Split Intransitivity Hierarchy. The loss of the unaccusative/unergative distinction in the broad focus acceptability judgments is unlike the results obtained for Spanish-dominant native speakers in previous studies with broad focus contexts (Hertel, 2000; Lozano, 2003, 2006a, 2006b). The loss of this distinction here may be because those who are visited yearly may passively accept the broad focus VS order preferred by those who are not visited yearly. Third, the preference for VS order for core ‘Non-motional Process’ unergative verbs cannot be explained by the ‘Yearly Visits’ factor alone because both groups unexpectedly accept more VS order than SV order for this verb category. We may infer from the production data, however, that those who are not visited yearly are the ones who prefer the VS order with core unergative verbs and those who are visited yearly may only be showing their acceptance of these word orders that they may hear in Bajío Mexican Spanish. Overall, the differences in acceptability judgments between those who are visited and those who are not appear to help explain the variation in the judgments of sentences in broad focus.

Like the results of the production task, the acceptability judgments of those who are visited yearly are very similar to those reported for heritage speakers of Spanish. Regardless of their level of Spanish proficiency, the heritage speakers in Montrul’s (2005b) study rate SV order higher than VS order for both unaccusative verbs and unergative verbs. Those who are visited yearly in the present study also rate SV order higher than VS order for both unaccusative and unergative verbs. In fact, these participants rate the word orders almost exactly as do the heritage speakers that have the lowest level of Spanish proficiency in Montrul’s study. For unaccusative

verbs, those who are visited yearly in the present study accept 82% SV order and 75% VS order and Montrul's low-proficiency heritage speakers accept 83% SV order and 74% VS order. With unergative verbs, those who are visited yearly in the present study accept 80% SV order and 73% VS order and the heritage speakers in Montrul's study accept 84% SV order and 64% VS order. These numbers show that the native speakers of Spanish in the present study who are visited yearly by someone from an English-speaking country have nearly the same judgments as those of heritage speakers. This again points to the likelihood that some word order variation in contact Spanish may have its origin in the variation already present in the language. Further studies of heritage speakers are needed to disentangle the influence of L1 attrition, incomplete acquisition, and the successful acquisition of non-standard varieties of Spanish.

Another judgment in broad focus that may be explained by language-external factors is the abundance of SV order that is preferred in the peripheral categories of the hierarchy by all speakers as a whole. The reason for the apparently high rating of SV order in the periphery is that those who are visited yearly rejected VS order is more. Although we find no significant difference in the SV orders along the Split Intransitivity Hierarchy between those who are visited yearly and those who are not, the two groups are significantly different from each other in terms of their acceptance of VS orders. Those who are visited yearly do not accept VS order as much as those who are not visited yearly. The acceptance of VS order decreases in every category of the hierarchy for those who are visited yearly, but the decrease occurs the most in the four non-core categories of the hierarchy. Those who are not visited yearly accept VS more than SV in all categories of the hierarchy except for the two less-core categories where we find optionality. Those who are visited yearly prefer SV order more in four (instead of two) of the non-core categories. This apparent increase from two to four categories that prefer more SV order in the

periphery appears to help explain the overall preference for SV order in the periphery for all speakers as a whole. The expansion of SV order in the peripheral categories is similar to heritage speakers' increased acceptance for ungrammatical passives in these non-core categories of the hierarchy as well (Montrul, 2005a, 2005b, 2006). The increase of SV acceptance in the peripheral categories of the hierarchy for those who are visited yearly indicates that both the complexity of the interface and the individual factor 'Yearly Visits' help to explain the word order variation at the syntax-lexicon interface.

#### **7.1.2.4 Summary of Sources of Variation**

This study supports other studies of the syntax-lexicon interface that find that both the inherent complexity of the interface and individual factors are sources of word order variation at the syntax-lexicon interface (e.g. Guijarro-Fuentes & Marinis, 2007; Kraš, 2005). The inherent complexity of the interface is shown by the fact that in production the non-core categories are where there are no statistical differences between verb categories or between word orders and by the fact that there is generally greater inter-speaker variation in the non-core categories. The inherent complexity of the interface only partially explains the participants' acceptability judgments, because while there is much word order variation in the periphery of the hierarchy, there is also unexpected variation in the unergative core. Whether or not the participants are visited yearly also helps to explain the various word orders produced. It is those who are not visited yearly who do not maintain an unaccusative/unergative distinction and who produce more VS order than SV order for core 'Non-motional Process' unergative verbs. Their preference for VS order in unergative as well as unaccusative verb categories is similar to what we find in some varieties of Italian. Whether or not the participants are visited yearly also helps to clarify why both SV and VS order are both highly accepted overall and why there is a preference for SV

order over VS order in the peripheral categories of the hierarchy. Importantly, both the production and the acceptability judgment tasks show that those who are visited yearly produce and accept word orders at rates similar to those of heritage speakers of Spanish, although they are native speakers of Spanish who have spent their lives in Mexico using Spanish in almost all of their interactions. It is possible that a combination of factors such as being visited frequently by cyclical migrants and studying English in school may be what has caused the overall increase in SV order, or this may simply be the norm for some speakers of Bajío Mexican Spanish. Further studies of these variables are needed to ascertain the trends observed here. The next section will discuss how the Split Intransitivity Hierarchy accounts for the Spanish data.

### **7.1.3 The Relevance of the Split Intransitivity Hierarchy**

Another question about the syntax-lexicon interface refers to the ability of the Split Intransitivity Hierarchy to explain word order in Spanish:

- (3) Research Question 3: Can the Split Intransitivity Hierarchy account for Spanish word order data?
- a. Do any categories of the hierarchy need to be collapsed for Spanish?
  - b. Where is the cutoff point between unaccusative and unergative in Spanish?

The answer to whether or not the Split Intransitivity Hierarchy can account for the Spanish word order data is ‘yes’. We find in the production data that there is a cutoff point located between ‘Existence of State’ unaccusative verbs and ‘Uncontrolled Process’ unergative verbs, that a core-periphery distinction is maintained in the judgment data, and that no categories of the hierarchy must be collapsed for Spanish.



### 7.1.3.1 Cutoff Points and Transition Zones Along the Hierarchy

The Split Intransitivity Hierarchy accounts for word order in Spanish through a cutoff point between unaccusative and unergative behavior. In production, the descriptive results for the participants as a whole and the regression analyses show that there is a clear cutoff point between ‘Existence of State’ unaccusative verbs and ‘Uncontrolled Process’ unergative verbs. Other tests using post hoc comparisons show that the cutoff point is statistically more of a transition zone: ‘Change of State’ unaccusative verbs, ‘Existence of State’ unaccusative verbs, and ‘Uncontrolled Process’ unergative verbs are not statistically different from each other in the periphery where the descriptive results show a clear cutoff point.

Those who are visited yearly produce a cutoff point similar to that reported for heritage speakers of Spanish. As with the results for all speakers, those who are visited yearly show a clear cutoff point between ‘Existence of State’ unaccusative verbs and ‘Uncontrolled Process’ unergative verbs when examining the average of the word order percentages produced by each speaker. Pairwise comparisons show that these speakers have a transition zone through the same three categories (‘Change of State’ unaccusative verbs, ‘Existence of State’ unaccusative verbs, and ‘Uncontrolled Process’ unergative verbs) as in the results for all speakers. However, when we take a sum of the raw numbers of word orders produced by all speakers (see Appendix D) rather than look at the averages of the word order percentages produced by each speaker, we find that those who are visited yearly perform very much like heritage speakers. When looking at the overall data in this way, both the heritage speakers in Hinch Nava’s (2007) study and those who are visited yearly in the present study show a cutoff point closer to the unaccusative core between ‘Change of Location’ and ‘Change of State’ unaccusative verbs. In both studies, there is actually more of a transitional verb category rather than a clear cutoff point between verb

categories because the ‘Change of State’ unaccusative verbs show optionality. These ‘Change of State’ verbs have 48% VS order and 52% SV order for the heritage speakers in Hinch Nava’s study and 50% VS order and 50% SV order for those who are visited yearly in the present study. This highlights the importance of comparing the results of different studies in a similar way. It also shows that we may need to pay closer attention to shifting transition zones between unaccusative and unergative behavior rather than look for strict cutoff points along the hierarchy. These results also give more evidence that the native speakers in the present study who are visited yearly by someone from an English-speaking country are performing like heritage speakers of Spanish in the U.S.

Using the data from this study in combination with the results of other studies, we can better identify the cutoff point between unaccusative and unergative behavior in Spanish and situate Spanish crosslinguistically. The descriptive results for all speakers in the oral production task show a cutoff point between ‘Existence of State’ unaccusative verbs and ‘Uncontrolled Process’ unergative verbs. This cutoff point may be in the process of shifting closer to the unaccusative core because ‘Change of State’ unaccusative verbs and ‘Existence of State’ unaccusative verbs are not statistically different from ‘Uncontrolled Process’ unergative verbs and core ‘Non-motional Process’ unergative verbs. In fact, the native speakers from Mexico in Hinch Nava’s (2007) study of word order show a cutoff between ‘Change of State’ and ‘Existence of State’ unaccusative verbs (along with verbs of ‘Continuation of Pre-existing State’), although very few tokens are reported for each of these categories in that study. The native speakers of Spanish in Montrul’s (2005b) study also show a cutoff point between ‘Existence of State’ unaccusative verbs and ‘Uncontrolled Process’ unergative verbs in their acceptability judgments of postverbal bare plural subjects, but they also have a cutoff point

between ‘Change of State’ and ‘Existence of State’ unaccusative verbs for the absolutive construction. Taken together, the results in these studies show that three unaccusative diagnostics (word order, postverbal bare plural subjects, and the absolutive construction) overlap to indicate that the unaccusative/unergative cutoff point in Spanish is found between ‘Existence of State’ verbs and ‘Uncontrolled Process’ verbs, but that this cutoff point may be in the process of shifting closer to the unaccusative core to be between ‘Change of State’ and ‘Existence of State’ unaccusative verbs. Heritage speakers of Spanish and those who are visited yearly by someone from an English-speaking country show indications that the cutoff point has already shifted even closer to the unaccusative core for them.

To situate Spanish crosslinguistically, it is important to consider that the various unaccusative diagnostics in Spanish may be at different stages in the process of change just as auxiliary selection changed in Old Spanish. It appears that there was not a steady movement of the cutoff point from unergative to unaccusative categories as auxiliary selection changed in Old Spanish (see Aranovich, 2003). The changes first began with ‘Existence of State’ verbs and then moved to ‘Change of State’ verbs in the periphery. At this point in history there would have been multiple ‘cutoff’ points (or areas of weakness) along the hierarchy. It was not until later when the ‘Motional Process’ unergative verbs changed that a single cutoff point would appear before the core unaccusative ‘Change of Location’ verbs. In modern Spanish, if each unaccusative diagnostic produces somewhat different results along the hierarchy, we may predict different areas of weakness in the periphery or different cutoff points that together would form bundles to identify where the language divides unaccusative from unergative behavior.<sup>100</sup> The fact that there is a statistical transition zone in the peripheral categories in the production task may be evidence

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<sup>100</sup> Some possible areas of weakness may include the less-core ‘Change of State’ and ‘Motional Process’ verb categories that have been shown to be where unexpected variation occurs both in the results of the acceptability judgment task of the present study and in Montrul’s (2004a) processing study.

that such bundles may exist. Just as multiple isoglosses come together in various degrees within physical or social space to identify language varieties and show the direction of the diffusion of linguistic phenomena, so the cutoff points from a number of unaccusative diagnostics may come together in lexico-semantic space to divide ‘unaccusative’ from ‘unergative’ behavior and show the direction in which a change is occurring along the Split Intransitivity Hierarchy. Further studies are needed of the unaccusative diagnostics in Spanish to better know how Spanish divides ‘unaccusative’ from ‘unergative’ syntactic reflexes. Assuming that there is presently only one cutoff point in Spanish, we may locate the Spanish cutoff point between ‘Existence of State’ and ‘Uncontrolled Process’ verbs, with a trend toward being between ‘Change of State’ and ‘Existence of State’ unaccusative verbs. This cutoff point is the same as in auxiliary selection for Italian and seems to be moving toward where Dutch and French are today (see Legendre, 2007b; Sorace, 1993b), as it did historically for auxiliary selection in Old Spanish.

#### **7.1.3.2 The Core-Periphery Distinction**

In addition to accounting for word order through a cutoff point, the Split Intransitivity Hierarchy accounts for word order through the core-periphery distinction in both the production and acceptability judgment tasks. In production, the participants as a whole and those who are visited yearly maintain the unaccusative/unergative distinction as well as a core-periphery distinction because the core unaccusative verbs and the core unergative verbs are statistically different from each other and because most peripheral verbs are not statistically different from each other. More inter-participant word order variation is also found in the non-core categories than in the core categories. Those who are not visited yearly do not show a cutoff point, but do show that the core-periphery distinction of the hierarchy is maintained to a degree. They at first appear to have a cutoff point between ‘Existence of State’ verbs and ‘Uncontrolled Process’

verbs, but because they produce more VS order with the core ‘Non-motional Process’ verbs where we would expect to see SV order favored, it seems that they have two cutoff points (or areas of weakness). A better interpretation of the data would be that they only maintain a core-periphery distinction. These speakers who are not visited yearly produce more VS order than SV order for almost all verbs of the hierarchy. They only produce more SV order for two non-core unergative categories, and their use of SV order gradually increases from the core categories to these unergative verbs in the periphery. Thus, the core-periphery distinction of the hierarchy helps to account for the word order in the production task of this study.

Like the results of the production task for those who are not visited yearly, the results of judgment task also shows that only a core-periphery distinction is maintained while the unaccusative/unergative distinction is lost. For the speakers as a whole, VS order is preferred over SV order in the core categories and SV is preferred over VS order in three of the non-core categories of the hierarchy and this is accompanied by greater overall inter-participant variation in the non-core categories of the hierarchy. Pairwise comparisons show that the core ‘Non-motional Process’ unergative verbs (which significantly prefer VS order over SV order) are significantly different from the non-core ‘Motional Process’ unergative verbs (which significantly prefer SV order over VS order) and ‘Existence of State’ verbs. This preference for VS order with core unergative verbs goes against the hierarchy’s unaccusative-unergative continuum but not against the hierarchy’s core-periphery distinction. This shows that native speakers of Spanish also may lack a clear gradient from one core to another or have non-core verbs that perform better than core verbs just as do some L2 learners and bilinguals of various language pairings (see Deguchi & Oshita, 2004; Montrul, 2004a, 2006; Sorace, 1993b, 1995; Sorace & Shomura, 2001).

For the acceptability judgment task, those who are visited yearly show an apparent increase in preference for SV order in the periphery when compared with those who are not visited yearly. Those who are not visited yearly only accept SV order more than VS order for two categories in the periphery of the hierarchy, but those who are visited yearly accept SV order in four non-core categories and significantly prefer SV order to VS order in two of them. This increased preference for SV order in the periphery in a way follows the diachronic change of auxiliary selection in Spanish, in which it was the peripheral categories that changed before the core unaccusative category of the hierarchy (Aranovich, 2003). The apparent increase in preference for SV order is caused by the fact that those who are visited yearly have significantly lower acceptance rates for VS order than those who are not visited yearly. Their relatively higher preference for SV order in the peripheral categories of the hierarchy is what we might expect. The differences in the judgments between those who are visited yearly and those who are not occur in the periphery and this is where dialectal variation in Italian and German occurs in the hierarchy as well (Cennamo & Sorace, 2007; Keller & Sorace, 2003).

It is interesting that there is no single cutoff point in the acceptability judgment task. In the acceptability judgment task, those who are not visited yearly prefer SV order over VS order for two non-contiguous categories in the periphery ('Change of State' unaccusative verbs and 'Motional Process' unergative verbs). These two categories are the same two for which both native speakers and heritage speakers of Spanish show the most unexpected reaction times in Montrul's (2006) processing study of unaccusative and unergative verbs in Spanish. It may be that these two categories are particular points of weakness among the non-core categories in Spanish. For the judgment task we cannot speak of a cutoff point shifting between those who are visited and those who are not, but we can speak of an increase in the preference for SV order

throughout the peripheral categories beginning with these two non-core categories. This also is similar to how auxiliary selection changed in Spanish—the unergative auxiliary emerged throughout the non-core categories of the hierarchy independent of the order of the categories. Put another way, the loss of the unergative-unaccusative continuum before the loss of the core-periphery distinction in the acceptability judgment task occurs in both the present study and historically in the development of Spanish auxiliary selection. In sum, even while the unaccusative/unergative continuum is not always maintained by the speakers in the present study, another part of the Split Intransitivity Hierarchy—the core-periphery distinction—is preserved (following general historical patterns) to lend some support for the hierarchy.

### 7.1.3.3 Collapsing Verb Categories

The lack of a single cutoff point in the periphery in the acceptability judgment task leads us to wonder if any peripheral verb categories should be collapsed or reordered in Spanish. The production and acceptability judgment tasks both show that some of the peripheral categories could be collapsed, but doing so may compromise the researcher’s ability to identify changes in word orders at the syntax-lexicon interface.

The production task shows that ‘Change of State’ and ‘Existence of State’ unaccusative verbs are produced by the participants as a whole with nearly the same amounts of VS order (55% and 56% respectively), have very similar Exp(B) numbers in the broad focus regression analysis (1.205 and 1.233), and are not significantly different from each other. These two unaccusative categories in the periphery could be collapsed.<sup>101</sup> In addition, the ‘Uncontrolled

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<sup>101</sup> Because of ‘Change of State’ and ‘Existence of State’ unaccusatives are so similar here, it does not appear necessary to separate Sorace’s (2000b) ‘Continuation of Pre-existing State’ unaccusative verbs from ‘Existence of State’ unaccusative verbs, and they may remain together as in Montrul’s study (Montrul, 2005b). The extra category may prove useful, however, in testing other diagnostics of unaccusativity in Spanish or it may be more applicable to other populations. For example, in one study of word order for heritage speakers of Spanish, ‘Continuation of Pre-existing State’ verbs perform differently from both ‘Change of State’ and ‘Existence of State’ verbs (Hinch Nava, 2007). Further studies are needed to see if this category is relevant for other unaccusative diagnostics in Spanish.

Process' unergative verbs, 'Motional Process' unergative verbs, and 'Non-motional Process' unergative verbs are all produced with nearly the same amount of SV order (60%, 63%, and 61%, respectively), have similar Exp(B) numbers (0.657, 0.658, and 0.766), and are not significantly different from each other. These too might be collapsed for Spanish. None of the peripheral categories of the hierarchy show that they must be reordered to account for the Spanish data. The results for those who are visited yearly and for those who are not visited yearly show that the two non-core unaccusative categories and the two non-core unergative categories may also be collapsed into just two non-core categories without losing any general patterns in the production data.

Although the production task shows that some non-core categories could be collapsed in Spanish, the results of the acceptability judgment task show that it is not recommendable to collapse these non-core categories. This is because those who are not visited yearly judge the 'Change of State' unaccusative verbs differently from the 'Existence of State' unaccusative verbs. These speakers also judge 'Uncontrolled Process' unergative verbs differently from 'Motional Process' verbs. Without all six categories of the hierarchy, we would not be able to see how the preference for SV order in two non-core categories of the hierarchy for those who are not visited yearly increases to almost four non-core categories for those who are visited yearly. Also, as mentioned earlier, the unaccusative cutoff point may be shifting closer to the unaccusative core for heritage speakers of Spanish and for those who are visited yearly in this study, and if we keep the unaccusative categories as they are (or identify new ones) we may be able to monitor this possible change in progress. Because of this, it would be best to not collapse any of categories, because they allow the researcher to observe gradual changes in the periphery of the hierarchy. It appears that the six categories of the hierarchy are sufficient to observe



general patterns and account for word order variation in Spanish without being reordered or collapsed, but more categories may be needed to observe the smaller variations that occur even among native speakers of Spanish in the non-core categories.

#### **7.1.3.4 Summary of the Relevance of the Split Intransitivity Hierarchy**

In summary, we find that the Split Intransitivity Hierarchy can account for Spanish word order data. This is because there is a cutoff point between ‘Existence of State’ unaccusative verbs and ‘Uncontrolled Process’ unergative verbs in production for the participants as a whole and for the participants who have been visited yearly by someone from an English-speaking country. Although there is no cutoff point in the results of the production task for those who are not visited yearly or in the results of the acceptability judgment task, the core-periphery distinction of the hierarchy is maintained. We also identified a cutoff point or transition zone between unaccusative and unergative verbs of the hierarchy and situated Spanish crosslinguistically. Although some verb categories could be collapsed, it is better for the researcher to continue to use multiple categories to observe possible variation. Because the Split Intransitivity Hierarchy can account for unaccusativity in Spanish, a language currently without an auxiliary selection diagnostic for unaccusativity, the first-proposed ‘Auxiliary Selection Hierarchy’ should in fact be termed a ‘Split Intransitivity Hierarchy’ that has crosslinguistic application.

#### **7.1.4 Summary of the Syntax-Lexicon Interface in Bajío Mexican Spanish**

Both the oral production task and the acceptability judgment task show that there is word order variation at the syntax-lexicon interface in Bajío Mexican Spanish. The variation observed follows the results of other studies, historical patterns in Spanish, and patterns found in dialects of Italian. As with other studies of the syntax-lexicon interface, both the inherent complexity of the interface and individual factors are sources of word order variation at the interface and this is

highlighted by the fact that those who are visited yearly and those who are not visited yearly show different patterns in the non-core categories of the hierarchy. Those who are visited yearly produce and accept word orders at rates similar to those of heritage speakers of Spanish in other studies although they are native speakers of Bajío Mexican Spanish and have always lived where Bajío Mexican Spanish is spoken in Mexico. The results of the present study also support the Split Intransitivity Hierarchy because the hierarchy can account for Spanish word order data through a cutoff point (or transition zone) between unaccusative and unergative behavior, a core-periphery distinction, and the categories of the hierarchy without reordering or collapsing them. Research questions related to the syntax-discourse interface will be addressed in the next section.

## **7.2 Syntax-Discourse Interface**

The research questions related to the syntax-discourse interface ask (i) if there is word order variation at the syntax-discourse interface, (ii) if the syntax-discourse interface shows more variation than the syntax-lexicon interface, and (iii) what the possible sources of the variation might be. The answers to these questions will now be discussed.

### **7.2.1 Word Order Variation at the Syntax-Discourse Interface**

The first question regarding the syntax-discourse interface is as follows:

- (4) Research Question 1: Is there word order variation at the syntax-discourse interface in Bajío Mexican Spanish?

The answer to this question is ‘yes’ because the results of the production task and the results of the acceptability judgment task do show that unexpected word orders are produced and accepted in narrow focus contexts.

The overall results of the production task show that there is word order variation in narrow focus contexts. While we would expect VS order to be produced more than SV order for

both unaccusative and unergative verbs, only unaccusative verbs are produced with more VS order (60.6%) than SV order (38.2%). Unergative verbs are produced with nearly equal amounts of SV and VS order, showing that the participants as a whole have optionality with unergative verbs in narrow focus. This corroborates a pattern that we previously found by reinterpreting the data of other studies: more word order variation occurs in narrow focus with unergative verbs than with unaccusative verbs for native speakers of Spanish (Domínguez & Arche, 2008; Hertel, 2000; Lozano, 2003, 2006a, 2006b), heritage speakers of Spanish (Zapata et al., 2005), and L2 learners of Spanish (Lozano, 2006a). In the narrow focus contexts of the present study, VS order is significantly preferred for unaccusative verbs over unergative verbs and SV order is significantly preferred for unergative verbs over unaccusative verbs. The reason for this may relate to the idea that unaccusative verbs are more ‘presentational’ in nature and thus favor VS order more, while unergative verbs may tend to resist VS order even in narrow focus contexts.

The Split Intransitivity Hierarchy shows that the emergence of SV order occurs with the non-core unergative categories of the hierarchy. As far as I am aware, no previous study has considered that the categories of this hierarchy may help to explain word order variation in narrow focus contexts. In the present study, the descriptive results show that VS order is produced more than SV order as expected for every category of the hierarchy except for two in the periphery: ‘Uncontrolled Process’ unergative verbs and ‘Motional Process’ unergative verbs. These two unergative categories are also where there is the greatest inter-speaker variation in the word orders produced. As we might expect, VS order is also produced more than SV order for core unergative verbs. The Exp(B) numbers from the regression analysis show that SV order is unexpectedly favored for ‘Change of State’ verbs (0.712), ‘Uncontrolled Process’ verbs (0.573), ‘Motional Process’ verbs (0.871), and ‘Non-motional Process’ Verbs (0.942). These results show

that SV order is emerging in the more unergative categories of the periphery for the participants as a whole.<sup>102</sup>

The acceptability judgment task shows that the participants as a group significantly prefer VS order to SV order for both unaccusative and unergative verbs in the way that we might expect for narrow focus contexts. Although VS is rated higher overall for unaccusative (4.45) and unergative verbs (4.51), SV order is still accepted at high rates for unaccusative verbs (3.93) and unergative verbs (4.08). A look at the Split Intransitivity Hierarchy in narrow focus shows variation in the non-core categories of the hierarchy and this is generally reflected in the overall greater inter-participant variation there. While VS order is significantly preferred for ‘Change of Location’ verbs, ‘Existence of State’ verbs, ‘Uncontrolled Process’ verbs, and ‘Non-Motional Process’ verbs, two verb categories do not show the statistical preference for VS order: ‘Change of State’ unaccusative verbs and ‘Motional Process’ unergative verbs. Although the descriptive results show that VS order is rated higher than SV order for these two verb types, the difference in the ratings is closer to optionality than the ratings for the other verb categories. In the acceptability judgments, there is no significant distinction between unaccusative and unergative verbs, as we would expect, because VS order is preferred over SV order for both verb types.

In summary, the overall results for both the production task and the acceptability judgment task show that the theoretically non-target SV order is both produced and accepted more in the non-core categories of the Split Intransitivity Hierarchy than in the core categories of the hierarchy.

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<sup>102</sup>SV order also appears to emerge in the peripheral categories in the broad focus production results for those who are not visited yearly because of their overall preference for VS order.

## 7.2.2 Comparison of Word Order Variation in Broad and Narrow Focus

The second question regarding the syntax-discourse interface is as follows:

- (5) Research Question 2: Does the syntax-discourse interface show more word order variation than the syntax-lexicon interface in Bajío Mexican Spanish?

The initial answer to this question is ‘yes’, the syntax-discourse interface does show more word order variation than the syntax-lexicon interface for the production task, but the opposite is true for the acceptability judgment task.

For the production task, the syntax-discourse interface does appear to show more variation than the syntax-lexicon interface. The descriptive results for the participants as a whole show that there is an increase in VS order and a decrease in SV order when going from broad to narrow focus for both unergative and unaccusative verbs, as we would expect. The Split Intransitivity Hierarchy shows that the broad focus results are what we might expect with a cutoff point shown between ‘Existence of State’ verbs and ‘Uncontrolled Process’ verbs. The narrow focus results show that more SV order was unexpectedly produced than VS order for two unergative categories in the periphery (‘Uncontrolled Process’ verbs and ‘Motional Process’ verbs). There is also greater inter-speaker variation for narrow focus when compared with broad focus, which is what we might expect to see. Although there were no significant differences between broad and narrow focus for all speakers, there is an approach toward significance for ‘Focus’ by ‘Word Order’ by ‘Unaccusativity’ (or the ‘Split Intransitivity Hierarchy’) that becomes significant when individual factors are later taken into consideration. The descriptive results, however, clearly show that there is more word order variation in narrow focus.<sup>103</sup> This is

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<sup>103</sup> The production data in the present study support the data in other studies that show more variation at the syntax-discourse interface with unergative verbs and more variation at the syntax-lexicon interface with unaccusative verbs. The cause for this should be studied further and may relate to the ‘presentational’ nature of unaccusative verbs. The word order variation found for each interface in the present study also occurs the most in the non-core categories.

in line with studies of various languages that show that the syntax-discourse interface displays more variation than the syntax-lexicon interface (e.g. Iverson & Rothman, 2008; Lozano, 2006a; Montrul, 2005b; Sorace & Filiaci, 2006; Sorace et al., 2009; Tsimpli et al., 2004).

Although the results of the production task show more word order variation for narrow focus, the results of the judgment task show that the most word order variation is found in broad focus. If we only look at unaccusative and unergative verbs, we find that neither VS nor SV order appears to be preferred in broad focus and that VS order is significantly preferred for both verb types in narrow focus. The analysis shows that there is a significant difference between broad and narrow focus because VS order is significantly preferred for narrow focus. The Split Intransitivity Hierarchy helps us to see that the overall judgments in broad focus are not what we would expect because they show no cutoff point along the hierarchy, a preference for SV order throughout the non-core categories, and a preference for VS order with core unergative verbs. The results in narrow focus are more expected because VS order is significantly preferred to SV order for all but two categories of the hierarchy. VS order is significantly preferred for almost every non-core category of the hierarchy in narrow focus, while in broad focus SV order is preferred for almost all non-core categories of the hierarchy.

In sum, when we compare the results for the broad and narrow focus contexts of both the production task and the acceptability judgment task, we find that the syntax-discourse interface has more word order variation than the syntax-lexicon interface in production. This is as we would expect and it supports the findings reported in other interface studies. The syntax-lexicon interface shows more word order variation in the acceptability judgment task, and this is the opposite of what we would expect. This is due to the fact that the unaccusative/unergative

distinction is lost in broad focus judgments, and as discussed earlier, this feature may be particular to some speakers of Bajío Mexican Spanish.

### **7.2.3 Sources of Word Order Variation at the Syntax-Discourse Interface**

Another question about the syntax-discourse interface asks about the source of the word order variation. This research question is restated here:

- (6) Research Question 3: If there is variation at the syntax-discourse interface, what is its source?
- a. The inherent complexity of the interface?
  - b. Individual factors?

The answer to this question is that both the inherent complexity of the interface and individual factors can explain the various word orders at the syntax discourse interface.

#### **7.2.3.1 Inherent Complexity of the Syntax-Discourse Interface**

The inherent complexity of the syntax-discourse is also a source of the word order variation found in narrow focus. The inherent complexity of the syntax-discourse interface is found in the fact that the output of the syntax-lexicon interface must be coordinated with discourse requirements. It was assumed that these discourse requirements include those related to the definiteness of the subject, the informational weight of the subject, the informational weight of the verb in relation to adverbial phrases, and the possible ‘presentational’ nature of certain verbs. In the present study, a substantial number of utterances were produced in both broad and narrow focus that have definite and indefinite subjects, ‘heavy’ and ‘light’ subjects, and adverbial phrases in various positions. The regression analyses of utterances produced in both broad and narrow focus show that these variables pattern as we would expect: SV order is preferred for definite subjects, light subjects, and verbs with postverbal adverbs; while VS order

is preferred for indefinite subjects, heavy subjects, and verbs with preverbal adverbs. Because a sufficient number of tokens were produced with the various verb types from the Split Intransitivity Hierarchy, only the relative ‘presentational’ nature of verbs will be addressed here as it relates to the inherent complexity of the syntax-discourse interface.

We predicted that if it is true that unaccusative verbs are more ‘presentational’ in nature than unergative verbs, then we would also expect to see that unaccusative verbs will more strongly prefer VS order than unergative verbs in narrow focus. This would also mean that we should see a cline along the hierarchy from unaccusative verbs to unergative verbs in which there is a decrease in the VS order produced and preferred in narrow focus. If the Split Intransitivity Hierarchy can explain the word order variation produced in narrow focus, then we will know that the complexity of coordinating the output from the syntax-lexicon interface with discourse requirements is the explanation for the variation. As we will now see, both the results of the production task and the acceptability judgment task show that the inherent complexity of the interface is important to consider.

In production, the overall results for narrow focus show that VS order with unaccusative verbs (60.6%) is produced significantly more than the VS order for unergative verbs (49.8%), and this gives us an indication that unaccusative verbs are more ‘presentational’ than unergative verbs. The Split Intransitivity Hierarchy shows that VS order is produced more than SV order for all three unaccusative verb types as well as for the core unergative verbs. This means that although unaccusative verbs may be more presentational than all unergative verbs in general, it is not always true of each type of unergative verb. The core unergative verbs do perform like unaccusative verbs in narrow focus, but it is the non-core unergative verbs that are the least ‘presentational’ of all of the verb types of the hierarchy because they are produced with more SV



order than VS order. The core ‘Change of Location’ unaccusative verbs that are produced with significantly more VS order than SV order are significantly different from the non-core ‘Uncontrolled Process’ unergative verbs that are produced with more SV order. The same core ‘Change of Location’ unaccusative verbs are not significantly different from the core ‘Non-motional Process’ unergative verbs, which appears to go against the idea that all unaccusative verbs are more presentational than unergative verbs. This may be because core unaccusative or core unergative verbs are prototypical verbs which may be easier for the syntax-discourse interface to process and thus result with more of the expected VS order in narrow focus.

For the judgment task, the overall results in narrow focus again show that participants prefer VS order the most for the verb categories in the cores of the Split Intransitivity Hierarchy and VS order the least in the non-core categories. The speakers as a whole do not rate VS order higher for unaccusative verbs (4.45) than unergative verbs (4.51), and this goes against the idea that unaccusative verbs are more presentational. It may be best to consider that there is a core-periphery distinction at work in narrow focus rather than a ‘presentational’/‘non-presentational’ dichotomy because both core unaccusative and core unergative verbs are judged significantly different from the ‘Existence of State’ verbs in the periphery and because two non-core categories of the hierarchy do not significantly prefer VS order over SV order. Both the core unaccusative and the core unergative verbs are preferred the most with VS order in narrow focus—not only the most unaccusative verbs, as would be predicted by the idea that they are the most ‘presentational’. Both the production task and the judgment task show that most word order variation occurs in the peripheral categories of the Split Intransitivity Hierarchy were the syntax-discourse interface is probably the most complex. Individual factors as a source of word order variation will be addressed next.

### 7.2.3.2 Individual Factors and the Syntax-Discourse Interface

In addition to the inherent complexity of the interface, whether or not someone is visited yearly by someone from an English-speaking country appears to help explain word order variation at the syntax-discourse interface. This individual factor helps to explain the word order variation in the narrow focus contexts of both the production and the judgment tasks.

In the production task, we find that those who are visited yearly produce more SV order in narrow focus than those who are not visited yearly. Those who are not visited yearly produce unaccusative verbs with more VS order (73.2%) than SV order (23.7%), and they also produce unergative verbs with more VS order (57.6%) than SV order (42.4%). Those who are visited yearly produce unaccusative verbs with more VS order (52.9%) than SV order (47.1%), but they produce unergative verbs in narrow focus with more SV order (53.1%) than VS order (45.1%). As discussed earlier, the SV word order produced by those visited yearly is like that found in other studies of unaccusativity and language contact because it occurs mainly with unergative verbs in narrow focus.

The Split Intransitivity Hierarchy shows a clearer picture of what is happening in narrow focus. Those without yearly visits prefer to produce VS order in all categories of the hierarchy except for the ‘Uncontrolled Process’ verbs in the periphery. Although they produce more VS order than SV order for all other categories of the hierarchy, the production of SV order gradually increases from the cores to this ‘Uncontrolled Process’ category in the periphery. This shows that speakers of Bajío Mexican Spanish with no regular contact with cyclical migrants do produce unexpected word orders at the syntax-discourse interface, and that it is related to the inherent complexity of the interface. When those who are visited yearly are compared with those who are not, the number of peripheral categories in which SV order is produced more than VS

order increases from one to three. There was a significant effect for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Yearly Visits’ because those who are visited yearly produce more SV order than those who are not visited yearly in nearly every category of the hierarchy when comparing broad and narrow focus, and especially in the peripheral categories. Those who are visited yearly are generally producing more SV order while those who are not visited yearly are producing more VS order in narrow focus. These results confirm that the inherent complexity of the interface is also a source of word order variation. Those who are visited yearly appear to be expanding the domain of the SV form already present in the grammar of those who are not visited yearly. This supports and adds to the idea that variation in language contact may be attributed to the expansion of a form already present in the grammar (Lapidus & Otheguy, 2005; Silva-Corvalán, 1986), because the same expansion appears to occur among native speakers of Spanish.

We now return to the previous question as to whether or not there is more word order variation produced at the syntax-discourse interface than at the syntax-lexicon interface. The descriptive results show that those who are not visited yearly increase in VS order from broad focus to narrow focus for both unaccusative verbs (61.4% to 73.2% VS order) and unergative verbs (51.2% to 57.6% VS order), as we would expect. Those who are visited yearly decrease in VS order for unaccusative verbs (56.2% to 52.9%) and only increase slightly for unergative verbs (31.5% to 45.1%), which is clearly an unexpected pattern for narrow focus. It would appear that there is more variation at the syntax-discourse interface than the syntax-lexicon interface for those who are visited yearly. When considering the effects of the Split Intransitivity Hierarchy, those who are not visited have more word order variation in broad focus (due to the overproduction of VS order with non-core unergative verbs) than in narrow focus and there is

decreased optionality for these speakers in narrow focus. Those who are visited yearly show target-like results in broad focus (and even show a clear cutoff point in the middle of the hierarchy), but they have more word order variation in narrow focus and show an increase toward word order optionality in narrow focus. In other words, those who are not visited yearly show more word order variation at the syntax-lexicon interface while those who are visited yearly show more word order variation at the syntax-discourse interface. Because of this, we find a significant effect for ‘Focus’ by ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Yearly Visits’ in our analysis. It is possible that those who are not visited yearly unexpectedly show more VS order at the syntax-lexicon interface because their preference for VS order may actually be the preferred word order in Bajío Mexican Spanish. Those who are visited yearly may be showing both word orders that we would expect at the syntax-lexicon interface and word orders that we would not expect at the syntax-discourse interface which may both be explained by an increased preference for SV order.

The results of the acceptability judgment task show also that whether or not someone is visited yearly is related to the word order variation at the syntax-discourse interface. When considering only unaccusative and unergative verbs, we find that both those who are visited yearly and those who are not visited yearly judge VS order to be more acceptable than SV order in narrow focus. The Split Intransitivity Hierarchy again shows the situation more clearly. Those who are not visited yearly clearly prefer VS order over SV order for each category of the hierarchy except for the ‘Motional Process’ unergative verbs in the periphery that show optionality. Those who are visited yearly show an increase in peripheral categories of the hierarchy that shows signs of optionality from one to three. Because the increase in word order variation occurs in the peripheral categories of the hierarchy for those who are visited yearly, this

shows that both the inherent complexity of the interface as well as individual factors are important sources of variation. These judgment task results for narrow focus coincide with the production task results for narrow focus because both tasks show an increase from one to three peripheral categories with unexpected word orders when comparing whether or not the participants are visited yearly.

By considering whether or not the participants are visited yearly, we also find a better answer to whether or not the syntax-discourse interface has more word order variation than the syntax-lexicon interface in the acceptability judgments. When comparing broad and narrow focus, those who are not visited yearly show increases in the acceptance of VS order from 85.3% to 89.0% for unaccusative verbs and 86.1% to 91.0% for unergative verbs. Those who are visited yearly also show the same increase of acceptance for VS order from 74.8% to 84.5% with unaccusative verbs and from 73.3% to 85.8% for unergative verbs. Both groups show decreases in the acceptance of SV order between broad and narrow focus, as expected. The Split Intransitivity Hierarchy shows that those who are not visited yearly produce the most word order variation in broad focus because they do not show a cutoff point and they prefer VS order for core unergative verbs in broad focus. In broad focus, these speakers prefer VS order in all categories of the hierarchy except for two in the periphery where optionality is found. The number of categories of the hierarchy showing unexpected variation reduces to one in narrow focus. This means that those who are not visited yearly show the most variation at the syntax-lexicon interface rather than the syntax-discourse interface, just as was the case in production. Those who are visited yearly show unexpected judgments in both broad focus and in narrow focus. In broad focus, those who are visited yearly prefer VS order in the core categories and SV order in the four non-core categories. In narrow focus, they prefer the expected VS order in all of

the categories as expected, but they also display a trend toward optionality in three of the non-core categories. This means that those who are visited yearly have more variation in their judgments at the syntax-lexicon interface than the syntax-discourse interface, although both interfaces show unexpected judgments. These patterns result in a significant ‘Focus’ by ‘Word Order’ by ‘Yearly Visits’ interaction. Both those who are visited yearly and those who are not show more variation in their acceptability judgments at the syntax-lexicon interface than the syntax-discourse interface, but we would expect the reverse to be true. This may be explained, however, by the possibility that participants were rendering judgments on what they may perceive to be the ‘correct’ forms in Bajío Mexican Spanish rather than indicating the forms that they personally use.

We have seen in this section that whether or not someone is visited yearly by someone from an English-speaking country not only helps to explain the word order variation in the narrow focus contexts of both the production and judgment tasks, but also helps to refine the answers to previous research questions.

### **7.2.3.3 Summary of Sources of Word Order Variation in Narrow Focus**

The results of the production task and the judgment task show that both the language-external factor ‘Visited Yearly’ and the inherent complexity of the syntax-discourse interface help to explain the word order variation. In the production task, we find that those who are visited yearly produce more SV order in narrow focus than those who are not visited yearly. Because the variation occurs mainly with unergative verbs in narrow focus, we also find that this is like the results found in previous studies of unaccusativity and language contact in Spanish. Those without yearly visits produce more VS order throughout the hierarchy and produce gradually more SV order moving from the cores to the periphery. This shows that even native

speakers of Spanish may produce unexpected word orders at the syntax-discourse interface in a way that relates to the inherent complexity of the interface. The difference between the two groups was highlighted by a significant interaction for ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Yearly Visits’. Those who are not visited yearly show more unexpected word order variation at the syntax-lexicon interface while those who are visited yearly show more variation at the syntax-discourse interface. This resulted in a significant interaction for ‘Focus’ by ‘Split Intransitivity Hierarchy’ by ‘Word Order’ by ‘Yearly Visits’. The differences between the two groups may be explained by the idea that VS order may be preferred word order in Bajío Mexican Spanish and SV order may be increasing due to contact with cyclical migrants.

In the acceptability judgment task, there is an increase from one theoretically non-target category in the periphery of the hierarchy to three such categories in the periphery when we compare those who are visited yearly with those who are not. Because this occurs in the periphery of the hierarchy, we find that both the inherent complexity of the interface and individual factors are sources of the word order variation. Both the acceptability judgment task and the production task show this increase from one to three peripheral categories when comparing those who are visited yearly with those who are not. Those who are not visited yearly also show the most variation at the syntax-lexicon interface (just as was the case in the production task), and those who are visited yearly have more variation in their judgments at the syntax-lexicon interface as well. These patterns in the acceptability judgments result in a significant ‘Focus’ by ‘Word Order’ by ‘Yearly Visits’ interaction. The answers to all of the questions related to the syntax-discourse interface in Bajío Mexican Spanish will be summarized in the following section.

#### **7.2.4 Summary of the Syntax-Discourse Interface**

In Bajío Mexican Spanish, there is word order variation at the syntax-discourse interface. The syntax-discourse interface only shows more word order variation than the syntax-lexicon interface in production for those who are visited yearly, and both the inherent complexity of the interface as well as the individual factor ‘Visited Yearly’ are sources of the variation. Although narrow focus contexts usually elicit the target VS order, there are times in which SV order also is produced or judged more acceptable in narrow focus. Importantly, those who are visited yearly by someone from an English-speaking country produce more SV order with unergative verbs in the periphery of the Split Intransitivity Hierarchy, and this is similar to the data reported in other studies of Spanish word order and language contact. In Bajío Mexican Spanish, the general word order patterns for narrow focus contexts appear to be as follows: (i) most of the word order variation in narrow focus occurs in the peripheral categories of the Split Intransitivity Hierarchy, and (ii) those who are not visited yearly produce and prefer VS order more while those who are visited yearly produce and prefer SV order more. The differences between the results of the production and the judgment tasks will be addressed next.

#### **7.3 Differences in Production and Judgment Task Results**

In addition to questions about variation at the syntax-lexicon interface and the syntax-discourse interface, other research questions relate to the differences in the tasks used to investigate word order in Spanish:

- (7) Research Question 4: Is there a difference between perception and production in word order preferences?
  - a. Do we see a difference between perception and production at the syntax-discourse interface and at the syntax-lexicon interface?



- b. Do production tasks support the unaccusative/unergative distinction, the Split Intransitivity Hierarchy, and the broad/narrow focus distinction?

The answers to these questions are that there are differences between perception and production that relate to the interfaces and that production tasks can support the unaccusative/unergative distinction and the broad/narrow focus distinction, as the following sections will show.

### **7.3.1 Differences in Perception and Production**

The first question asks if there is a difference between perception and production at the syntax-discourse and syntax-lexicon interfaces. The data gathered in this study show that there is a difference between perception and production for the syntax-lexicon interface but not for the syntax-discourse interface.

When we compare the results of the acceptability judgment task with the results of the production task in broad focus contexts, we do find differences in the results. As discussed earlier, the overall judgment task results show that SV and VS orders are accepted for all verbs at nearly identical rates and that the participants maintain a core-periphery distinction in broad focus. They prefer VS order for unaccusative core verbs and unergative core verbs but prefer SV order in the periphery. Those who are not visited yearly prefer VS order overall and only accept SV order more in two of the non-core categories, while those who are visited yearly prefer SV order in all four categories of the periphery. In the judgment task, there is no unaccusative/unergative cutoff point, but there is a core-periphery distinction. The broad focus results of the production task, on the other hand, do show a clear difference between unaccusative and unergative verbs. The speakers as a whole prefer to use VS order with unaccusative verbs and SV order with unergative verbs, which is what we would expect. They also show a clear cutoff point between unaccusative and unergative verbs that is not found in the

results of the judgment task. Those who are visited yearly produce more SV order with all unergative verbs and show a clear cutoff point in the periphery, while those who are not visited yearly just produce VS in almost all categories. This shows a difference between perception and production at the syntax-lexicon interface.

The discrepancy between perception and production at the syntax-lexicon interface may be due to the possibility of participants rendering judgments that reflect their sense of what they might consider the ‘correct’ forms in the community, rather indicating the forms that they personally would use. The judgments of those who are visited yearly could be showing what they believe to sound the best although they themselves do not always use those forms in production. It is possible that those who are not visited yearly are part of a social network in which VS order may be considered the more traditional Bajío Mexican Spanish form. Those who are visited yearly may be part of a social network in which SV order has become the norm due to the influence of cyclical migrants, but they may consider that VS order is the more ‘correct’ form among some of their peers. This may be the reason why those who are not visited yearly may judge the core, prototypical verbs to be best with VS order but still accept SV order in the peripheral categories. Language attitude surveys may be needed in future studies to ascertain the degree to which judgments of word order relate to preferences in perception or to the passive acceptance of other forms heard in the community. Participants could also be asked to render word order judgments by not only indicating *suenan bien* ‘sounds good’ or *suenan mal* ‘sounds bad’, but by answering *¿Qué dices tú?* ‘What do you say?’ It is also possible that other factors related to the design of the judgment task or to the metalinguistic or cognitive abilities of the participants may account for the different task results (see Birdsong, 1989; Schütze, 1996).

Unlike the syntax-lexicon interface, the results for the production and perception tasks at the syntax-discourse interface are very similar to each other. The participants as a whole strongly accept VS order over SV order for both unaccusative and unergative verbs, as we would expect, and they rate VS order higher than SV order for each category of the Split Intransitivity Hierarchy. When comparing those who are not visited yearly with those who are visited, the number of verb categories with optionality increases from one to three peripheral categories, although VS order is still judged slightly higher than SV order in each category. The high acceptance for the target VS order is as we would expect for the narrow focus contexts. In production, however, the participants as a whole do produce VS order for most categories of the hierarchy, but they also produce SV order more than VS order for two unergative categories in the periphery. Those who are not visited yearly produce VS order with all categories of the hierarchy except for one in the periphery where SV order is produced more than VS order, and the production of SV order diminishes from that category towards the cores. Those who are visited yearly again produce more SV order in three categories of the periphery. When we compare perception and production at the syntax-discourse interface, it appears that perception is generally mirroring production for all of the participants. This is unlike the syntax-lexicon interface, and the reason why the syntax-lexicon interface shows differences in perception and production could be due to different social networks and language attitudes in Bajío Mexican Spanish. The question of how well production tasks distinguish between unaccusative and unergative verbs as well as the broad/narrow focus types will be addressed next.

### **7.3.2 Production Tasks, Split-Intransitivity, and Focus**

The other question dealing with the type of task used in the study asks if production tasks support the unaccusative/unergative distinction, the Split Intransitivity Hierarchy, and the

broad/narrow focus distinction. This is because some studies using oral or written production tasks appear to show that SV order is produced more than VS order for both unaccusative and unergative verbs (Hertel & Pérez-Leroux, 1998; Mayoral Hernández, 2006) and other research shows that SV order is also produced more than VS order regardless of the broad or narrow focus contexts (Hertel, 2000, 2003).<sup>104</sup> It was hypothesized that by controlling for more variables at the syntax-discourse and syntax-lexicon interfaces than in previous studies, the unaccusative/unergative distinction as well as the broad/narrow focus distinction would be maintained more clearly in oral production.

We do find that that the unaccusative/unergative distinction is maintained overall in production in this study, unlike some other studies of oral or written production. The overall results of the present study show that sentences produced in broad focus have 58% VS order (165/293) and 42% SV (128/293) order with unaccusative verbs, and 61% SV order (181/290) and 39% VS order (109/290) with unergative verbs. The distinction between unaccusative and unergative verbs is maintained here because (i) the raw results show that unaccusative verbs prefer VS order more than SV order and unergative verbs prefer SV order more than VS order, and (ii) VS order is statistically preferred for unaccusative verbs over unergative verbs and SV order is statistically preferred for unergative verbs over unaccusative verbs. The overall results of the present study also show that there is a cutoff point along the Split Intransitivity Hierarchy between unaccusative and unergative behavior and that the results of a production task can support the Split Intransitivity Hierarchy. These results are similar to those of an oral production

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<sup>104</sup> This relates back to the question of how to best measure the unaccusative/unergative distinction: should it be measured (i) by comparing whether or not unaccusative verbs prefer VS order over SV order and unergative verbs prefer SV order over VS order, or (ii) should it be measured by whether or not unaccusative verbs prefer VS order more than unergative verbs and whether or not unergative verbs prefer SV order more than unaccusative verbs? The results of the present study indicate that the first measure indicates where the distinction is the strongest and the second measure indicates where the distinction is still maintained but is weaker. The studies cited here in which SV order is produced more than VS order for both verb types only show the weaker unaccusative/unergative distinction in their descriptive results.

task in another study in which unaccusative verbs are produced with more VS order (70%, 46/65) than SV order (29.2%, 19/65) (Hinch Nava, 2007), but are different from another study of oral production in which unaccusative verbs are produced with more SV order (51.5%, 17/33) than VS order (48.5%, 16/33) (Hertel & Pérez-Leroux, 1998). In a study of written production contextualized for broad focus, Spanish-dominant bilinguals produce unaccusative verbs with more SV order (60%, 32/53) than VS order (40%, 21/53) (Hertel, 2000, 2003). Another study using mostly written corpus data of native speakers of Spanish also shows that unaccusative verbs are produced with more SV order (54%, 74/136) than VS order (46%, 62/136) (Mayoral Hernández, 2006). There may be a difference in word order preferences between oral and written production, but more studies of word order in Spanish are needed to investigate this further.

The broad/narrow focus distinction is also shown to be maintained to a degree in the production task. Although ‘Focus’ by ‘Word Order’ by ‘Unaccusativity’ only approaches significance, there is a significant difference between the word orders produced in broad and narrow focus when the factors ‘Split Intransitivity Hierarchy’ and ‘Visited Yearly’ are taken into account. One reason why the broad/narrow focus distinction is maintained is that unaccusative verbs are produced with the expected VS order in both broad focus (58.1% VS order, 128/293) and narrow focus (60.6% VS order, 193/316). This is different from another production study in which Spanish-dominant bilinguals produce more SV order for unaccusative verbs in both broad focus (60.4% SV order, 32/53) and narrow focus (64.6% SV order, 31/48) (Hertel, 2000, 2003). It may be that the Spanish-dominant bilinguals of Hertel’s study produce more SV with unaccusative verbs either because it is written rather than oral production task or because they have suffered significant L1 attrition at the syntax-discourse interface by living in an English-dominant speech community. In the present study, those who are visited yearly also produce

more SV order with unaccusative verbs in narrow focus (53.1%, 111/202), but it occurs less than in Hertel's study. These results point to the importance of considering individual variables when comparing broad and narrow focus.

The results of the oral production task in this study do in fact show that both the unaccusative/unergative distinction and the broad/narrow focus distinctions are maintained. The differences in the oral production task and the acceptability judgment task will be reviewed in the following section.

### **7.3.3 Summary of the Differences in the Results of the Tasks**

A comparison of the production task and the acceptability judgment task shows that there are differences in perception and production. In broad focus, the acceptability judgment task shows only a core-periphery distinction, but the production task shows a clear cutoff point between unaccusative and unergative verbs. In narrow focus, the results for the judgment task and the production task are very similar to each other because the participants as a whole strongly accept VS order over SV order for both unaccusative and unergative verbs for most categories of the Split Intransitivity Hierarchy, as we would expect. In narrow focus, when those who are visited yearly are compared with those who are not visited yearly, the number of verb categories with optionality increases from one to three peripheral categories in both the judgment task and the production task. The differences between perception and production are the greatest at the syntax-lexicon interface and are the least at the syntax-discourse interface. This is possibly due to participants giving judgments that may reflect their sense of what may be considered the most 'correct' forms in the community rather than giving their personal preferences. The oral production task in this study also shows that both the unaccusative/unergative distinction and the

broad/narrow focus distinction are maintained, unlike several other studies of oral or written production. We now turn to the influence of language-external variables on word order.

#### **7.4 Language-External Variables**

The last of the research questions inquires about the influence of language-external variables on word order. We previously identified several language external variables that might possibly relate to word order in Bajío Mexican Spanish and asked the following question:

(8) Research Question 8: Which language-external variables best explain word order variation at the syntax-lexicon and syntax-discourse interfaces?

- a. Education level?
- b. Urban/rural differences?
- c. Gender?
- d. Years of English classes?
- e. Contact with cyclical migrants?

The answer to this question is that education level, gender, and years of English classes do not effectively explain the word orders produced by the participants in this study, but the results point to the participants' hometown population and degree of contact with cyclical migrants as possibly helping to explain the word orders.

The education level of the participants' parents, the gender of the participants, and their years studying English were the least effective factors for explaining word order in this study. First, the education level of the participants' parents was thought to be a possible predictor of word order in Bajío Mexican Spanish, but it was not. It was predicted that the education level of the participants' parents would best reflect the language that the participants had acquired and still use since most of the participants in the study are students who are still dependent on their

parents. It was hypothesized that those who come from a lower educational background would use more SV order because SV order may be more common among those with less education who tend to be cyclical migrants. In broad focus, those whose parents have a primary education did produce more SV order (56.7%) than those whose parents have a secondary (48.8%) or university education (52.5%). This is the same general pattern that Matus-Mendoza (2002a) finds in Moroleón, Guanajuato: those who only have a primary education use English lexical loans more in their speech than those with a secondary education or a post-secondary education. However, this language-external variable was not one of the best predictors of word order because it was not selected as significant in broad focus, and the results in narrow focus do not have a clear explanation. In narrow focus, SV order was produced at about the same rates for both those whose parents have an elementary education (52.4%) or university education (51.9%), and those whose parents have a secondary education produce SV order the least (30.0%). Thus, the education level of the parents of the participants did not explain the word orders well.

Gender was also not a good predictor of the word orders produced in this study. It was thought SV order would be more prevalent among males since there are substantially more male than female migrants going from Guanajuato to the U.S. (INEGI, 2000). This was not the case, however, as the participants of both genders had almost the same word order preferences for broad focus (male: 52.4% SV order, female: 53.6% SV order) or for narrow focus (male: 44.8% SV order, female: 43.6% SV order). The factor group 'Gender' was not selected as significant in a regression analysis of broad or narrow focus. The reason why both genders performed similarly may be that although more males are cyclical migrants, females may find no problem with assimilating to their speech. For example, Matus-Mendoza does report that a woman in her study of Moroleón uses English lexical loans although she herself had not migrated to the U.S. like



several of her family members (2002a). ‘Gender’, then, is a factor that does not appear to help to explain the various word orders produced in Bajío Mexican Spanish.

The number of years studying English in school was also not a good predictor of the word orders used by the participants in this study. Since it is very common for students in Mexico to study English in school, it was thought that some L1 attrition may be occurring for Spanish learners of English and that SV order may be preferred by those who have studied English the most. When we compare the broad focus word orders for unaccusative and unergative verbs separately (see Appendix F: Unaccusativity and Years of English Class), we find that there is a slight increase in SV order for unergative verbs as the years of English increase from 4-5 years (50.0% SV order), to 5-6 years (56.4%), to 6-7 years (64.7%), and then to more than 7 years of English (66.7%), but there is no such pattern for unaccusative verbs in broad focus. In narrow focus, unergative verbs show the opposite pattern—there is a general decrease in SV order as the years of English increase from 1-4 years (100% SV order), to 4-5 years (56.7%), to 5-6 years (44.2%), to 6-7 years (51.6%), and then more than 7 years (27.2%). ‘Years of English Class’ was not a significant factor group in the broad focus regression analysis, and in both broad and narrow focus, there was no significant effect for any interaction between ‘Years of English Class’, ‘Word Order’, and ‘Unaccusativity’. This all indicates that the number of years that these participants have spent studying English in class is not one of the better predictors of the word orders that they use.

The language-external factors that appear to explain the word orders produced in this study are (i) the hometown population of the participants, (ii) the frequency with which they communicate with someone from an English-speaking country, and (iii) whether or not they are visited yearly by cyclical migrants. To begin, the hometown population of the participants is a

good predictor of word order. Some participants are from cities with 60,000-1,000,000+ inhabitants and others are from cities with 1,000-25,000 inhabitants. Since the rural varieties of Spanish in the state of Guanajuato tend to conserve archaic forms and since English lexical loans are reported to be used more in the city of Moroleón, Guanajuato than in the rural areas surrounding it (Matus-Mendoza, 2002b), we expected SV order to be used more by those from urban areas and VS order to be used more by those from rural areas. In the present study, those who come from an urban background produce more SV order in broad focus (58% SV order) and narrow focus (46% SV order) than those who come from a more rural background who favor VS order more in both broad focus (only 43% SV order) and narrow focus (only 41% SV order), as we predicted. The factor group ‘Hometown Population’ was selected as significant in predicting word order in the broad focus regression analysis. The urban and rural word order preferences follow how English lexical loans are used by cyclical migrants in Bajío Mexican Spanish. This all shows that it is possible that ‘Hometown Population’ may be a good predictor of word order in Bajío Mexican Spanish.

The frequency of communication with someone in an English speaking country also appears to provide an explanation of word order, although it is not as we may initially expect. Many of the participants of this study report communicating frequently with someone in an English-speaking country by phone, through the internet, or by other means. They also explain that most of their interlocutors are cyclical migrant relatives who are currently residing in the United States. It was expected that those with the most frequent communication with someone in an English-speaking country would produce more SV order, but this was not the case. Those who communicate two or more times per month actually produce less SV order than those who communicate less than three times per year or who report no such communication. In broad

focus, those who communicate two or more times per month favor VS order (44.9% SV order) more than those who communicate less than three times per year (58.1% SV order) or those who report having have no communication (57.0% SV). The same pattern is found in narrow focus: those who communicate two or more times per month favor VS order (31.7% SV order) more than those who communicate less than three times per year (56.3% SV order) or not at all (47.9% SV). One explanation for this is that maybe those who communicate more frequently have the financial ability to do so. Many people in Irapuato choose to text each other rather than to call because of the cost. The participants who can afford to communicate internationally more may also be a part of a higher socioeconomic background that values VS order more. The factor group ‘Communication with Someone in an English-speaking Country’ was selected as significant in both the regression analysis of broad focus and narrow focus and offers a better explanation of the word orders produced than some other language-external variables.

The factor group that seems to best explain word order in Bajío Mexican Spanish is whether or not the participants report being visited yearly by someone from an English-speaking country. It was hypothesized that if cyclical migrants use English lexical loans in their speech in Mexico and spread such loans to family members who have not migrated (Matus-Mendoza, 2002a, 2002b), then it is also possible that these cyclical migrants have acquired a favorability to SV order in the U.S. and have also spread the SV order to others in Mexico. Many of the participants in this study indicate that they have relatives in the U.S. who return to visit them in the state of Guanajuato. Typically, such visits usually last for a month or two and coincide with the off-seasons or the Christmas and New Year’s holidays. Other cyclical migrants return to Mexico for longer periods of time (or indefinitely) due to economic conditions or for personal reasons. The opportunity for secondary or indirect transfer of the anglicized form may come

from (i) the duration for which cyclical migrants visit their family members in Mexico; (ii) the large number of cyclical migrants in the *Guanajuatense* communities; (iii) the fact that we are dealing with optional word orders that have similar forms in English, Spanish, and Contact Spanish; and (iv) the fact that these word orders are governed by ‘soft’ grammatical constraints. The motive for favoring SV order in Bajío Mexican Spanish may come from the fact that while some look down upon cyclical migrants in their communities, others hold them in esteem and their family members are reported to accommodate to their speech (Matus-Mendoza, 2002a).

As predicted, those who are visited at least once per year produce SV order more than those who are visited once every two to three years or not at all. In broad focus, those who are visited at least once per year produce 58.2% SV order and those who are visited once every two to three years or not at all produce only 44.3% SV order. In narrow focus, the pattern is the same: those who are visited at least once per year produce 50.7% SV order and those who are visited only once every two to three years or not at all produce only 32.6% SV order. Additional analyses were performed of each language-external variable alone with language-internal variables and the resulting log likelihoods were compared statistically. It was found that ‘Visited by Someone from an English-speaking Country’ is the language-external factor group that produces the statistically best log likelihood in both broad and narrow focus. Whether or not the participants are visited yearly by someone from an English-speaking country is helpful for explaining the word order productions and judgments of speakers of Bajío Mexican Spanish. Together, these results indicate that while the participants of the study were not cyclical migrants themselves, whether or not the participants are visited yearly by someone (usually a relative) from an English speaking country seems to be a good predictor of the word orders used in Bajío Mexican Spanish. This appears to support other studies that show that interface variation can be

explained by the influence of the dominant language of the community (Sorace et al., 2009), crosslinguistic influence favoring one of multiple options (Hulk & Müller, 2000; Müller & Hulk, 2001; Serratrice et al., 2004), and the contact-induced expansion of a form already present in the L1 (Lapidus & Otheguy, 2005; Silva-Corvalán, 1986).

These results also confirm that language-external variables should be considered along with language-internal variables in a study of syntactic interfaces. The regression analyses show that ‘Visited by Someone from an English-speaking Country’ influences the word order more strongly in both broad and narrow focus than the language-internal factor groups ‘Split Intransitivity Hierarchy’ and ‘Heaviness of Subject NP’. This supports the findings of other studies of syntactic interfaces that show that language-external variables are needed to understand interface variation (Kraš, 2005; Sorace et al., 2009).

While the education level of the participants’ parents, the gender of the participants, and the years of English classes do not clearly explain the word orders produced in this study, there are language-external variables that do help to explain word order in Bajío Mexican Spanish. These include the participants’ hometown populations, the frequency with which they communicate with someone in an English-speaking country, and whether or not they are visited yearly by cyclical migrants. These results support previous studies of Bajío Mexican Spanish and studies of the syntactic interfaces.

## **7.5 Summary of the Discussion of the Results**

This chapter has addressed the questions that were raised in previous chapters about the syntax-lexicon interface, the syntax-discourse interface, and the influence of language-external variables on word order in Bajío Mexican Spanish. For the syntax-lexicon interface, both the oral production task and the acceptability judgment task show that there is word order variation at

this interface in Bajío Mexican Spanish. The results are similar to those of other studies and follow patterns found in the historical development of Spanish and in dialects of Italian. Both the inherent complexity of the interface and individual factors are sources of variation at the interface. Those who are visited yearly produce and accept word orders at rates similar to those in other studies of heritage speakers of Spanish in the U.S. although the participants in this study are native speakers of Bajío Mexican Spanish who have always resided in Mexico. The results of the present study also support the Split Intransitivity Hierarchy because the hierarchy accounts for the Spanish word order data through a cutoff point between unaccusative and unergative behavior, a core-periphery distinction, and no need to collapse or reorder the categories of the hierarchy.

There is also word order variation at the syntax-discourse interface in this variety of Spanish. Those who are visited yearly show more variation at the syntax-discourse interface than the syntax-lexicon interface in the production task, as expected. Both the inherent complexity of the interface as well as the individual factor ‘Visited Yearly’ appear to be sources of the variation. Those who are visited yearly produce and accept more SV word order in the peripheral categories of the hierarchy than those who are not visited yearly (who prefer VS order in narrow focus). Because this tends to occur with unergative verbs, this is similar to the data reported in other studies of Spanish word order and language contact. When we compare those who are visited yearly with those who are not, we see that those who are visited yearly appear to be expanding the SV word order already present in the grammar.

A comparison of the results for the production task and the acceptability judgment task show that there are some differences in perception and production. In broad focus, the judgment task does not show a clear cutoff point in the Split Intransitivity Hierarchy, but the production

task does. In narrow focus, the results for the judgment task and the production task are very similar to each other because the participants as a whole strongly accept VS order over SV order for most unaccusative and unergative verbs, as we would expect. The discrepancy between the production and judgment tasks may be due to participants giving judgments of what they may consider to be ‘correct’ forms rather than only giving their personal preferences. The oral production task in this study also shows that both the unaccusative/unergative distinction and the broad/narrow focus distinction are maintained, unlike the results of some other studies that use production data.

This study also shows that language-external variables are important to consider in a study of the interfaces. Some language-external variables do not explain the word orders well (e.g. the education level of the participants’ parents, the gender of the participants, and years of English classes) while others do explain word order well. The factors that explain the word orders the best include the participants’ hometown population, whether or not they communicate with someone residing in an English-speaking country, and the whether or not the participants are visited yearly by someone from an English-speaking country. It may also be that a combination of these factors is contributing to word order variation in Bajío Mexican Spanish.

The following chapter will conclude this study of the syntax-lexicon and syntax-discourse interfaces in Bajío Mexican Spanish and suggest avenues for further research.

## **Chapter 8**

### **Conclusion**

#### **8.0 Conclusion**

In this dissertation we have investigated the language-internal and language-external factors that influence the subject-verb or verb-subject word orders of intransitive predicates in Bajío Mexican Spanish. We now conclude this project by highlighting some of the contributions that this research makes to the fields of language contact, language variation, and syntax, and we make suggestions for further research.

#### **8.1 Contributions to the Field of Language Contact**

This study makes several contributions to the field of language contact and identifies areas for future study. It adds to studies of language contact by testing the Interface Vulnerability Hypothesis with native speakers of Spanish, finding additional explanations for interface variation, and suggesting that some word orders in Bajío Mexican Spanish could be due to ‘indirect’ or ‘secondary’ contact.

Many recent studies of language contact have centered on the interfaces, and this study contributes to the discussion of the Interface Vulnerability Hypothesis (i.e. that ‘external’ interfaces tend to display more theoretically non-target behavior than ‘internal’ interfaces). The results of this study support this hypothesis by the observation that those who are visited yearly in Mexico by someone from an English-speaking country appear to show more word order variation in production at the ‘external’ syntax-discourse interface than at the ‘internal’ syntax-lexicon interface, just as the hypothesis predicts for situations of language contact. However, we also find that those who are not visited yearly display more word order variation at the syntax-



lexicon interface than the syntax-discourse interface in production (as is the case for both groups in the acceptability judgment task), and this is the opposite of what the hypothesis would predict. The reasons why the ‘internal’ interface sometimes displays more unexpected word orders than the ‘external’ interface may be due to unexplored language attitudes in the community, or Bajío Mexican Spanish may be like varieties of Italian in which only the unaccusative ‘be’ auxiliary is used for both unaccusative and unergative verbs. This suggests that dialectal and sociolinguistic factors should be considered when testing the ‘Interface Vulnerability Hypothesis’.

The Interface Vulnerability Hypothesis has been tested the most in situations of L1 attrition, L2 acquisition, and simultaneous bilingualism, and the present study helps to expand the interface research into the variation already present in the Spanish language. As the Interface Vulnerability Hypothesis is tested further for other populations of native speakers of Spanish, we will know if the interfaces perform similarly in other dialects of Spanish or if these patterns are unique to Bajío Mexican Spanish.

This study also contributes to the discussion of the sources of variation at the interfaces. The results of this study support the idea that variation at the interfaces can be explained through both the inherent complexity of coordinating information at each interface and through language-external factors. The idea that variation in language contact is due to the expansion of a form that is already present in the grammar is also supported in this study because those who are visited yearly appear to expand on the variation present in the grammar of those who are not visited yearly.

Another possible source for the variation found in this and other studies is that other interfaces may be influencing the results. In our review of the literature, we found that only looking at the syntax-lexicon interface without controlling for discourse factors explains why the

results of some previous studies of unaccusativity have differed from others. In this study, we find that some supposedly discourse-related variables are important for explaining word order at the syntax-lexicon interface (i.e. ‘heavy’ subjects, adverbial position) and we also find that the Split Intransitivity Hierarchy, a lexicon-related phenomenon, is important for explaining the word orders at the syntax-discourse. This means that although the traditional use of broad versus narrow focus was useful in this study to separate the syntax-lexicon and syntax-discourse interfaces to a degree, it did not completely separate them because the ‘heaviness’ of subjects, the position of adverbial phrases, and the categories of the Split Intransitivity Hierarchy all influence the word order in both broad and narrow focus contexts. Instead of using broad and narrow focus contexts to study word order, it may be necessary to find other ways to isolate the syntax-lexicon interface from the syntax-discourse interface. In addition, the phonological component of the grammar also may be influencing the results. For example, Belletti et al. (2007) find that English speakers who are near-native speakers of Italian produce stressed preverbal subjects in Italian where monolingual Italians tend to produce postverbal subjects in narrow focus, and it may be that the prosodic patterns of those who are visited yearly will help to explain the word orders used in Bajío Mexican Spanish, but further studies are needed. Montrul (2011) observes that what happens at the internal or external interfaces necessarily requires being checked at every interface in order for it to be felicitous. Further study of interface phenomena is needed in order to ascertain the degree to which the components of the grammar can or cannot be separated into separate modules for a particular phenomenon.

This study also contributes to the field of language contact through suggesting that word order might be transferred through what we might call ‘indirect’ or ‘secondary’ contact and by showing that the speakers of Bajío Mexican Spanish sometimes pattern like heritage speakers.

Those who are visited yearly by cyclical migrants in Mexico produce and accept more SV order than those who are not visited yearly, and this could be because cyclical migrants may acquire theoretically non-target forms in the U.S. and then use these forms in Mexico where they are spread to their family members and communities. This study also shows that those who are visited yearly pattern at times like heritage speakers of Spanish, and this may also mean that that some heritage speakers of Spanish in the U.S. may have acquired a variety of Spanish in which SV order is already favored. Future studies of heritage speakers of Spanish in the U.S. should be careful to control for the dialectal origins of the heritage speakers.

In sum, this dissertation project makes contributions to the field of language contact by testing the Interface Vulnerability Hypothesis with native speakers of Spanish in Mexico, by investigating the sources for interface variation, by hypothesizing that ‘indirect’ or ‘secondary’ contact may be affecting the word order in Bajío Mexican Spanish, and by showing parallels between the word orders produced in Bajío Mexican Spanish and the theoretically non-target utterances produced by heritage speakers of Spanish. The present study also contributes to the field of language variation.

## **8.2 Contributions to Studies of Language Variation**

This dissertation contributes to the field of language variation by reporting on the previously unattested word order patterns of Bajío Mexican Spanish. The findings related to both language-internal and language-external variables in Bajío Mexican Spanish pave the way for future studies of word order in Spanish.

This study reveals that word order variation in Bajío Mexican Spanish can be explained with several language-internal variables. It contributes to other variationist studies by showing that the Split Intransitivity Hierarchy and the focus context can help to account for word order

patterns in Spanish. It also makes a contribution by showing that the traditional idea that unaccusative verbs are more ‘presentational’ in nature should be revised to include the notion that it is the most prototypical unaccusative or unergative verbs in narrow focus contexts that are the most ‘presentational’ and favorable to narrow focus. This project also shows that the verbal constructions (i.e. whether or not the intransitive verb is the main verb, a present participle, a past participle, or an infinitive) are also related to the word orders produced, and future studies should be sure to account for them. This may be one of the reasons why VS order is found in the results of Morales de Walters’s (1982, 2003) study of word order in Puerto Rican Spanish but SV order is preferred more in Ortiz López’s (2009) study of Caribbean Spanish. In Ortiz López’s study, judgments are rendered of sentences that appear to mostly have postverbal adverbial phrases or the present progressive construction—both variables that are found in the present study to favor SV order. Future experimental studies of Caribbean Spanish should account for these variables that favor SV order. Although effort was made in the design of the instruments of the present study to reduce the influence of adverbial phrases, the definiteness of the subject NP, and the ‘heaviness’ of the subject, several tokens of them were still produced and these variables performed as we might expect. VS order was favored by indefinite subjects, ‘heavy’ subjects, and the presence of preverbal adverbial phrases while SV order was favored by definite subjects, ‘light’ subjects, and postverbal adverbial phrases. Additional studies should be conducted in Spanish to investigate precisely how ‘heavy’ the subjects must be in order for VS order to be favored. Most studies of word order in Spanish do not consider the influence that these variables have on the word order, and future studies should be sure to account for them.<sup>105</sup>

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<sup>105</sup> Future studies should also address the relationship that certain speech acts may have with word order in Spanish. These include making trivial comments, reporting, indicating that something is contrary to expectations, changing the scene in a story, reaching a climax in a story, or concluding a story (see Morales, 2003; Rivas, 2008).

This study also contributes to studies of linguistic variation by ranking the influence of language-internal factors and showing that some factors are stronger predictors of the word order than other factors. For example, the Split Intransitivity Hierarchy is a stronger predictor of the word order than the heaviness of the subject NP in both broad and narrow focus. In broad focus, the position of adverbial phrases is the strongest language-internal factor and it patterns similarly to the locative inversion reported for native speakers of English (Culicover & Winkler, 2008; Levin & Rappaport Hovav, 1995) and heritage speakers of Spanish in the U.S. (Silva-Corvalán, 1982). Based on the tokens that were excluded from the present study, further research should also investigate the influence of more than one adverb on the word order. Additional research could also look at how variables may change in their rankings due to an association with a particular interface just as ‘Verbal Construction’ was found to be ranked particularly high for the syntax-lexicon interface, and ‘Definiteness of subject NP’ was ranked especially high for the syntax-discourse interface. The quantity of language-internal variables considered in this study is an improvement on previous studies.

This study also finds that two language-external variables may be particularly helpful for explaining word order variation in Bajío Mexican Spanish: (i) the urban or rural origin of the participants in the study and (ii) the frequency with which the participants are visited yearly by someone from an English-speaking country. Those who are from more urban areas and those who are visited more frequently produce more SV order, while those who are from more rural areas and those who are visited less frequently use more VS order. These are the same patterns that explain the use of English lexical loans by cyclical migrants in Bajío Mexican Spanish, but more studies of the cyclical migrants themselves are needed to show for certain that they are the ones spreading the use of SV order in Bajío Mexican Spanish. It is also possible that similar

areas of Mexico that are far from the border with the U.S. may also be affected by cyclical migrant Spanish, and future studies of Mexican Spanish may confirm this. Additional studies may also find that attitudes toward cyclical migrants might relate to word order patterns in Mexico.

The participants in this study were tested in Mexico and not in a country where English is the dominant language and this allowed us to better investigate the language-external variables that may influence the word order of native speakers of Spanish. Although all of the participants report having studied English to some degree, the number of years that they have spent studying English is not a good predictor of the word orders that they use. It is possible, however, that a combination of all of the language-external factors addressed in this study (i.e. urban/rural differences, contact with cyclical migrants, and English in school) provide the right environment for SV order to thrive in Bajío Mexican Spanish.

Several things could be done to improve upon the present study. First, even more tokens should be obtained to allow for a better study of heavy subjects, definiteness, and the influence of adverbial phrases. Although reduced in number, such tokens were not removed from the present study because they were not few enough so that they all could be removed. The removal of such tokens would control more fully for these language-internal factors. Second, although other experimental studies of word order were followed in the design of this study and although the results of this study mirror the results obtained for more naturalistic data, more distracter items should be included in such experimental studies in the future to obtain even more natural results. Using story contexts that are different between the production and judgment tasks would also be an ideal improvement, but care should be taken so that the change in context does not unintentionally affect the compositional telicity or agentivity of the target sentences. The

addition of data from traditional sociolinguistic interviews would also support the experimental study and could be conducted in rural and urban areas to show if VS order is indeed preferred more in the rural areas. The inclusion of more participants in the study and a comparison group of cyclical migrants in Mexico would help to show for certain the extent to which cyclical migrants do or do not influence the word order of the community.

Although not without limitations of its own, this study represents a significant improvement on previous variationist and experimental studies of word order in Spanish by obtaining more oral production word order data for more intransitive verbs from Mexican Spanish than in any other study of unaccusativity of which I am aware. It is also a significant improvement on previous studies because it considers both variationist and experimental studies to compile a large list of variables that are reported to affect word order and then it uses these variables to design the study and analyze the results. Future studies of word order will need to consider the many language-internal and language-external variables reported here.

This study contributes to the field of linguistic variation by examining how several language-internal and language-external factors relate to word order in Bajío Mexican Spanish. It calls for a revision of the traditional idea that unaccusative verbs are more ‘presentational’ in nature to account for the fact that it is both the most prototypical unaccusative verbs and the most prototypical unergative verbs that are produced with the most VS order in narrow focus contexts. New verbal constructions were also found that relate to word order in Spanish, and the influence of the definiteness of subjects, the ‘heaviness’ of subjects, and the position of adverbial phrases in Spanish was confirmed. This dissertation also directs further studies to investigate the extent to which word orders can be explained by the urban or rural origin of the participants and by whether or not the participants are visited by cyclical migrants. While the present study may be

improved upon, it does represent a significant step forward to better understanding word order variation in Spanish and makes a significant contribution to studies of unaccusativity in Spanish.

### **8.3 Contributions to Studies of Unaccusativity**

In addition to providing empirical word order data that theories of syntax will need to take into account, this study contributes to the field of syntax by extensively reviewing the literature of unaccusativity in Spanish, by showing possible dialectal variation for unaccusativity in Spanish, and by testing the Split Intransitivity Hierarchy with word order in Spanish.

The review of the literature in this dissertation makes a significant contribution to studies of unaccusativity in Spanish. The review brought together in one place almost all of the previously reported diagnostics for testing unaccusativity in Spanish. This will allow for future studies to be designed to examine unaccusativity in Spanish more completely and test the usefulness of these diagnostics. The review also finds that there are word order differences between oral and written production tasks that have not received previous attention. The results for most of the previous experimental studies of unaccusativity and word order in Spanish were also gathered and compared as never before. Most of the studies that test the Split Intransitivity Hierarchy were also gathered for review. These reviews provide a springboard for future studies of word order, unaccusativity, and the Split Intransitivity Hierarchy.

The study also adds to current research on unaccusativity by showing that there is variation among native speakers of Spanish with respect to unaccusativity. Unlike many other studies of unaccusativity, the participants in this study all came from the same variety of Mexican Spanish and variation was even found among these speakers of the same variety. These results appear to support studies of unaccusativity in Italian, German, and Amerindian languages that show that there is dialectal variation related to the lexico-semantic notions that underlie



unaccusativity. Bajío Mexican Spanish should be studied further using other diagnostics of unaccusativity to better understand how it may differ from other varieties of Spanish. Because those who are not visited yearly prefer VS order just as some dialects of Italian favor the unaccusative ‘be’ auxiliary, future studies of Bajío Mexican Spanish should consider the effects that sociolinguistic variables and the grammatical person may have on word order. The results of this study show that the participants’ variety of Spanish should be controlled in future studies of unaccusativity in Spanish.

This study makes additional contributions to research in unaccusativity because it is one of only a few studies to test the Split Intransitivity Hierarchy in modern Spanish. This study identifies the cutoff point for unaccusative and unergative behavior as being between ‘Existence of State’ unaccusative verbs and ‘Uncontrolled Process’ unergative verbs. A comparison with the results of other diagnostics of unaccusativity shows that this cutoff point appears to be moving closer to the unaccusative core as it did historically for auxiliary selection. Using these results, this study is able to more authoritatively situate the Spanish cutoff point crosslinguistically as being similar to Italian but not yet like Dutch or French.

This study also shows that sometimes there may not be a clear cutoff point in the hierarchy between unaccusative and unergative behavior. As shown in this and in other studies, sometimes there is only a core-periphery distinction that is maintained, sometimes various areas of weakness (rather than a shift in the location of the cutoff point) occur in the peripheral categories of the hierarchy, and sometimes clear cutoff points may be more like transition zones between unergative and unaccusative behavior. Several diagnostics of unaccusativity should be tested and brought together to better identify the unaccusative and unergative behavior of a

language. The present study shows that our understanding of the ‘Split Intransitivity Hierarchy’ should include these ideas.

This study also makes an important contribution to other studies of unaccusativity in Spanish because it uses both production and judgment tasks while controlling for broad and narrow focus with a relatively large number of tokens. No previous study of Spanish of which I am aware has used an oral production task contextualized for broad and narrow focus or a contextualized acceptability judgment task to investigate word order and the Split Intransitivity Hierarchy. Some differences are found in this study between perception and production and these may relate to language attitudes in Bajío Mexican Spanish, but additional studies that compare perception and production are needed.

To review, this dissertation contributes to the field of syntax and studies of unaccusativity through its review of the literature of unaccusativity, by showing that dialectal variation may exist for unaccusativity in Spanish, and by testing the Split Intransitivity Hierarchy in Spanish. The contributions made to the fields of language contact, language variation, and syntax will be summarized in the following section.

#### **8.4 Summary**

This dissertation makes a contribution to studies of language contact, language variation, and unaccusativity. It contributes to the field of language variation by investigating the Interface Vulnerability Hypothesis and reasons for variation at the syntax-lexicon and syntax-discourse interfaces in Bajío Mexican Spanish. It both supports the hypothesis and suggests that more studies are needed because some external interfaces may perform better than internal interfaces due to sociolinguistic factors. This study shows that those who are visited yearly by someone from an English-speaking country prefer SV order more than those who are not visited yearly

when focus and the Split Intransitivity Hierarchy are considered. This could be due to ‘secondary’ or ‘indirect’ contact because the native speakers of Spanish residing in Mexico might be acquiring anglicized forms due to contact with cyclical migrant workers who return to visit them in Mexico, but further studies are needed to ascertain this.

This study also contributes to the field of language variation by reporting on the previously unattested word order patterns of Bajío Mexican Spanish. Several language-internal and language-external variables are found to help explain word order variation in Bajío Mexican Spanish and new variables are also identified. This study has its limitations, but does, in many ways, represent an improvement on previous studies of word order and unaccusativity in Spanish.

Contributions are also made to previous studies of unaccusativity by extensively reviewing the literature, by showing that dialectal variation may exist for unaccusativity in Spanish, and by testing the application of the Split Intransitivity Hierarchy to word order in Bajío Mexican Spanish.

## Appendix A. Language History Questionnaire

### CUESTIONARIO DE IDIOMA

1. NÚMERO: \_\_\_\_\_
2. HOMBRE \_\_\_\_\_ MUJER \_\_\_\_\_
3. ¿Cuál es su fecha de nacimiento? \_\_\_\_\_  

/   /

día / mes / año

Haga una lista de todos los lugares dónde ha vivido e indique cuántos años ha vivido en cada lugar.

Lugar	Años allí	¿Qué idioma usaba allí más?	
		en casa	en la comunidad
1. Lugar de nacimiento:			
2.			
3.			
4.			
5.			
6.			
7.			
8.			

4. ¿Qué idioma o idiomas considera Ud. su primera lengua?  
español \_\_\_\_\_ inglés \_\_\_\_\_ español e inglés \_\_\_\_\_ otro (identifíquelo) \_\_\_\_\_
5. ¿A qué otros idiomas ha estado expuesto Ud.? \_\_\_\_\_
6. ¿Describa el contacto que tuvo con cada idioma de la pregunta #6 (escuela, trabajo, etc) \_\_\_\_\_
7. Indique el nivel de educación marcando las cajas apropiadas.

	Escuela primaria	Junior high	Parte de la secundaria	Escuela secundaria	Escuela de vocación	2 años de la universidad	4 años de la universidad	Más de 4 años de universidad
¿Cuál es el nivel de educación más alto que ha completado Ud.?								
¿Cuál es el nivel más alto de educación que ha completado su padre?								
¿Cuál es el nivel más alto de educación que ha completado su madre?								

8. ¿En qué ciudades recibió Ud. ...
  - a. su educación primaria? \_\_\_\_\_
  - b. su educación secundaria? \_\_\_\_\_
  - c. su educación universitaria? \_\_\_\_\_
9. Describa el tipo de educación en español, inglés, u otros idiomas durante...
  - a. su educación primaria \_\_\_\_\_
  - b. su educación secundaria \_\_\_\_\_
  - c. su educación universitaria \_\_\_\_\_

10. ¿En qué trabaja Ud. actualmente? \_\_\_\_\_
11. ¿Dónde nacieron sus padres? padre \_\_\_\_\_ madre \_\_\_\_\_
12. ¿En qué trabajan sus padres actualmente? padre \_\_\_\_\_ madre \_\_\_\_\_
13. ¿Dónde vive la mayoría de sus familiares (padres, hermanos) hoy en día? \_\_\_\_\_
14. ¿Qué dialecto de español habla...  
 a. su esposo(a) o novia(o)? \_\_\_\_\_  
 b. la mayoría de sus amigos más cercanos? \_\_\_\_\_  
 c. la mayoría de sus compañeros de clase? \_\_\_\_\_  
 d. la mayoría de sus compañeros de trabajo? \_\_\_\_\_
15. Describa su contacto con visitantes de otros países y los viajes de Ud. marcando las cajas.

	Varias veces a la semana	Una vez a la semana	Una o dos veces al mes	Una vez cada 3 ó 4 meses	Una vez cada 6 meses	Una vez al año	Una vez cada 2-3 años	otro
¿Cuán a menudo le visitan a Ud. personas de otros países?								
¿Cuán a menudo viaja Ud. a otros países?								
¿Cuán a menudo se comunica Ud. con personas que viven en otros países (por teléfono, chat, email, etc.)?								

16. Haga Ud. una lista de los países de donde viajan para visitarle. \_\_\_\_\_
17. Haga Ud. una lista de los países que Ud. visita frecuentemente. \_\_\_\_\_
18. Haga Ud. una lista de los países de las personas con quienes se comunica. \_\_\_\_\_
19. ¿Sabe Ud. cantar bien o tocar un instrumento musical? \_\_\_\_\_
20. Haga una lista de las personas con quienes más habla. Identifica si esas personas hablan otros idiomas.

Familiares / amigos / personas con quienes más hablas	Contacto con otros idiomas
1. Primer nombre: _____ Relación: _____ Edad: _____	¿Habla esta persona otro idioma? Sí No Idioma _____ Cómo lo aprendió: _____
2. Primer nombre: _____ Relación: _____ Edad: _____	¿Habla esta persona otro idioma? Sí No Idioma _____ Cómo lo aprendió: _____
3. Primer nombre: _____ Relación: _____ Edad: _____	¿Habla esta persona otro idioma? Sí No Idioma _____ Cómo lo aprendió: _____
4. Primer nombre: _____ Relación: _____ Edad: _____	¿Habla esta persona otro idioma? Sí No Idioma _____ Cómo lo aprendió: _____
5. Primer nombre: _____ Relación: _____ Edad: _____	¿Habla esta persona otro idioma? Sí No Idioma _____ Cómo lo aprendió: _____
6. Primer nombre: _____ Relación: _____ Edad: _____	¿Habla esta persona otro idioma? Sí No Idioma _____ Cómo lo aprendió: _____

7. Primer nombre:	¿Habla esta persona otro idioma?    Sí    No	
Relación:                      Edad:	Idioma _____ Cómo lo aprendió: _____	
8. Primer nombre:	¿Habla esta persona otro idioma?    Sí    No	
Relación:                      Edad:	Idioma _____ Cómo lo aprendió: _____	
9. Primer nombre:	¿Habla esta persona otro idioma?    Sí    No	
Relación:                      Edad:	Idioma _____ Cómo lo aprendió: _____	
10. Primer nombre:	¿Habla esta persona otro idioma?    Sí    No	
Relación:                      Edad:	Idioma _____ Cómo lo aprendió: _____	

## Appendix B. Production Task Audio Script

### Narrow Presentational Focus Items

1. Audio: Estás mirando una película de comedia con un amigo y ves que las personas en la película están esperando la llegada de alguien. Mientras tu amigo va para buscar comida, ves que la persona que esperaban era un abogado. Desde la cocina, tu amigo oye que algo pasó en la película, y tu amigo te pregunta: “¿Quién llegó?” y tú respondes:

Screen: llegar

2. Audio: Trabajas en un hotel donde hoy hay una reunión de negocios de muchos países. Mientras trabajas, hay un panameño que tiene que salir y lo acompañas a la calle y el panameño va caminando. Un taxista que está esperando ve que alguien salió y te pregunta: “¿Quien salió?” y tú le dices:

Screen: salir

3. Audio: Trabajas en un restaurante y el día de un festival hay mucha gente que viene a comer. Tu jefe te pide que hagas una lista de las personas que volverán para comer ahí otra vez. Al día siguiente, hay una limeña otra vez y hablas con la limeña. Al final del día, tu jefe te pregunta: “¿Quién volvió?” y tú respondes:

Screen: volver

4. Audio: Ayer tuviste que ir a la estación de autobuses para recoger a un hermano que ha estado de vacaciones. Hoy, tu compañero de trabajo te dice que te vio ayer en la estación de autobuses con alguien que había estado de vacaciones y te pregunta: “¿Quién regresó?” Y tú contestas:

Screen: regresar

5. Audio: Un día estás en casa conversando con alguien sobre las personas que has conocido en la escuela y le dices que tienes una colega que antes no hacía la tarea, pero que ahora esa colega es más madura y se nota que ha crecido. Tu mamá entra en la habitación y oyó que hablabas acerca de alguien que creció y te pregunta: “¿Quién creció?” y tú respondes:

Screen: crecer

6. Audio: Una de tus clases es muy difícil y todos han sacado notas muy malas con la excepción de un amigo. Ese amigo antes sacaba notas malas también, pero ves que progresó. Tu mamá te oye decir que hay alguien que progresó y te pregunta: “¿Quién progresó?” y tú dices:

Screen: progresar

7. Audio: Trabajas en un hospital y mientras trabajabas hoy cuidabas a una morena que nació. Tu hermana sabe que hoy cuidaste a alguien que nació y te pregunta: “¿Quién nació?” y tú dices:

Screen: nacer

8. Audio: Sales a la calle y ves que hay mucha gente que va al cementerio y recuerdas que hoy es un día especial para recordar la muerte de un veterano. Tu hermanito ve la gran cantidad de gente y te pregunta: “¿Quién murió?” Y tú dices:

Screen: morir

9. Audio: Estás en la calle celebrando porque tu equipo de fútbol acaba de ganar. Ves que hay una mendiga y decides darle comida. Después de las celebraciones, todos vuelven a sus casas menos la mendiga que está comiendo la comida que le diste. Cuando vuelves a tu casa, tu mamá ve que alguien no se ha ido a su casa y te pregunta: “¿Quién quedó?” Y tú respondes:

Screen: quedar

10. Audio: Cuando estás en la casa de un compañero de clase, tu mamá te llama en tu celular para decirte algo acerca de una cuñada. Te dice que una cuñada tuvo un accidente de carro y que vivió. Tu compañero oye que hubo un accidente y que había alguien que vivió, y te pregunta: “¿Quién vivió?” y tú respondes:

Screen: vivir

11. Audio: Un día ves que hay personas de muchos países en tus clases y que habría gente de más partes del mundo, pero no se matriculó ningún caribeño. Cuando hablas con un amigo le dices que hay gente de casi todo el mundo en tus clases y tu amigo te pregunta: “¿Quién faltó?” y tú respondes:

Screen: faltar

12. Audio: Vas al centro con unos amigos y sus hijos. Hay una niña que quiere helado, y buscan una heladería, pero no encuentran ninguna. Están a punto de volver a casa, pero la niña no quiere volver y pasó media hora y persistió, así que siguieron buscando una heladería hasta que encontraron una para la niña. Cuando le dices a un amigo que pasaste mucho tiempo buscando una heladería porque había alguien que persistió, tu amigo te pregunta: “¿Quién persistió?” y tú dices:

Screen: persistir



13. Audio: Hay estudiantes internacionales en tu escuela que están acostumbrándose al tiempo más frío. Durante una clase, un brasileño sintió frío y tembló. Tu mamá se entera de que alguien no podía aguantar el frío en la escuela y te pregunta: “¿Quién tembló?” y tú dices:

Screen: temblar

14. Audio: Trabajas en un hotel donde hubo una reunión de un partido político. Durante la reunión, hizo mucho calor y una gota de sudor de un delegado cayó sobre un documento importante y todos se quejaron del delegado. Tú compañero de trabajo oyó que alguien causó un problema en el hotel porque sudó y te pregunta: “¿Quién sudó?” y tú respondes:

Screen: sudar

15. Audio: Estás en el cine mirando una película de suspenso. Escuchas un bostezo ruidoso y ves que una nena lo hizo. Una amiga no vio quién lo hizo y te pregunta: “¿Quién bostezó?” y tú respondes:

Screen: bostezar

16. Audio: Estás viajando por Europa y llamas a tu mamá para decirle que ahora estás en Madrid. Pero antes de poder decírselo, un madrileño empieza a usar el teléfono a tu lado y tose. Tosió tan fuerte que tu mamá te pregunta: “¿Quién tosió?” y tú dices:

Screen: toser

17. Audio: Estás en casa mirando una película de acción y ves al héroe que viene para pelear contra un enemigo. Al ver al héroe, el enemigo tiene miedo y corre. En ese momento, tu amigo llega a tu casa y mira la tele. Ve a alguien que corrió y te pregunta: “¿Quién corrió?” y tú le dices:

Screen: correr

18. Audio: Trabajas en una tienda y un día una bandida entra y te roba el dinero como lo hacían en las películas del oeste. Cuando la bandida oye sirenas de la policía, sube a la ventana y salta. Un momento después, tu jefe entra por la puerta y ve que alguien estaba en la ventana y te pregunta: “¿Quién saltó?” y tú dices:

Screen: saltar

19. Audio: Estás en el circo y todos miran una carrera chistosa de la gente del circo. Muchos corren, pero ves que un enano no pudo ganar la carrera porque caminó. Tu amigo acaba de volver del baño y oyó que alguien no ganó la carrera porque caminó. Tu amigo te pregunta: “¿Quién caminó?” y tú dices:

Screen: caminar

20. Audio: Estás mirando la natación en los juegos olímpicos y ves que tuvieron que encontrar a alguien de otro país para nadar en el lugar de una de las mujeres. Al final encontraron a una chilena para nadar en su lugar. Tu amigo escuchó que alguien nuevo participó en la natación y te pregunta: “¿Quién nadó?” y tú respondes:

Screen: nadar

21. Audio: Estás mirando la tele y aparece un comercial de un producto para matar insectos. En el comercial una modelo ve que hay un insecto y grita. Tu mamá está en la cocina cuando oye el grito de la tele, y te pregunta: “¿Quién gritó?” y tú dices:

Screen: gritar

22. Audio: Estás en un estadio para mirar la copa mundial y hay gente de todo el mundo. Mientras miras un partido hay alguien que silba muy fuerte y ves por su camisa que es un hondureño. Al oírlo, tu amigo dice que le duelen los oídos y te pregunta: “¿Quién silbó?” y tú dices:

Screen: silbar

23. Audio: Estás en tu habitación escuchando música y acabas de escuchar una canción de una cubana cuando tu hermano entra en tu habitación. Tu hermano te dice que no conoce la música y te pregunta: “¿Quién cantó?” Y tú le dices:

Screen: cantar

24. Audio: Trabajas en una tienda y un día feriado nadie de tu trabajo quiere trabajar. Uno de los compañeros de trabajo decide pagar a un gemelo para que trabaje en su lugar. Más tarde tu jefe se entera de que tu compañero de trabajo no estaba en el trabajo y tu jefe te pregunta: “¿Quién trabajó?” Y tú respondes:

Screen: trabajar

### **Broad Presentational Focus Items**

25. Audio: Trabajas en un negocio y tu jefe te dice que lleva muchas horas esperando a un abogado y que no ha llegado. Después de un tiempo, llegó y tu jefe canta de alegría al ver por fin al abogado. Un compañero de trabajo quiere saber por qué está tan feliz el jefe y te pregunta: “¿Qué pasó?” Y tú dices:

Screen: llegar

26. Audio: Eres taxista y esperas por mucho tiempo cerca de las puertas de un hotel, pero hoy no hay nadie que salga para subir a los taxis. Por fin hay un panameño que sale y esto te hace feliz. Más tarde, otro taxista te ve feliz y te pregunta: “¿Qué pasó?” y tú dices:

Screen: salir

27. Audio: Trabajas en un museo y un día una limeña visita tu museo. Al día siguiente ves a la limeña otra vez en tu museo y te dice que le gustó tu museo tanto que decidió volver. Esto te sorprende porque no vuelven mucho. Un compañero de trabajo ve tu sorpresa y te pregunta: “¿Qué pasó?” y tú dices:

Screen: volver

28. Audio: Un compañero de trabajo, que no sonríe mucho, te dice que hoy está muy feliz porque tiene un hermano que ha regresado después de pasar mucho tiempo en la universidad. Cuando tu jefe ve que tu compañero está sonriendo mucho, te pregunta: “¿Qué pasó?” y tú le dices:

Screen: regresar

29. Audio: Un día ves a una colega que no has visto desde que eran niños en la escuela. Antes, tu colega era muy baja pero se nota que creció y eso te hace reír porque ahora es más alta que tú. Un amigo te ve reír y te pregunta: “¿Qué pasó?” y tú dices:

Screen: crecer

30. Audio: Un día estás en la escuela ayudando a un amigo con su tarea. Después de pasar mucho tiempo con él, ves que tu amigo está entendiendo la tarea y sientes un alivio porque progresó. Al volver a casa, tu mamá ve que sientes un gran alivio y te pregunta: “¿Qué pasó?” y tú dices:

Screen: progresar

31. Audio: Tu vecino está muy feliz porque ahora es papá. Siempre quería tener una morena y ahora tiene una morena. Un amigo que está de visita ve por la ventana que tu vecino está muy feliz y te pregunta: “¿Qué pasó?” y tú dices:

Screen: nacer

32. Audio: Hoy hay mucha gente en las calles y sabes por las noticias que van al funeral de un veterano que murió. Tu hermana no sabe la noticia del funeral del veterano y no entiende por qué hay tanta gente en la calle y te pregunta: “¿Qué pasó?” y tú dices:

Screen: morir

33. Audio: Subes a un autobús y ves que hay demasiada gente en el autobús y todos pueden subir menos una mendiga. Ves que no subió porque no había espacio y te pones triste por la mendiga. En el autobús, un amigo te ve triste y te pregunta: “¿Qué pasó?” y tú dices:

Screen: quedar

34. Audio: Hoy hubo un incendio en el barrio de una cuñada. Estás en el trabajo y recibes un mensaje en tu celular de que la cuñada se lastimó mucho pero no murió. Un compañero de trabajo, que sabe del incendio, ve que sientes un gran alivio al leer tu mensaje y él te pregunta: “¿Qué pasó?” y tú dices:

Screen: vivir

35. Audio: Vas con unos amigos para ver un partido de fútbol en tu barrio. Pero, en un equipo había un caribeño que faltó y deciden jugar el partido otro día cuando esté el caribeño. Cuando tu hermano oye que no jugaron hoy, te pregunta: “¿Qué pasó?” y tú dices:

Screen: faltar

36. Audio: Vas al parque zoológico con unos amigos. Ven muchos animales pero como van a cerrar, parece que no vas a poder ver los leones. Pero hay una niña que le dice a un empleado que quiere ver los leones. Persistió tanto que la guardia les dejó ver los leones. Un amigo ve que te dejaron ver los leones y te pregunta: “¿Qué pasó?” y tú dices:

Screen: persistir

37. Audio: Eres taxista y un día llevas a un brasileño en tu taxi. Se nota que sintió frío y tembló, así que decides subir la calefacción en tu taxi. Cuando el brasileño se va, sube otra persona que nota que hace mucho calor en tu taxi y te pregunta: “¿Qué pasó?” Y tú le dices:

Screen: temblar

38. Audio: Trabajas en un hotel donde se ha reunido un partido político. Hace calor en la reunión, y hay un delegado, que se nota que sudó, y te pide que subas el aire acondicionado. Cuando un compañero te ve subir el aire acondicionado, te pregunta: “¿Qué pasó?” y tú dices:

Screen: sudar

39. Audio: Estás en una tienda para comprar algunas cosas cuando un amigo te llama en tu celular, y hablan mientras esperas en la cola. En la cola hay una mamá con una nena que bosteza fuerte mientras hablas con tu amigo y tu amigo oye el bostezo de la nena y te pregunta: “¿Qué pasó?” y tú dices:

Screen: bostezar

40. Audio: Estás de vacaciones en Madrid y estás hablando con un amigo por teléfono público para contarle de un concierto al que asististe. Mientras hablas con tu amigo, hay un madrileño que caminó por tu lado y tosió. Tu amigo no te oye bien por el ruido y te pregunta: “¿Qué pasó?” y tú respondes:

Screen: toser

41. Audio: Estás en casa mirando una película de guerra en donde unos soldados buscan a un enemigo para capturarlo. Los soldados ven a un enemigo pero no lo capturaron porque corrió. Cuando tu hermana entra en la habitación, ve que los hombres en la tele están frustrados y te pregunta: “¿Qué pasó?” y tú dices:

Screen: correr

42. Audio: Estás mirando una película del oeste. En la película roban un tren. Un policía está en el tren buscando a una bandida. Mientras corría el tren, ves que hay una bandida que quiere escapar y que saltó. Tu hermano entra en la habitación y ve que el policía en la tele está frustrado y tu hermano te pregunta: “¿Qué pasó?” y tú dices:

Screen: saltar

43. Audio: Estás mirando la lucha libre en la tele y los luchadores salen corriendo para luchar. Pero ves a un enano que caminó y al verlo caminar, todos aplaudieron. Tu hermano entra en la habitación, oye el aplauso y te pregunta: “¿Qué pasó?” y tú dices:

Screen: caminar

44. Audio: Estás en casa mirando la natación en la tele y sale una chilena para nadar. Cuando ves a la chilena que nadó, recuerdas que extrañas a una amiga chilena y empiezas a llorar. Tu hermana te oye llorar, viene a la habitación, y te pregunta: “¿Qué pasó?” y tú dices:

Screen: nadar

45. Audio: Estás mirando un programa de concurso en la televisión y mientras miras el programa, alguien gana mucho dinero y una modelo que está en el programa sintió tanta emoción que gritó. Desde la cocina, tu hermana oyó algo en la tele y te pregunta: “¿Qué pasó?” y tú dices:

Screen: gritar

46. Audio: Estás en un autobús y oyes que hay un hondureño que está tan contento de estar de vacaciones que silbó. A ti no te gustó que haya silbado porque querías leer y no escuchar al hondureño. Al bajar del autobús, un amigo ve que no estás feliz y quiere saber como fue el viaje y te pregunta: “¿Qué pasó?” y tú dices:

Screen: silbar

47. Audio: Fuiste a un concierto de música anoche y había una cubana que cantó. Estás muy feliz porque te gustó mucho oír a la cubana. Después del concierto, cuando regresaste a casa, tu papá te ve muy feliz y te pregunta: “¿Qué pasó?” y tú dices:

Screen: cantar

48. Audio: Un amigo quiere ir al partido de fútbol contigo pero no puede salir del trabajo. Tú sabes que tiene un gemelo y su gemelo dice que va a trabajar en su lugar. Tu amigo al final va al partido. Tus otros amigos están sorprendidos porque sabían que no podía ir al partido y uno te pregunta: “¿Qué pasó?” y tú dices:

Screen: trabajar

### **Transitive Distracters**

49. Audio: Están cocinando y preparando la cena y tu mamá le pide a tu hermana que corte una cebolla. Al cortarla, empieza a llorar y sale de la cocina. Cuando tu papá llega del trabajo, ve que tu hermana está llorando y te pregunta: “¿Qué pasó?” y tú dices:

Screen: cortar

50. Audio: A tu amiga Isabela le gusta pintar y un día pinta una colina. Tus amigos ven la colina que pintó Isabela y comentan sobre su buen trabajo. Cuando un amigo ve que todos están hablando acerca de Isabela, tu amigo te pregunta: “¿Qué pasó?” y tú contestas:

Screen: pintar

51. Audio: Estás afuera ayudando a tu papá a cargar leña. Cuando tu papá levantó una leña, de repente le dolió la espalda y tuvo que volver a casa para descansar. Tu hermana te ve más tarde y quiere saber como se lastimó tu papá y te pregunta: “¿Qué pasó?” y tú dices:

Screen: levantar

52. Audio: Tu hermano va a visitar a tu abuela y empacó una maleta. Cuando trató de meter un regalo, tuvo que hacer espacio y dejar mucha ropa de su maleta en su cama. Cuando su mamá ve que dejó mucha ropa, te pregunta: “¿Qué pasó?” y tú dices:

Screen: empacar

53. Audio: Estás en una clase en la escuela y todos tienen que diseñar algo antes de irse de la clase. Un compañero de clase a tu lado decidió diseñar una nave y se va. Cuando otro amigo ve que se ha ido, te pregunta: “¿Qué diseñó?” y tú dices:

Screen: diseñar

54. Audio: Un día estás con tu papá en casa cuando oyen un animal afuera. Salen y ven que hay una mula que está comiendo las flores de tu patio. Tu papá atrapa la mula con una cobija. Tú le dices a un amigo que tu papá atrapó algo en tu casa y tu amigo te pregunta: “¿Qué atrapó?” y tú le dices:

Screen: atrapar

55. Audio: Vas al supermercado con un amigo para comprar comida para una fiesta y mientras estás en el supermercado, tu amigo miró volar algo cerca de la fruta. Él se acerca y mira una paloma. Un empleado ve que tu amigo miró algo y te pregunta: “¿Qué miró?” y tú dices:

Screen: mirar

56. Audio: Tú hermano acaba de estar en una carrera de larga distancia y ganó una medalla que colgó en su habitación. Más tarde, le dices a un amigo que tu hermano colgó algo importante en su cuarto y tu amigo te pregunta: “¿Qué colgó?” y tú dices:

Screen: colgar

## Appendix C. Acceptability Judgment Task

### Narrow Presentational Focus Items

1. Audio: Estás mirando una película de comedia con un amigo y ves que las personas en la película están esperando la llegada de alguien. Mientras tu amigo va para buscar comida, ves que la persona que esperaban era un abogado. Desde la cocina, tu amigo oye que algo pasó en la película, y tu amigo te pregunta: “¿Quién llegó?” y tú respondes:

Screen: Llegó un abogado./Un abogado llegó.

2. Audio: Trabajas en un hotel donde hoy hay una reunión de negocios de muchos países. Mientras trabajas, hay un panameño que tiene que salir y lo acompañas a la calle y el panameño va caminando. Un taxista que está esperando ve que alguien salió y te pregunta: “¿Quien salió?” y tú le dices:

Screen: Un panameño salió./Salió un panameño.

3. Audio: Un día estás en casa conversando con alguien sobre las personas que has conocido en la escuela y le dices que tienes una colega que antes no hacía la tarea, pero que ahora esa colega es más madura y se nota que ha crecido. Tu mamá entra en la habitación y oyó que hablabas acerca de alguien que creció y te pregunta: “¿Quién creció?” y tú respondes:

Screen: Creció una colega./Una colega creció.

4. Audio: Sales a la calle y ves que hay mucha gente que va al cementerio y recuerdas que hoy es un día especial para recordar la muerte de un veterano. Tu hermanito ve la gran cantidad de gente y te pregunta: “¿Quién murió?” Y tú dices:

Screen: Un veterano murió./ Murió un veterano.

5. Audio: Cuando estás en la casa de un compañero de clase, tu mamá te llama en tu celular para decirte algo acerca de una cuñada. Te dice que una cuñada tuvo un accidente de carro y que vivió. Tu compañero oye que hubo un accidente y que había alguien que vivió, y te pregunta: “¿Quién vivió?” y tú respondes:

Screen: Vivió una cuñada./Una cuñada vivió.

6. Audio: Un día ves que hay personas de muchos países en tus clases y que habría gente de más partes del mundo, pero no se matriculó ningún caribeño. Cuando hablas con un amigo le dices que hay gente de casi todo el mundo en tus clases y tu amigo te pregunta: “¿Quién faltó?” y tú respondes:

Screen: Un caribeño faltó./Faltó un caribeño.



7. Audio: Hay estudiantes internacionales en tu escuela que están acostumbrándose al tiempo más frío. Durante una clase, un brasileño sintió frío y tembló. Tu mamá se entera de que alguien no podía aguantar el frío en la escuela y te pregunta: “¿Quién tembló?” y tú dices:

Screen: Tembló un brasileño./Un brasileño tembló.

8. Audio: Trabajas en un hotel donde hubo una reunión de un partido político. Durante la reunión, hizo mucho calor y una gota de sudor de un delegado cayó sobre un documento importante y todos se quejaron del delegado. Tú compañero de trabajo oyó que alguien causó un problema en el hotel porque sudó y te pregunta: “¿Quién sudó?” y tú respondes:

Screen: Un delegado sudó./ Sudó un delegado.

9. Audio: Estás en casa mirando una película de acción y ves al héroe que viene para pelear contra un enemigo. Al ver al héroe, el enemigo tiene miedo y corre. En ese momento, tu amigo llega a tu casa y mira la tele. Ve a alguien que corrió y te pregunta: “¿Quién corrió?” y tú le dices:

Screen: Corrió un enemigo./ Un enemigo corrió.

10. Audio: Estás mirando la natación en los juegos olímpicos y ves que tuvieron que encontrar a alguien de otro país para nadar en el lugar de una de las mujeres. Al final encontraron a una chilena para nadar en su lugar. Tu amigo escuchó que alguien nuevo participó en la natación y te pregunta: “¿Quién nadó?” y tú respondes:

Screen: Una chilena nadó. Nadó una chilena.

11. Audio: Estás mirando la tele y aparece un comercial de un producto para matar insectos. En el comercial una modelo ve que hay un insecto y grita. Tu mamá está en la cocina cuando oye el grito de la tele, y te pregunta: “¿Quién gritó?” y tú dices:

Screen: Gritó una modelo./Una modelo gritó.

12. Audio: Estás en tu habitación escuchando música y acabas de escuchar una canción de una cubana cuando tu hermano entra en tu habitación. Tu hermano te dice que no conoce la música y te pregunta: “¿Quién cantó?” Y tú le dices:

Screen: Una cubana cantó./Cantó una cubana.

### **Broad Presentational Focus Items**

13. Audio: Trabajas en un negocio y tu jefe te dice que lleva muchas horas esperando a un abogado y que no ha llegado. Después de un tiempo, llegó y tu jefe canta de alegría al ver por fin al abogado. Un compañero de trabajo quiere saber por qué está tan feliz el jefe y te pregunta: “¿Qué pasó?” Y tú dices:

Screen: Llegó un abogado./ Un abogado llegó.

14. Audio: Eres taxista y esperas por mucho tiempo cerca de las puertas de un hotel, pero hoy no hay nadie que salga para subir a los taxis. Por fin hay un panameño que sale y esto te hace feliz. Más tarde, otro taxista te ve feliz y te pregunta: “¿Qué pasó?” y tú dices:

Screen: Un panameño salió./Salió un panameño.

15. Audio: Un día ves a una colega que no has visto desde que eran niños en la escuela. Antes, tu colega era muy baja pero se nota que creció y eso te hace reír porque ahora es más alta que tú. Un amigo te ve reír y te pregunta: “¿Qué pasó?” y tú dices:

Screen: Creció una colega./Una colega creció.

16. Audio: Hoy hay mucha gente en las calles y sabes por las noticias que van al funeral de un veterano que murió. Tu hermana no sabe la noticia del funeral del veterano y no entiende por qué hay tanta gente en la calle y te pregunta: “¿Qué pasó?” y tú dices:

Screen: Un veterano murió. Murió un veterano.

17. Audio: Hoy hubo un incendio en el barrio de una cuñada. Estás en el trabajo y recibes un mensaje en tu celular de que la cuñada se lastimó mucho pero no murió. Un compañero de trabajo, que sabe del incendio, ve que sientes un gran alivio al leer tu mensaje y él te pregunta: “¿Qué pasó?” y tú dices:

Screen: Vivió una cuñada./Una cuñada vivió.

18. Audio: Vas con unos amigos para ver un partido de fútbol en tu barrio. Pero, en un equipo había un caribeño que faltó y deciden jugar el partido otro día cuando esté el caribeño. Cuando tu hermano oye que no jugaron hoy, te pregunta: “¿Qué pasó?” y tú dices:

Screen: Un caribeño faltó./Faltó un caribeño.

19. Audio: Eres taxista y un día llevas a un brasileño en tu taxi. Se nota que sintió frío y tembló, así que decides subir la calefacción en tu taxi. Cuando el brasileño se va, sube otra persona que nota que hace mucho calor en tu taxi y te pregunta: “¿Qué pasó?” Y tú le dices:

Screen: Tembló un brasileño./Un brasileño tembló.

20. Audio: Trabajas en un hotel donde se ha reunido un partido político. Hace calor en la reunión, y hay un delegado, que se nota que sudó, y te pide que subas el aire acondicionado. Cuando un compañero te ve subir el aire acondicionado, te pregunta: “¿Qué pasó?” y tú dices:

Screen: Un delegado sudó./Sudó un delegado.

21. Audio: Estás en casa mirando una película de guerra en donde unos soldados buscan a un enemigo para capturarlo. Los soldados ven a un enemigo pero no lo capturaron porque corrió. Cuando tu hermana entra en la habitación, ve que los hombres en la tele están frustrados y te pregunta: “¿Qué pasó?” y tú dices:

Screen: Corrió un enemigo./Un enemigo corrió.

22. Audio: Estás en casa mirando la natación en la tele y sale una chilena para nadar. Cuando ves a la chilena que nadó, recuerdas que extrañas a una amiga chilena y empiezas a llorar. Tu hermana te oye llorar, viene a la habitación, y te pregunta: “¿Qué pasó?” y tú dices:

Screen: Una chilena nadó./Nadó una chilena.

23. Audio: Estás mirando un programa de concurso en la televisión y mientras miras el programa, alguien gana mucho dinero y una modelo que está en el programa sintió tanta emoción que gritó. Desde la cocina, tu hermana oyó algo en la tele y te pregunta: “¿Qué pasó?” y tú dices:

Screen: Gritó una modelo./Una modelo gritó.

24. Audio: Fuiste a un concierto de música anoche y había una cubana que cantó. Estás muy feliz porque te gustó mucho oír a la cubana. Después del concierto, cuando regresaste a casa, tu papá te ve muy feliz y te pregunta: “¿Qué pasó?” y tú dices:

Screen: Una cubana cantó./Cantó una cubana.

### **Transitive Distracters**

25. Audio: Están cocinando y preparando la cena y tu mamá le pide a tu hermana que corte una cebolla. Al cortarla, empieza a llorar y sale de la cocina. Cuando tu papá llega del trabajo, ve que tu hermana está llorando y te pregunta: “¿Qué pasó?” y tú dices:

Screen: Cortó una cebolla./Una cebolla cortó.

26. Audio: Estás afuera ayudando a tu papá a cargar leña. Cuando tu papá levantó una leña, de repente le dolió la espalda y tuvo que volver a casa para descansar. Tu hermana te ve más tarde y quiere saber como se lastimó tu papá y te pregunta: “¿Qué pasó?” y tú dices:

Screen: Una leña levantó./Levantó una leña.

27. Audio: Un día estás con tu papá en casa cuando oyen un animal afuera. Salen y ven que hay una mula que está comiendo las flores de tu patio. Tu papá atrapa la mula con una cobija. Tú le dices a un amigo que tu papá atrapó algo en tu casa y tu amigo te pregunta: “¿Qué atrapó?” y tú le dices:

Screen: Atrapó una mula./Una mula atrapó.

28. Audio: A tu amiga Isabela le gusta pintar y un día pinta una colina. Tus amigos ven la colina que pintó Isabela y comentan sobre su buen trabajo. Cuando un amigo ve que todos están hablando acerca de Isabela, tu amigo te pregunta: “¿Qué pasó?” y tú contestas:

Screen: Pintó una colina./Una colina pintó.

29. Audio: Estás en una clase en la escuela y todos tienen que diseñar algo antes de irse de la clase. Un compañero de clase a tu lado decidió diseñar una nave y se va. Cuando otro amigo ve que se ha ido, te pregunta: “¿Qué diseñó?” y tú dices:

Screen: Una nave diseñó./Diseñó una nave.

30. Audio: Vas al supermercado con un amigo para comprar comida para una fiesta y mientras estás en el supermercado, tu amigo miró volar algo cerca de la fruta. Él se acerca y mira una paloma. Un empleado ve que tu amigo miró algo y te pregunta: “¿Qué miró?” y tú dices:

Screen: Miró una paloma./Una paloma miró.

## Appendix D. Production Task: Raw Data for Word Orders Produced

### Word Orders Produced: Unaccusativity

		Unaccusative		Unergative	
		SV	VS	SV	VS
Broad Focus	All speakers	43.7% (165/293)	56.3% (128/293)	62.4% (181/290)	37.6% (109/290)
	Not visited	38.4% (43/112)	61.6% (69/112)	50.5% (54/107)	49.5% (53/107)
	Visited	47.0% (85/181)	53.0% (96/181)	69.4% (127/183)	30.6% (56/183)
Narrow Focus	All speakers	38.9% (123/316)	61.1% (193/316)	49.5% (157/317)	50.5% (160/317)
	Not visited	25.0% (28/112)	75.0% (84/112)	40.0% (46/115)	60.0% (69/115)
	Visited	46.6% (95/204)	53.4% (109/204)	55.0% (111/202)	45.0% (91/202)

### Word Orders Produced: Unaccusative Verb Categories of the Split Intransitivity Hierarchy

		Change of Location (Core)		Change of State (Less-core)		Existence of State (Peripheral)	
		SV	VS	SV	VS	SV	VS
Broad Focus	All speakers	36.4% (39/107)	63.6% (68/107)	47.5% (48/101)	52.5% (53/101)	48.2% (41/85)	51.8% (44/85)
	Not visited	32.5% (13/40)	67.5% (27/40)	43.6% (17/39)	56.4% (22/39)	39.4% (13/33)	60.6% (20/33)
	Visited	38.8% (26/67)	61.2% (41/67)	50.0% (31/62)	50.0% (31/62)	53.8% (28/52)	46.2% (24/52)
Narrow Focus	All speakers	30.9% (34/110)	69.1% (76/110)	45.3% (48/106)	54.7% (58/106)	41.0% (41/100)	59.0% (59/100)
	Not visited	15.0% (6/40)	85.0% (34/40)	27.0% (10/37)	73.0% (27/37)	34.3% (12/35)	65.7% (23/35)
	Visited	40.0% (28/70)	60.0% (42/70)	55.1% (38/69)	44.9% (31/69)	44.6% (29/65)	55.4% (36/65)

### Word Orders Produced: Unergative Verb Categories of the Split Intransitivity Hierarchy

		Uncontrolled Process (Peripheral)		Motional Process (Less-core)		Non-motional Process (Core)	
		SV	VS	SV	SV	VS	SV
Broad Focus	All speakers	63.0% (63/100)	37.0% (37/100)	63.2% (60/95)	63.0% (63/100)	37.0% (37/100)	63.2% (60/95)
	Not visited	56.8% (21/37)	43.2% (16/37)	51.4% (19/37)	56.8% (21/37)	43.2% (16/37)	51.4% (19/37)
	Visited	66.7% (42/63)	33.3% (21/63)	70.7% (41/58)	66.7% (42/63)	33.3% (21/63)	70.7% (41/58)
Narrow Focus	All speakers	53.6% (59/110)	46.4% (51/110)	51.0% (52/102)	53.6% (59/110)	46.4% (51/110)	51.0% (52/102)
	Not visited	50.0% (20/40)	50.0% (20/40)	37.8% (14/37)	50.0% (20/40)	50.0% (20/40)	37.8% (14/37)
	Visited	55.7% (39/70)	44.3% (31/70)	58.5% (38/65)	55.7% (39/70)	44.3% (31/70)	58.5% (38/65)

## Appendix E. Production Task Results for Language External Factor Groups

	BROAD FOCUS (N=583)		NARROW FOCUS (N=633)	
<b>Gender</b>	% SV ORDER	N	% SV ORDE R	N
Male	52.4%	307	44.8%	330
Female	53.6%	276	43.6%	303
<b>Highest Level of Education Attained by Parents</b>				
Primary school	56.7%	254	52.4%	271
Secondary school	48.8%	209	30.0%	227
University	52.5%	120	51.9%	135
<b>Hometown Population</b>				
Urban 60, 000- 1,000,000+	58.0%	395	46.0%	424
Rural 1,000-25,000	42.6%	188	40.7%	209
<b>Years of English Classes</b>				
1-5 years	54.7%	137	56.4%	149
5-6 years	50.5%	202	39.8%	226
6+ years	54.1%	244	41.1%	258
<b>Communication with Someone in an English-speaking Country</b>				
2 or more times per month	44.9%	205	31.7%	230
Less than three times per year	58.1%	155	56.3%	167
No communication	57.0%	223	47.9%	236
<b>Visited by Someone from an English- speaking Country</b>				
At least once per year	58.2%	364	50.7%	406
Once every 2-3 years or no visits	44.3%	219	32.6%	227

## Appendix F. Unaccusativity and Years of English Class

Average Percent Word Orders Produced in Broad Focus				
Years of English Class	Unaccusative		Unergative	
	SV	VS	SV	VS
1-4 Years (n=2)	63.9%	36.1%	84.7%	15.3%
4-5 Years (n=5)	36.1%	63.9%	50.0%	50.0%
5-6 Years (n=10)	39.2%	60.8%	56.4%	43.6%
6-7 Years (n=7)	48.4%	51.6%	64.7%	35.3%
7+ Years (n=5)	35.0%	65.0%	66.7%	33.3%

Average Percent Word Orders Produced in Narrow Focus				
Years of English Class	Unaccusative		Unergative	
	SV	VS	SV	VS
1-4 Years (n=2)	91.7%	8.3%	100.0%	0.0%
4-5 Years (n=5)	26.7%	66.7%	56.7%	43.3%
5-6 Years (n=10)	35.0%	65.0%	44.2%	55.8%
6-7 Years (n=7)	40.1%	59.9%	51.6%	48.4%
7+ Years (n=5)	32.2%	67.8%	27.2%	66.1%

## References

- Akasaka, Yukio & Tateishi, Koichi (2001). Heaviness in Interfaces. *Issues in Japanese Phonology and Morphology*, 3-46.
- Alba, Orlando (2004). *Cómo hablamos los dominicanos: un enfoque sociolingüístico*. [Dominican Republic]: Grupo León Jimenes.
- Alonso-Cortés, Ángel (2001). Rasgos activos y ergativos del español. *Verba*, 28, 187-206.
- Aranovich, Raúl (2000). Split intransitivity and reflexives in Spanish. *Probus*, 12, 165-186.
- Aranovich, Raúl (2003). The semantics of auxiliary selection in Old Spanish. *Studies in Language*, 27 (1), 1-37.
- Aranovich, Raúl (2007). Split auxiliary selection from a cross-linguistic perspective. In R. Aranovich (ed.), *Split Auxiliary Systems*, pp. 1-23. Amsterdam/Philadelphia: John Benjamins.
- Arias, Patricia (2004). Old Paradigms and New Scenarios in a Migratory Tradition: U.S. Migration from Guanajuato. In J. Durand & D. Massey (eds.), *Crossing the Border: Research from the Mexican Migration Project*, pp. 171–183. New York: Russell Sage Foundation.
- Argyri, Efrosyni & Sorace, Antonella (2007). Crosslinguistic Influence and Language Dominance in Older Bilingual Children. *Bilingualism: Language and Cognition*, 10 (1), 79-99.
- Arnold, Jennifer E.; Wasow, Thomas; Losongco, Anthony & Ginstrom, Ryan (2000). Heaviness vs. Newness: The Effects of Structural Complexity and Discourse Status on Constituent Ordering. *Language*, 76 (1), 28-55.



- Ashby, William J. & Bentivoglio, Paola (1997). Strategies for introducing new referents into discourse: A comparative analysis of French and Spanish presentational structures. In R. M. Hammond & M. G. MacDonald (eds.), *Linguistic studies in honor of Bohdan Saciuk*, pp. 9-26. West Lafayette, IN: Learning Systems.
- Balcom, Patricia (2006). The acquisition of correlates of Unaccusativity in L2 French. In C. Gurski & M. Radisic (eds.), *Actes du congrès annuel de l'Association canadienne de linguistique 2006. Proceedings of the 2006 annual conference of the Canadian Linguistic Association*.
- Bard, Ellen Gurman; Frenck-Mestre, Cheryl & Sorace, Antonella (2010). Processing auxiliary selection with Italian intransitive verbs. *Linguistics*, 48 (2), 325-361.
- Batsiukova, Volha (2004). Verbos de movimiento en Ruso y Español: Una vez más sobre la intransitividad dividida. *Estudios de Lingüística: El verbo*, 11-42.
- Bel, Aurora (2003). The Syntax of Subjects in the Acquisition of Spanish and Catalan. *Probus*, 15 (1), 1-26.
- Belletti, Adriana (2005a). Answering with a 'cleft': the role of the null subject parameter and the VP periphery. In L. Brugè, G. Giusti, N. Munaro, W. Schweikert & G. Turano (eds.), *Proceedings of the Thirtieth "Incontro di Grammatica Generativa", Cafoscarina, Venezia*, pp. 63-82.
- Belletti, Adriana (2005b). Extended doubling and the VP periphery. *Probus*, 17, 1-35.
- Belletti, Adriana; Bennati, Elisa & Sorace, Antonella (2007). Theoretical and developmental issues in the syntax of subjects: Evidence from near-native Italian. *Natural Language and Linguistic Theory*, 25, 657-689.

- Belletti, Adriana & Leonini, Chiara (2004). Subject inversion in L2 Italian. In S. Foster-Cohen, M. Sharwood Smith, A. Sorace & M. Ota (eds.), *EUROSLA Yearbook 4*, pp. 95-118. Amsterdam: John Benjamins.
- Bentivoglio, P. Paola & Weber, Elizabeth G. (1986). A functional approach to subject word order in spoken Spanish. In O. Jaeggli & C. Silva-Corvalán (eds.), *Studies in Romance Linguistics*, pp. 23-40. Dordrecht: Foris.
- Bentivoglio, Paola (1993). Full NPs in spoken Spanish: A discourse profile. In W. J. Ashby, M. Mithun, G. Perissinotto & E. Raposo (eds.), *Linguistic perspectives on the Romance languages: Selected papers from the 21st Linguistic Symposium on Romance Languages, Santa Barbara, California, 21-24 February 1991*, pp. 212-224. Amsterdam / Philadelphia: John Benjamins.
- Bentivoglio, Paola & Sedano, Mercedes (2007). The Light Subject Constraint in Spoken Spanish. *Lodz Papers in Pragmatics*, 3 (1), 195-205.
- Bentley, Delia & Eythórsson, Thórhallur (2003). Auxiliary selection and the semantics of Unaccusativity. *Lingua*, 114, 447-471.
- Benzing, Joseph (1931). Zur Geschichte von *ser* als Hilfszeitwort bei den intransitiven Verben im Spanischen. *Zeitschrift für romanische Philologie*, 51, 385-460.
- Bever, Thomas G. & Sanz, Montserrat (1997). Empty categories access their antecedents during comprehension: Unaccusatives in Spanish. *Linguistic Inquiry*, 28 (1), 69-91.
- Birdsong, David (1989). *Metalinguistic Performance and Interlinguistic Competence*. Berlin; New York: Springer-Verlag.
- Blake, Robert (1983). Mood Selection among Spanish-Speaking Children, Ages 4 to 12. *The Bilingual Review*, 10 (1), 21-32.

- Boersma, Paul & Weenink, David (2008). Praat: doing phonetics by computer (Version 5.0.21) [Computer program]. Retrieved April 26, 2008 from <http://www.praat.org/>.
- Bolinger, Dwight (1972). Accent Is Predictable (If You're a Mind-Reader). *Language*, 48 (3), 633-644.
- Bolinger, Dwight L. (1954). English Prosodic Stress and Spanish Sentence Order. *Hispania*, 37 (2), 152-156.
- Bolinger, Dwight L. M. (1991). Meaningful word order in Spanish. In J. H. Silverman (ed.), *Essays on Spanish: Words and grammar*, pp. 218-230. Newark, Delaware: Juan de la Cuesta.
- Borgonovo, Claudia; Bruhn de Garavito, Joyce; Guijarro-Fuentes, Pedro; Prévost, Philippe & Valenzuela, Elena (2006). Specificity in Spanish: The Syntax/Semantics Interface in SLA. *EUROSLA Yearbook*, 6, 57-78.
- Bosque, Ignacio (1990). Sobre el aspecto en los adjetivos y en los participios. In I. Bosque, J. J. Acero, A. López García, G. Rojo & M. Suñer (eds.), *Tiempo y aspecto en español*, pp. 177-214. Madrid: Cátedra.
- Bosque, Ignacio (2007). *Las categorías gramaticales: relaciones y diferencias*, 7th ed. Madrid: Síntesis.
- Boyd-Bowman, Peter (1960). *El Habla de Guanajuato*. Mexico: Imprenta Universitaria UNAM.
- Büring, Daniel (2010). Towards a Typology of Focus Realization. In M. Zimmermann & C. Féry (eds.), *Information Structure: Theoretical, Typological and Experimental Perspectives*, pp. 177-205. Oxford University Press.
- Burzio, Luigi (1986). *Italian Syntax: A Government-Binding Approach*. Dordrecht: Reidel.

- Bybee, Joan & Hopper, Paul (2001). Introduction to frequency and the emergence of linguistic structure. In J. Bybee & P. Hopper (eds.), *Frequency and the emergence of linguistic structure*, pp. 2-24. Amsterdam; Philadelphia: John Benjamins.
- Campos, Héctor (1999). Transitividad e intransitividad. In I. Bosque & V. Demonte (eds.), *Gramática descriptiva de la lengua española*, pp. 1519-1574. Madrid: Espasa Calpe.
- Canfield, D. Lincoln (1961). Review of Peter Boyd-Bowman, *El habla de Guanajuato*. *Thesaurus*, 26, 221-223.
- Canger, Una & Jensen, Anne (2007). Grammatical borrowing in Nahuatl. In Y. Matras & J. Sakel (eds.), *Grammatical borrowing in cross-linguistic perspective*, pp. 403-418. New York: Mouton de Gruyter.
- Casielles Suárez, Eugenia (2004). *The Syntax-Information Structure Interface: Evidence from Spanish and English*. New York: Routledge.
- Cennamo, Michela (1999). Late Latin Pleonastic Reflexives and the Unaccusative Hypothesis. *Transactions of the Philological Society*, 97 (1), 103-150.
- Cennamo, Michela & Sorace, Antonella (2007). Auxiliary selection and split intransitivity in Paduan: Variation and lexical-aspectual constraints. In R. Aranovich (ed.), *Split Auxiliary Systems*, pp. 65-100.
- Chafe, Wallace L. (1987). Cognitive constraints on information flow. In R. Tomlin (ed.), *Coherence and Grounding in Discourse*, pp. 21-51. Amsterdam: John Benjamins.
- Chamoreau, Claudine (2007). Grammatical borrowing in Purepecha. In Y. Matras & J. Sakel (eds.), *Grammatical borrowing in cross-linguistic perspective*, pp. 465-480. New York: Mouton de Gruyter.
- Chomsky, Noam (1995). *The Minimalist Program*. Cambridge, MA: MIT Press.

- Cohen, Jeffrey H. (2001). Transnational Migration in Rural Oaxaca, Mexico: Dependency, Development, and the Household. *American Anthropologist*, 103 (4), 954-967.
- Cohen, Jeffrey H. (2010). Oaxacan Migration and Remittances as they Relate to Mexican Migration Patterns. *Journal of Ethnic and Migration Studies*, 36 (1), 149 - 161.
- Colantoni, Laura & Gurlekian, Jorge (2004). Convergence and intonation: historical evidence from Buenos Aires Spanish. *Bilingualism: Language and Cognition*, 7 (2), 107-119.
- Contreras, Heles (1978). *El orden de palabras en español*. Madrid: Cátedra.
- Coombs, D.; Coombs, H. & Weber, R. (1976). *Gramática Quechua San Martín*. Lima, Perú: Instituto de Estudios Peruanos.
- Cowles, Heidi (2003). *Processing Information Structure: Evidence from Comprehension and Production*. Unpublished doctoral dissertation, University of California-San Diego, San Diego, California.
- Culicover, Peter W. & Winkler, Susanne (2008). English focus inversion. *Journal of Linguistics*, 44 (3), 625-658.
- Davies, William (1986). *Choctaw Verb Agreement and Universal Grammar*. Dordrecht, The Netherlands: Reidel.
- De Mello, George (1995). Preposición + Sujeto + Infinitivo: "Para yo hacerlo". *Hispania*, 78 (4), 825-836.
- De Miguel Aparicio, Elena (1989). Sujetos invertidos en las construcciones ergativas del castellano: Los conceptos de tema y rema. In C. M. Vide (ed.), *Lenguajes Naturales y Lenguajes formales, IV, 2*, pp. 753-766. Barcelona: Universitat de Barcelona.
- De Miguel Aparicio, Elena (1992). *El aspecto en la sintaxis del español: Perfectividad e impersonalidad*. Madrid: Ediciones de la universidad Autónoma de Madrid.

- De Miguel Aparicio, Elena (1993). Construcciones ergativas e inversión en la lengua y la interlengua española. In J. M. Licerias (ed.), *La Lingüística y el análisis de los sistemas no nativos*, pp. 178-195. Ottawa: Dovehouse Editions.
- De Miguel Aparicio, Elena & Fernández Soriano, Olga (1988). Proceso-acción y ergatividad: Las construcciones impersonales en castellano. In C. M. Vide (ed.), *Lenguajes naturales y lenguajes formales, III, 2*, pp. 643-651. Barcelona: Universitat de Barcelona.
- Deguchi, Ayako & Oshita, Hiroyuki (2004). Meaning, proficiency and error types. *EUROSLA Yearbook*, 4, 41-65.
- Dekydtspotter, Laurent; Sprouse, Rex A. & Anderson, Bruce (1997). The Interpretive Interface in L2 Acquisition: The Process-Result Distinction in English-French Interlanguage Grammars. *Language Acquisition*, 6 (4), 297-332.
- Delbecque, N. (1988). On the subject position in Spanish: A variable rule analysis of constraints at the level of the subject NP and of the VP. *Literary and Linguistic Computing*, 3 (3), 185-200.
- Demonte, Violeta (1985). Papeles temáticos y sujetos sintácticos en el sintagma nominal. *Rivista di Grammatica Generativa*, 9-10, 265-331.
- Dominguez, Laura (2009). Charting the route of bilingual development: Contributions from heritage speakers' early acquisition. *International Journal of Bilingualism*, 13 (2), 271-287.
- Domínguez, Laura & Arche, María J. (2008). Optionality in L2 Grammars: The Acquisition of SV/VS Contrast in Spanish. In H. Chan, H. Jacob & E. Kiparsky (eds.), *BUCLD 32: Proceedings of the 32nd annual Boston University Conference on Language Development*, pp. 96-107. Somerville, MA: Cascadia Press Proceedings.

- Dowty, David (1991). Thematic Proto-Rules and Argument Selection. *Language*, 67 (3), 547-619.
- Durand, Jorge (2005). Nuevas regiones de origen y destino de la migración mexicana. *CMD Working Paper #05/02m*, Working Papers 370, Princeton University, Woodrow Wilson School of Public and International Affairs, Center for Migration and Development.
- Elordieta, Gorka (2007). Constraints on intonational prominence of focalized constituents. In C. Lee, M. Gordon & D. Büring (eds.), *Topic and Focus: Cross-linguistic Perspectives on Meaning and Intonation*, pp. 1-22. Dordrecht: Springer.
- Elvira, Javier (2001). Intransitividad escindida en español: El uso auxiliar de ser en español medieval. *Estudios de lingüística*, 15, 201-246.
- Face, Timothy L. (2000). Manifestations of Focus in Spanish. *Southwest Journal of Linguistics*, 19 (1), 45-62.
- Face, Timothy L. (2002b). Spanish evidence for pitch-accent structure. *Linguistics*, 40 (2), 319-345.
- Face, Timothy L. & D'Imperio, Mariapaola (2005). Reconsidering a Focal Typology: Evidence from Spanish and Italian. *Italian Journal of Linguistics/Rivista Di Linguistica*, 17 (2), 271-289.
- Fant, Lars (1984). *Estructura informativa en español: Estudio sintáctico y entonativo*. Uppsala: Acta Universitatis Upsaliensis.
- Fernández Soriano, Olga (1993). Sobre el orden de palabras en español. *Dicenda: Cuadernos de Filología Hispánica*, 11, 113-152.
- García, Víctor (1997). Mexican Enclaves in the U.S. Northeast: Immigrant and Migrant Mushroom Workers in Southern Chester County, Pennsylvania. *JSRI Research Report*

- #27, East Lansing, Michigan: The Julian Samora Research Institute, Michigan State University.
- García, Víctor & González Martínez, Laura (1995). Finding and Enumerating Migrants in Mexican Enclaves of the U.S. Northeast: The Case of Southern Chester County, Pennsylvania.
- García, Víctor & González Martínez, Laura (1999). Guanajuatense and Other Mexican Immigrants in the United States: New Communities in Non-Metropolitan and Agricultural Regions. *JSRI Research Report #47*, East Lansing, Michigan: The Julian Samora Research Institute, Michigan State University.
- Gerdts, Donna B. (1991). Unaccusative Mismatches in Halkomelem Salish. *International Journal of American Linguistics*, 57 (2), 230-250.
- Givón, Talmy (1983a). Topic continuity in discourse: An introduction. In T. Givón (ed.), *Topic continuity in discourse: A quantitative cross-language study*, pp. 5-41. Amsterdam; Philadelphia: John Benjamins.
- Gonzalez, Nora Martinez (1988). *Object and Raising in Spanish*. New York: Garland.
- Grinstead, John (2004). Subjects and Interface Delay in Child Spanish and Catalan. *Language*, 80 (1), 40-72.
- Guijarro-Fuentes, Pedro & Marinis, Theodoros (2007). Acquiring phenomena at the syntax/semantics interface in L2 Spanish: The personal preposition *a*. *EUROSLA Yearbook*, 7, 67-88.
- Gussenhoven, Carlos (1983). Focus, mode and the nucleus. *Journal of Linguistics*, 19, 377-417.



- Gussenhoven, Carlos (2007). Types of focus in English. In C. Lee, M. Gordon & D. Büring (eds.), *Topic and Focus: Cross-Linguistic Perspectives on Meaning and Intonation*, pp. 83-100. Dordrecht: Springer.
- Gutiérrez-Bravo, Rodrigo (2002). *Structural Markedness and Syntactic Structure: A Study of Word Order and the Left Periphery in Mexican Spanish*. Unpublished doctoral dissertation, University of California, Santa Cruz, Santa Cruz, California.
- Gutiérrez-Bravo, Rodrigo (2006). *Structural Markedness and Syntactic Structure: A Study of Word Order and the Left Periphery in Mexican Spanish*. New York/London: Routledge.
- Gutiérrez-Bravo, Rodrigo (2009). La identificación de los tópicos y los focos. *Nueva revista de filología hispánica*, 56 (2), 363-401.
- Harris, Alice C. (1982). Georgian and the Unaccusative Hypothesis. *Language*, 58 (2), 290-306.
- Harves, Stephanie (2002). *Unaccusative Syntax in Russian*. Unpublished doctoral dissertation, Princeton University, Princeton.
- Hatcher, Anna Granville (1956). Theme and Underlying Question: Two studies of Spanish Word Order. *Word*, 12 (Supplement, Monograph No. 3.), 1-53.
- Hekking, Ewald & Bakker, Dik (2007). The case of Otomí: A contribution to grammatical borrowing in cross-linguistic perspective. In Y. Matras & J. Sakel (eds.), *Grammatical borrowing in cross-linguistic perspective*, pp. 435-464. New York: Mouton de Gruyter.
- Hertel, Tammy Jandrey (2000). *The second language acquisition of Spanish word order: lexical and discourse factors*. Unpublished doctoral dissertation, The Pennsylvania State University, University Park, PA.
- Hertel, Tammy Jandrey (2003). Lexical and discourse factors in the second language acquisition of Spanish word order. *Second Language Research*, 19 (4), 273-304.

- Hertel, Tammy Jandrey & Pérez-Leroux, Ana Teresa (1998). The second language acquisition of Spanish word order for unaccusative verbs. In A. Greenhill, H. Littlefield & C. Tano (eds.), *Proceedings of the 23rd Annual Boston University Conference on Language Development, Vol. 1*, pp. 228-239. Somerville, MA: Cascadilla Press.
- Hinch Nava, Emily (2007). Word order in bilingual Spanish: Convergence and Intonation Strategy. In J. Holmquist, A. Lorenzino & L. Sayahi (eds.), *Selected Proceedings of the Third Workshop on Spanish Sociolinguistics*, pp. 129-139. Somerville, MA: Cascadilla Proceedings Project.
- Hirakawa, Makiko (2000). *Unaccusativity in Second Language Japanese and English*. Unpublished doctoral dissertation, McGill University, Montreal.
- Hirakawa, Makiko (2003). *Unaccusativity in Second Language Japanese and English*. Tokyo: Hituzi Syobo.
- Hirakawa, Makiko (2006). 'Passive' Unaccusative Errors in L2 English Revisited *Inquiries in Linguistic Development : In Honor of Lydia White*.
- Hopp, Holger (2004). Syntactic and interface knowledge in advanced and near-native interlanguage grammars. *EUROSLA Yearbook*, 4, 67-94.
- Hopp, Holger (2005). Constraining Second Language Word Order Optionality: Scrambling in Advanced English-German and Japanese-German Interlanguage. *Second Language Research*, 21 (1), 34-71.
- Huffines, Marion Lois (1986). Intonation in Language Contact: Pennsylvania German English. In W. Enninger (ed.), *Studies on the languages and the verbal behavior of the Pennsylvania Germans, Beihefte der Zeitschrift für Dialektologie und Linguistik (#51)*, pp. 25-36. Wiesbaden: Franz Steiner.

- Hulk, Aafke & Müller, Natascha (2000). Bilingual First Language Acquisition at the Interface between Syntax and Pragmatics. *Bilingualism: Language and Cognition*, 3 (3), 227-244.
- INEGI (2000). Censo general de población y vivienda 2000. Instituto Nacional de Estadística y Geografía. Retrived March 13, 2010 from <http://www.inegi.org.mx/est/contenidos/espanol/rutinas/ept.asp?t=mpob67&s=est&c=3244> and <http://cuentame.inegi.gob.mx/poblacion/migracion.aspx?tema=P>.
- INEGI (2005). Censo general de población y vivienda 2005. Instituto Nacional de Estadística y Geografía. Retrieved from <http://www.inegi.org.mx/est/contenidos/espanol/sistemas/conteo2005/localidad/iter/>.
- INFDM (2010). Enciclopedia de los Municipios de México: Estado de Guanajuato. Instituto Nacional para el Federalismo y el Desarrollo Municipal, Gobierno del Estado de Guanajuato. Retrieved March 13, 2010 from <http://www.e-local.gob.mx/work/templates/enciclo/guanajuato/index.html>.
- Iverson, Michael (2009). Knowledge of Noun-Drop across Various Lexical and Functional Categories in Heritage Spanish Bilinguals. In J. Crawford, K. Otaki & M. Takahashi (eds.), *Proceedings of the 3rd Conference on Generative Approaches to Language Acquisition North America (GALANA 2008)*, pp. 98-106. Somerville, MA: Cascadilla Proceedings Project.
- Iverson, Michael & Rothman, Jason (2008). The Syntax-Semantics Interface in L2 Acquisition: Genericity and Inflected Infinitive Complements in Non-Native Portuguese. In J. Bruhn de Garavito & E. Valenzuela (eds.), *Selected Proceedings of the 10th Hispanic Linguistics Symposium*, pp. 78-92. Somerville, MA: Cascadilla Proceedings Project.

- Jackendoff, Ray (2002). *Foundations of Language: Brain, Meaning, Grammar, Evolution*.  
Oxford: Oxford University Press.
- Jaeggli, Osvaldo A. (1986). Arbitrary Plural Pronominals. *Natural Language & Linguistic Theory*, 4 (1), 43-76.
- Kahane, Henry & Kahane, Renee (1950). The Position of the Actor Expression in Colloquial Mexican Spanish. *Language*, 26 (2), 236-263.
- Keller, Frank & Sorace, Antonella (2003). Gradient Auxiliary Selection and Impersonal Passivization in German: An Experimental Investigation. *Journal of Linguistics*, 39 (1), 57-108.
- Kinder, John (2004). Auxiliary Verbs, Dictionaries and the Late Evolution of the Italian Language. *Australian Review of Applied Linguistics*, 18, 115-132.
- Kishimoto, Hideki (1996). Split Intransitivity in Japanese and the Unaccusative Hypothesis. *Language*, 72 (2), 248-286.
- Kiss, Katalin É. (1998). Identificational Focus versus Information Focus. *Language*, 74 (2), 245-273.
- Kraš, Tihana (2005). Instability and age effects at the lexicon-syntax interface. In S. Baauw, F. Drijkoningen & M. Pinto (eds.), *Romance Languages and Linguistic Theory 2005*, pp. 201-212. John Benjamins.
- Kraš, Tihana (2006). Age Effects in the L2 Acquisition of the Lexicon-Syntax Interface. In D. Bamman, T. Magnitskaia & C. Zaller (eds.), *Proceedings of the 30th Annual Boston University Conference on Language Development*, pp. 316-327. Somerville, MA: Cascadia Press.

- Kraš, Tihana (2009). Native-Like Attainment of the Lexicon-Syntax Interface in the L2: Converging Evidence from Different Methodologies. In J. Chandlee, M. Franchini, S. Lord & G.-M. Rheiner (eds.), *BUCLD 33: Proceedings of the 33rd annual Boston University Conference on Language Development*, pp. 278-289. Somerville, MA: Cascadilla Press.
- Ladd, D. Robert (1996). *Intonational Phonology*. Cambridge: Cambridge University Press.
- Lahousse, Karen (2006). NP Subject Inversion in French: Two Types, Two Configurations. *Lingua*, 116 (4), 424-461.
- Lahousse, Karen (2007). Specificational sentences and word order in Romance: A functional analysis. *Folia Linguistica*, 41 (3/4), 357-404.
- Lambrecht, Knud (1994). *Information structure and sentence form: Topic, focus, and the mental representations of discourse referents*. Cambridge; New York: Cambridge University Press.
- Lapidus, Naomi & Otheguy, Ricardo (2005). Overt nonspecific *Ellos* in Spanish in New York. *Spanish in Context*, 2 (2), 157-174.
- Legendre, Géraldine (1989). Unaccusativity in French. *Lingua*, 79, 95-164.
- Legendre, Géraldine (2007a). On the typology of auxiliary selection. *Lingua*, 117 (9), 1522-1540.
- Legendre, Géraldine (2007b). Optimizing auxiliary selection in Romance In R. Aranovich (ed.), *Split Auxiliary Systems: A cross-linguistic perspective*, pp. 145-180. Amsterdam/Philadelphia: John Benjamins.
- Levin, Beth & Rappaport Hovav, Malka (1995). *Unaccusativity at the Syntax-Lexical Semantics Interface*. Cambridge, MA: MIT Press.

- Lipski, John M. (1977). Preposed Subjects in Questions: Some Considerations. *Hispania*, 60 (1), 61-67.
- Lipski, John M. (1994). *Latin American Spanish*. New York: Longman.
- Lipski, John M. (2008). *Varieties of Spanish in the United States*. Washington D.C.: Georgetown University Press.
- Liu, Feng-hsi (2007). Auxiliary Selection in Chinese. In R. Aranovich (ed.), *Split Auxiliary Systems*, pp. 181-206. Amsterdam/Philadelphia: John Benjamins.
- Lope Blanch, Juan M. (1968). *El español de América*. Madrid: Ediciones Alcalá.
- Lope Blanch, Juan M. (1990). *Atlas lingüístico de México*. México City: Colegio de México.
- Lope Blanch, Juan M. (2004). *Cuestiones de Filología Mexicana*. México, D.F.: Instituto de Investigaciones Filológicas, UNAM.
- López Meirama, Belén (1997). *La posición del sujeto en la cláusula monoactancial en español*. Santiago de Compostela: Servicio de Publicacións da Universidade de Santiago de Compostela.
- Lozano, Cristóbal (2003). *Universal Grammar and Focus Constraints: The Acquisition of pronouns and word order in non-native Spanish*. Unpublished doctoral dissertation, University of Essex, Wivenhoe Park, Colchester, United Kingdom.
- Lozano, Cristóbal (2006a). Focus and split-intransitivity: the acquisition of word order alternations in non-native Spanish. *Second Language Research*, 22 (2), 1-43.
- Lozano, Cristóbal (2006b). The development of the syntax-discourse interface: Greek learners of Spanish. In V. Torrens & L. Escobar (eds.), *The Acquisition of Syntax in Romance Languages*, pp. 371-400. Amsterdam: John Benjamins.

- Lozano, Cristóbal (2008). ¿Déficits de representación o de procesamiento en una segunda lengua? Evidencia de un estudio de resolución de anáfora con griegos adultos aprendices de español. In R. Monroy Casas & A. Sánchez (eds.), *25 años de Lingüística Aplicada en España: Hitos y retos / 25 Years of Applied Linguistics in Spain: Milestones and Challenges*, pp. 855-866. Murcia: Editum.
- Lozano, Cristóbal (2009a). Pronominal deficits at the interface: New data from the CEDEL2 corpus. In C. M. Bretones Callejas et al. (ed.), *Applied Linguistics Now: Understanding Language and Mind / La Lingüística Aplicada Hoy: Comprendiendo el Lenguaje y la Mente*, pp. 213-227. Almería: Universidad de Almería.
- Lozano, Cristóbal (2009b). Selective deficits at the syntax-discourse interface: Evidence from the CEDEL2 Corpus. In N. Snape, Y.-k. I. Leung & M. Sharwood Smith (eds.), *Representational Deficits in SLA: Studies in Honor of Roger Hawkins*, pp. 127-166. Amsterdam: John Benjamins.
- Lozano, Cristóbal & Mendikoetxea, Amaya (2006). Postverbal subjects at the interfaces in Spanish and Italian Learners of L2 English: a corpus analysis. In G. Gilquin, S. Papp & M. B. Díez-Bedmar (eds.), *Linking up contrastive and corpus learner research*, pp. 85-125. Amsterdam: Rodopi.
- Lozano, Cristóbal & Mendikoetxea, Amaya (2008). Postverbal subjects at the interfaces in Spanish and Italian learners of L2 English: A corpus analysis. In S. Papp, B. Díez & G. Gilquin (eds.), *Linking up contrastive and corpus learner research*, Amsterdam: Rodopi.
- Macaulay, Monica Ann (1996). *A grammar of Chalcatongo Mixtec*. Berkeley: University of California Press.

- MacSwan, Jeff (1999). *A minimalist approach to intrasentential code switching*. New York: Garland.
- Manning, H. Paul (1995). Fluid intransitivity in Middle Welsh: Gradience, typology and 'unaccusativity'. *Lingua*, 97 (2-3), 171-194.
- Mateu, Jaume (2006). Gradience and Auxiliary Selection in Old Catalan and Old Spanish. Retrieved from <http://seneca.uab.es/ggt/reports.htm>.
- Mateu, Jaume (2009). Gradience and auxiliary selection in Old Catalan and Old Spanish. In P. Crisma & G. Longobardi (eds.), *Historical Syntax and Linguistic Theory*, pp. 176-193. Oxford: Oxford University Press.
- Matus-Mendoza, Mariadelaluz (2002a). The English Lexical Loan: A Class Marker. *Journal of Hispanic Higher Education*, 1, 329-337.
- Matus-Mendoza, Mariadelaluz (2002b). The influence of English as a social marker in a migrant community. *An Imperfect World: Resonance from the Nation's Violence. Proceedings of the Annual Meeting of the National Association of African American Studies, the National Association of Hispanic and Latino Studies, the National Association of Native American Studies, and the International Association of Asian Studies (Houston, TX, February 11-16, 2002)*. pp. 114-137. Biddeford, Me.: NAAAS & Affiliates.
- Matus-Mendoza, Mariadelaluz (2002c). *Linguistic Variation in Mexican Spanish as Spoken in Two Communities-Moroleón, México and Kennett Square, Pennsylvania*. Lewinston, NY: Edwin Mellen Press.
- Matus-Mendoza, Mariadelaluz (2004). Assibilation of /-r/ and migration among Mexicans. *Language Variation and Change*, 16, 17-30.



- Matus-Mendoza, Mariadelaluz (2005). Gender Roles and the Variants of /r/. In L. Sayahi & M. Westmoreland (eds.), *Selected Proceedings of the Second Workshop on Spanish Sociolinguistics*, pp. 120-126. Somerville, MA: Cascadilla Proceedings Project.
- Mayoral Hernández, Roberto (2004). On the position of frequency adverbs in Spanish. *USC Working Papers in Linguistics*, 2, 1-15.
- Mayoral Hernández, Roberto (2006). A variation study of verb types and subject position: Verbs of light and sound emission. In J. Camacho, N. Flores-Ferrán, L. Sánchez, V. Déprez & M. J. Cabrera (eds.), *Romance Linguistics 2006: Selected Papers from the 36th Linguistic Symposium on Romance Languages*, pp. 219-232. Amsterdam; Philadelphia: John Benjamins.
- McLendon, Sally (1978). Ergativity, Case, and Transitivity in Eastern Pomo. *International Journal of American Linguistics*, 44 (1), 1-9.
- Mendikoetxea, Amaya (1999). Construcciones inacusativas y pasivas. In I. Bosque & V. Demonte (eds.), *Gramática descriptiva de la lengua española*, pp. 1575-1629. Madrid: Espasa Calpe.
- Meyer-Hermann, Reinhard (1990). Sobre algunas condiciones pragmáticas de la posición del sujeto en español. *Estudios de lingüística Universidad de Alicante*, 6, 73-88.
- Mithun, Marianne (1991). Active/agentive Case Marking and Its Motivations. *Language*, 67 (3), 510-546.
- Miyagawa, Shigeru (1987). Unaccusative Verbs in Japanese. In A. Miller & J. Powers (eds.), *Proceedings of the Eastern States Conference on Linguistics (ESCOL)*, pp. 199-210. Columbus, OH: Ohio State University.

- Montrul, Silvina (2003). Bilingual Unaccusativity. In B. Beachley, A. Brown & F. Conlin (eds.), *BUCLD 27 Proceedings*, pp. 556-567. Somerville, MA: Cascadilla Press.
- Montrul, Silvina (2004a). Psycholinguistic evidence for split intransitivity in Spanish Second language acquisition. *Applied Psycholinguistics*, 25, 239-267.
- Montrul, Silvina (2004b). Subject and object expression in Spanish heritage speakers: A case of morphosyntactic convergence. *Bilingualism: Language and Cognition*, 7 (2), 125-142.
- Montrul, Silvina (2004c). *The acquisition of Spanish: Morphosyntactic development in monolingual and bilingual L1 acquisition and adult L2 acquisition*. Amsterdam: John Benjamins.
- Montrul, Silvina (2005a). On knowledge and development of unaccusativity in Spanish L2 acquisition. *Linguistics*, 43 (6), 1153-1190.
- Montrul, Silvina (2005b). Second language acquisition and first language loss in adult early bilinguals: Exploring some differences and similarities. *Second Language Research*, 21 (3), 199-249.
- Montrul, Silvina (2006). On the bilingual competence of Spanish heritage speakers: Syntax, lexical-semantics and processing. *International Journal of Bilingualism*, 10 (1), 37-69.
- Montrul, Silvina (2008). Incomplete Acquisition in Spanish Heritage Speakers: Chronological Age or Interfaces Vulnerability? In H. Chan, H. Jacob & E. Kiparsky (eds.), *BUCLD 32: Proceedings of the 32nd annual Boston University Conference on Language Development*, pp. 299-310. Somerville, MA: Cascadilla Press Proceedings.
- Montrul, Silvina (2009). Knowledge of tense-aspect and mood in Spanish heritage speakers. *International Journal of Bilingualism*, 13 (2), 239-269.

- Montrul, Silvina (2011). Multiple interfaces and incomplete acquisition. *Lingua*, 121 (4), 591-604.
- Montrul, Silvina & Rodríguez Louro, Celeste (2006). Beyond the syntax of the Null Subject Parameter: A look at the discourse-pragmatic distribution of null and overt subjects by L2 learners of Spanish. In V. Torrens & L. Escobar (eds.), *The acquisition of syntax in Romance Languages*, pp. 401-418. Amsterdam: John Benjamins.
- Montrul, Silvina & Slabakova, Roumyana (2003). Competence similarities between native and near-native speakers: An investigation of the preterite-imperfect contrast in Spanish. *Studies in Second Language Acquisition*, 25 (3), 351-398.
- Morales, Amparo (2003). Patrones sintácticos y pragmáticos en el orden de las unidades de la oración. *Español actual*, 80, 15-25.
- Morales de Walters, Amparo (1982). La posición de sujeto en el español de Puerto Rico a la luz de la clase semántica verbal, la oposición tema-remata y el tópico oracional. *Lingüística española actual*, 4 (1), 23-38.
- Müller, Natascha & Hulk, Aafke (2001). Crosslinguistic Influence in Bilingual Language Acquisition: Italian and French as Recipient Languages. *Bilingualism: Language and Cognition*, 4 (1), 1-53.
- Muntendam, Antje (2008a). Transfer in the C-Domain: Word Order and Focus in Andean Spanish. In H. Chan, H. Jacob & E. Kiparsky (eds.), *BUCLD 32: Proceedings of the 32nd annual Boston University Conference on Language Development*, pp. 311-322. Somerville, MA: Cascadia Press.

- Muntendam, Antje (2008b). Crosslinguistic Influence in Andean Spanish: Word Order and Focus. In M. B. e. al. (ed.), *Selected Proceedings of the 2007 Second Language Research Forum*, pp. 44-57. Somerville, MA: Cascadilla Proceedings Project.
- Muysken, Pieter (1995). Focus in Quechua. In K. É. Kiss (ed.), *Discourse Configurational Languages*, pp. 375-393. New York: Oxford.
- O'Rourke, Erin (2005). *Intonation and Language Contact: A Case Study of Two Varieties of Peruvian Spanish*. Unpublished doctoral dissertation, University of Illinois at Urbana-Champaign, Urbana, IL.
- Ocampo, Francisco (1990). The Pragmatics of Word Order in Constructions with a Verb and a Subject. *Hispanic Linguistics*, 4 (1), 87-128.
- Ocampo, Francisco (1991). Word Order in Constructions with a One-Valency Verb, a subject NP and a PP in Spoken Rioplatense Spanish. *Hispania*, 74 (2), 409-416.
- Ocampo, Francisco (1995). The Word Order of Two-Constituent Constructions in Spoken Spanish. In P. Downing & M. Noonan (eds.), *Word Order in Discourse*, pp. 425-447. Amsterdam: John Benjamins.
- Ocampo, Francisco (2003a). On the notion of focus in spoken Spanish: An empirical approach. In P. Kempchinsky & C.-E. Piñeros (eds.), *Theory, practice, and acquisition: Papers from the 6th Hispanic Linguistics Symposium and the 5th Conference on the Acquisition of Spanish and Portuguese*, pp. 207-266. Somerville, MA: Cascadilla Press.
- Ocampo, Francisco (2003b). The expression of topic in spoken Spanish: An empirical study. In R. Núñez-Cedeño, L. López & R. Cameron (eds.), *A Romance perspective on language knowledge and use: Selected papers from the 31st Linguistic Symposium on Romance Languages, Chicago, 19-22, April 2001*, pp. 195-209. Amsterdam: John Benjamins.

- Ocampo, Francisco (2005). The Word Order of Constructions with an Intransitive Verb, a Subject, and an Adverb in Spoken Spanish. In D. Eddington (ed.), *Selected Proceedings of the 7th Hispanic Linguistics Symposium*, pp. 142-157. Somerville, MA: Cascadilla Proceedings Project.
- Ordóñez, Francisco & Olarrea, Antxon (2006). Microvariation in Caribbean/non Caribbean Spanish interrogatives. *Probus*, 18, 59-96.
- Ortiz López, Luis A. (2009). El español del Caribe: Orden de palabras a la luz de la interfaz léxico-sintáctica y sintáctico-pragmática. *Revista internacional de lingüística iberoamericana*, 7 (2), 75-93.
- Otheguy, Ricardo & Zentella, Ana Celia (2007). Apuntes preliminares sobre el contacto lingüístico y dialectal en el uso pronominal del español en Nueva York. In K. Potowski & R. Cameron (eds.), *Spanish in Contact: Policy, social and linguistic inquiries*, pp. 275-295. Amsterdam / Philadelphia: John Benjamins.
- Otheguy, Ricardo; Zentella, Ana Celia & Livert, David (2007). Language and dialect contact in Spanish in New York: Toward the formation of a speech community. *Language*, 83 (4), 770-802.
- Padilla García, Xose A. (2001). *El orden de palabras en el español coloquial*. Unpublished doctoral dissertation, Universitat de Valencia,
- Paradis, Johanne & Navarro, Samuel (2003). Subject realization and crosslinguistic interference in the bilingual acquisition of Spanish and English: What is the role of input? *Journal of Child Language*, 30, 371-393.

- Perez-Leroux, Ana T. & Glass, William R. (1999). Null anaphora in Spanish second language acquisition: Probabilistic versus generative approaches. *Second Language Research*, 15 (2), 220-249.
- Perlmutter, David M. (1978). Impersonal Passives and the Unaccusative Hypothesis. In J. J. Jaeger, A. C. Woodbury, F. Ackerman, C. Chiarello, O. D. Gensler, J. Kingston, E. E. Sweetser, H. Thompson & K. W. Whistler (eds.), *Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society February 18-20, 1978*, pp. 157-189. Berkeley: Berkeley Linguistics Society.
- Perlmutter, David M. (1989). Multiattachment and the unaccusative hypothesis: The perfect auxiliary in Italian. *Probus*, 1, 63-119.
- Pinedo, Alicia (2000). English clefts as discourse-pragmatic equivalents of Spanish postverbal subjects. *Estudios Ingleses de la Universidad Complutense*, 8, 127-151.
- Prince, Ellen F. (1978). A Comparison of Wh-Clefts and it-Clefts in Discourse. *Language*, 54 (4), 883-906.
- Prince, Ellen F. (1981). Toward a Taxonomy of Given-New Information. In P. Cole (ed.), *Radical Pragmatics*, pp. 223-255. New York: Academic Press.
- Randall, Janet H. (2007). Parameterized auxiliary selection: A fine-grained interaction of features and linking rules. In R. Aranovich (ed.), *Split Auxiliary Systems: A Cross-linguistic perspective*, pp. 207-236. Amsterdam/Philadelphia: John Benjamins.
- Randall, Janet; van Hout, Angeliek; Weissenborn, Jürgen & Baayen, Harald (2004). Acquiring Unaccusativity: A Cross-Linguistic Look. In A. Alexiadou, E. Anagnostopoulou & M. Everaert (eds.), *The Unaccusativity Puzzle: Explorations of the Syntax-Lexicon Interface*, pp. 332-353. Oxford: Oxford University Press.

- Rex, Scott M. (2001). *Unaccusativity in Spanish*. Unpublished doctoral dissertation, University of California-Davis, Davis, CA.
- Rivas, Javier (2008). La posición del sujeto en las construcciones monoactanciales del español: Una aproximación funcional. *Hispania*, 91 (4), 897-912.
- Roggia, Aaron B. (2005). *The Discourse Marker Eh in 18 Monologues from Santiago de los Caballeros, Dominican Republic*. Unpublished master's thesis, Brigham Young University, Provo, UT.
- Rosen, Carol G. (1984). The interface between semantic roles and initial grammatical relations. In D. M. Perlmutter & C. G. Rosen (eds.), *Studies in Relational Grammar 2*, pp. 38-77. Chicago: University of Chicago.
- Rothman, Jason (2008). How Pragmatically Odd! Interface Delays and Pronominal Subject Distribution in L2 Spanish. *Studies in Hispanic and Lusophone Linguistics*, 1 (2), 317-339.
- Saldaña, J. Miguel & Muñoz Sánchez, Alicia (2005). Unaccusatives with SV order in Spanish: A corpus based syntactic-semantic analysis. *the Joint meeting of The Hispanic Linguistics Symposium & The Conference on the Acquisition of Spanish and Portuguese as First and Second Languages, November 10-13, 2005*, The Pennsylvania State University.
- Sankoff, David ; Tagliamonte, Sali & Smith, Eric (2005). Goldvarb X: A variable rule application for Macintosh and Windows Department of Linguistics, University of Toronto. [http://individual.utoronto.ca/tagliamonte/Goldvarb/GV\\_index.htm](http://individual.utoronto.ca/tagliamonte/Goldvarb/GV_index.htm).
- Sanz, Montserrat (1996). *Telicity, objects and the mapping onto Predicate types: A cross-linguistic study of the role of syntax in processing*. Unpublished doctoral dissertation, University of Rochester, Rochester, NY.

- Sanz, Montserrat (2000). *Events and Predication: a new approach to syntactic processing in English and Spanish*. Amsterdam/Philadelphia: John Benjamins.
- Sanz, Montserrat & Bever, Thomas G. (2001). A Theory of Syntactic Interference in the Bilingual. In J. Nicol (ed.), *One Mind, Two languages: Bilingual Language Processing*, pp. 134-157. Malden, MA: Blackwell.
- Sanz, Montserrat; Bever, Thomas G. & Laka, Itziar (1992). Linguistics and Psycholinguistics of Unaccusativity in Spanish. In K. Broderick (ed.), *Proceedings of North Eastern Linguistics Society 22*, pp. 399-409. Amherst, MA: GLSA, UMass/Amherst.
- Schütze, Carson T. (1996). *The Empirical Base of Linguistics: Grammaticality Judgments and Linguistic Methodology*. Chicago: Chicago University Press.
- Serrano Carreto, Enrique (2006). *Regiones indígenas de México*. Retrieved from [http://www.cdi.gob.mx/regiones/regiones\\_indigenas\\_cdi.pdf](http://www.cdi.gob.mx/regiones/regiones_indigenas_cdi.pdf). Mexico City: Comisión Nacional para el Desarrollo de los Pueblos Indígenas Regiones indígenas de México.
- Serratrice, Ludovica; Sorace, Antonella & Paoli, Sandra (2004). Crosslinguistic influence at the syntax–pragmatics interface: Subjects and objects in English–Italian bilingual and monolingual acquisition. *Bilingualism: Language and Cognition*, 7 (3), 183–205.
- Shan, Chuan-Kuo & Yuan, Boping (2007). Is Gradience of Mapping between Semantics and Syntax Possible in L2 Acquisition? In H. Caunt-Nulton, S. Kulatilake & I.-h. Woo (eds.), *BUCLD 31: Proceedings of the 31st annual Boston University Conference on Language Development*, pp. 567-575. Somerville, MA: Cascadilla Press.
- Shannon, Thomas F. (1990). The unaccusative hypothesis and the history of the perfect auxiliary in Germanic and Romance. In H. Andersen & E. F. K. Koerner (eds.), *Historical Linguistics, 1987: Papers from the 8th International Conference on Historical*



- Linguistics* (8. Ichl): Lille, 31 August-4 September 1987, pp. 461-488. Amsterdam: John Benjamins.
- Silva-Corvalán, Carmen (1982). Subject expression and placement in Mexican-American Spanish. In J. Amastae & L. Elías-Olivares (eds.), *Spanish in the United States: Sociolinguistic aspects*, pp. 93-120. Cambridge: Cambridge University Press.
- Silva-Corvalán, Carmen (1983). On the Interaction of Word Order and Intonation: Some OV Constructions in Spanish. In F. Klein-Andreu (ed.), *Discourse Perspectives on Syntax*, pp. 117-140. New York: Academic Press.
- Silva-Corvalán, Carmen (1986). Bilingualism and Language Change: The Extension of Estar in Los Angeles Spanish. *Language*, 62 (3), 587-608.
- Silva-Corvalán, Carmen (2001). *Sociolingüística y pragmática del español*. Washington, DC: Georgetown University Press.
- Sorace, Antonella (1993a). Incomplete vs. Divergent Representations of Unaccusativity in Non-Native Grammars of Italian. *Second Language Research*, 9 (1), 22-47.
- Sorace, Antonella (1993b). Unaccusativity and Auxiliary Choice in Non-Native Grammars of Italian and French: Asymmetries and Predictable Indeterminacy. *Journal of French language studies*, 3 (1), 71-93.
- Sorace, Antonella (1995). Acquiring linking rules and argument structures in a second language: The unaccusative/unergative distinction. In L. Eubank, L. Selinker & M. Sharwood Smith (eds.), *The Current State of Interlanguage: Studies in Honor of William E. Rutherford*, pp. 153-175. Amsterdam: John Benjamins.
- Sorace, Antonella (2000a). Differential Effects of Attrition in the L1 Syntax of Near-native L2 Speakers. In S. C. Howell, S. H. Fish & T. Keith-Lucas (eds.), *Proceedings of the 24th*

- Annual Boston University Conference on Language Development, Vol. 2*, pp. 719-725.  
Somerville, MA: Cascadilla Press.
- Sorace, Antonella (2000b). Gradients in Auxiliary Selection with Intransitive Verbs. *Language*, 76 (4), 859-890.
- Sorace, Antonella (2003). Near-Nativeness. In M. Long & C. Doughty (eds.), *Handbook of Second Language Acquisition*, pp. 130-152. Oxford: Blackwell.
- Sorace, Antonella (2004). Gradience at the lexicon-syntax interface: Evidence from auxiliary selection and Implications for Unaccusativity. In A. Alexiadou, E. Anagnostopoulou & M. Everaert (eds.), *The Unaccusativity Puzzle*, pp. 243-268. Oxford: Oxford University Press.
- Sorace, Antonella (2005). Selective optionality in language development. In L. Cornips & K. P. Corrigan (eds.), *Syntax and Variation: Reconciling the Biological and the Social*, pp. 55-80. Amsterdam: John Benjamins.
- Sorace, Antonella & Filiaci, Francesca (2006). Anaphora resolution in near-native speakers of Italian. *Second Language Research*, 22 (3), 339-368.
- Sorace, Antonella & Keller, Frank (2005). Gradience in linguistic data. *Lingua*, 115, 1497-1524.
- Sorace, Antonella & Serratrice, Ludovica (2009). Internal and external interfaces in bilingual language development: Beyond structural overlap. *International Journal of Bilingualism*, 13 (2), 195-210.
- Sorace, Antonella; Serratrice, Ludovica; Filiaci, Francesca & Baldo, Michela (2009). Discourse conditions on subject pronoun realization: Testing the linguistic intuitions of older bilingual children. *Lingua*, 119 (3), 460-477.

- Sorace, Antonella & Shomura, Yoko (2001). Lexical Constraints on the Acquisition of Split Intransitivity. *Studies in Second Language Acquisition*, 23, 247-278.
- Staub, Adrian; Clifton Jr., Charles & Frazier, Lyn (2006). Heavy NP shift is the parser's last resort: Evidence from eye movements. *Journal of Memory and Language*, 54, 389-406.
- Suárez, Jorge A. (1983). *The Mesoamerican Indian Languages*. Cambridge: Cambridge University Press.
- Suñer, Margarita (1982). *Syntax and Semantics of Spanish Presentational Sentence-Types*. Washington D.C.: Georgetown University Press.
- Suñer, Margarita (1994). V-Movement and the Licensing of Argumental Wh-Phrases in Spanish. *Natural language & linguistic theory*, 12 (2), 335-372.
- Tagliamonte, Sali A. (2006). *Analysing Sociolinguistic Variation*. Cambridge: Cambridge University Press.
- Toribio, Almeida Jacqueline (2002). Focus on Clefts in Dominican Spanish. In J. F. Lee, K. L. Geeslin & J. C. Clements (eds.), *Structure, Meaning, and Acquisition in Spanish: Papers from the 4th Hispanic Linguistics Symposium*, pp. 130-146. Somerville, MA: Cascadilla Press.
- Torrego, Esther (1989). Unergative-Unaccusative Alternations in Spanish. *MIT Working Papers in Linguistics*, 10, 253-272.
- Tsimpili, Ianthi & Sorace, Antonella (2006). Differentiating Interfaces: L2 Performance in Syntax-Semantics and Syntax-Discourse Phenomena. *Proceedings of the Annual Boston University Conference on Language Development*, 30 (2), 653-664.

- Tsimpli, Ianthi; Sorace, Antonella; Heycock, Caroline & Filiaci, Francesca (2004). First language attrition and syntactic subjects: A study of Greek and Italian near-native speakers of English. *International Journal of Bilingualism*, 8 (3), 257-277.
- Tuttle, Edward F. (1986). The Spread of ESSE as Universal Auxiliary in Central Italo-Romance. *Medioevo Romano*, 11 (2), 229-287.
- Underhill, Robert (1988). Like Is, Like, Focus. *American Speech*, 63 (3), 234-246.
- Valenzuela, Elena (2006). L2 End State Grammars and Incomplete Acquisition of Spanish CLLD Constructions. In R. Slabakova, S. A. Montrul & P. Prevost (eds.), *Inquiries in linguistic development: In honor of Lydia White*, pp. 283-304. Amsterdam: John Benjamins.
- van Valin, Robert D. Jr. (1990). Semantic Parameters of Split Intransitivity. *Language*, 66 (2), 221-260.
- Warner, Anthony (2007). Parameters of variation between verb-subject and subject-verb order in late Middle English. *English Language and Linguistics*, 11 (1), 81-111.
- White, Lydia (2009). Grammatical Theory: Interfaces and L2 knowledge. In W. C. Ritchie & T. K. Bhatia (eds.), *The New Handbook of Second Language Acquisition*, pp. 49-68. Bingley, UK: Emerald.
- White, Lydia (2011). Second language acquisition at the interfaces. *Lingua*, 121 (4), 577-590.
- Woodard, Roger D. (2008). *The ancient languages of Asia and the Americas*. Cambridge: Cambridge University Press.
- Yasugi, Yoshiho (1995). *Native Middle American languages: An areal-typological perspective*. Osaka: National Museum of Ethnology.

- Yuan, Boping (1996). How are lexical-semantic differences represented in L2 syntax? A study of the unaccusative/unergative distinction in L2 Chinese. In E. Kellerman, B. Weltens & T. Bongaerts (eds.), *EUROSLA 6: A selection of papers*, pp. 201–215. Amsterdam: VU Uitgeverij.
- Yuan, Boping (1999). Acquiring the unaccusative/unergative distinction in a second language: evidence from English-speaking learners of L2 Chinese. *Linguistics*, 37 (2), 275.
- Zagona, Karen (2002). *The Syntax of Spanish*. Cambridge: Cambridge University Press.
- Zapata, Gabriela C.; Sánchez, Liliana & Toribio, Almeida Jacqueline (2005). Contact and Contracting Spanish. *International Journal of Bilingualism*, 9 (3-4), 377-395.
- Zubizarreta, María Luisa (1998). *Prosody, focus and word order*. Cambridge, MA: MIT Press.
- Zubizarreta, María Luisa (1999). Las funciones informativas: tema y foco. In I. Bosque & V. Demonte (eds.), *Gramática descriptiva de la lengua española*, pp. 4215-4243. Madrid: Espasa Calpe.
- Zubizarreta, María Luisa & Vergnaud, Jean-Roger (2006). Phrasal Stress and Syntax. In M. Everaert & H. van Riemsdijk (eds.), *The Blackwell Companion to Syntax, Vol. 3*, pp. 522-568. Malden, MA: Blackwell.

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**EDUCATION**

- 2011 Ph.D., Spanish Linguistics**, The Pennsylvania State University, 2011  
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**Dissertation Committee:** John M. Lipski (Co-Director), Almeida Jacqueline Toribio (Co-Director, UT-Austin), Rena Torres Cacoullous, Carrie Jackson, Marie Speicher, Barbara E. Bullock (UT-Austin).  
**Dissertation:** “Unaccusativity and Word Order in Mexican Spanish: An Examination of Syntactic Interfaces and the Split Intransitivity Hierarchy.”
- 2005 M.A., Spanish Linguistics**, Brigham Young University, 2005  
**Thesis Committee:** Jeffrey S. Turley (Director), Robert N. Smead, J. Halvor Clegg, Willis C. Fails.  
**Thesis:** “The Discourse Marker *Eh* in 18 Monologues from Santiago de los Caballeros, Dominican Republic.”
- 2002 B.A., Cum Laude, Spanish Teaching**, Brigham Young University, 2002  
**Minors:** Geography Teaching, International Studies

**CONFERENCE PAPERS**

- 2010 Word Order Variation in Irapuato, Mexico: Unaccusativity and the Influence of Cyclical Migrant Spanish.** Paper presented at New Ways of Analyzing Variation (NWAV 39), November 4-6, 2010, University of Texas at San Antonio.
- 2009 Split-Intransitivity and Word Order in Mexican Spanish: Evidence of Indirect Language Contact.** Paper presented at the Hispanic Linguistics Symposium 2009, October 21-24, 2009, Universidad de Puerto Rico.
- 2009 Indirect Language Contact in Mexican Spanish: Evidence from Split-Intransitivity.** Paper presented at the 38<sup>th</sup> Linguistic Association of the Southwest (LASSO 2009), Sept. 25-26, 2009, Brigham Young University.
- 2008 Preposed or stressed? Word order and intonation in Clitic Left Dislocation, Topicalization, and Focus constructions in contact Spanish.** Paper presented at the 38<sup>th</sup> Linguistic Symposium on Romance Languages (LSRL 38), April 4-6, 2008, University of Illinois at Urbana-Champaign. (with Liliana Sánchez and Almeida Jacqueline Toribio)
- 2008 Cross-language structural priming and convergence: Evidence from bilingual U.S. Spanish.** Paper presented at the 38<sup>th</sup> Linguistic Symposium on Romance Languages (LSRL 38), April 4-6, 2008, University of Illinois at Urbana-Champaign (with Verónica González López and Almeida Jacqueline Toribio).
- 2007 Split intransitivity, word order, and intonation in contact Spanish.** Paper presented at the 6<sup>th</sup> International Symposium on Bilingualism (ISB6), May 30-June 2, 2007, University of Hamburg, Germany, (with Almeida Jacqueline Toribio).
- 2007 Focus strategies in Spanish-English bilinguals.** Paper presented at the 6<sup>th</sup> International Symposium on Bilingualism (ISB6), May 30-June 2, 2007, University of Hamburg, Germany (with Barbara E. Bullock).
- 2007 Intonation patterns in Spanish-English code-switching.** Paper presented at the 6<sup>th</sup> International Symposium on Bilingualism (ISB6), May 30-June 2, 2007, University of Hamburg, Germany (with Barbara E. Bullock, Ana de Prada Pérez, and Almeida Jacqueline Toribio).