Pronoun Categorization:

Evidence from Spanish/English Code-Switching

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THESIS

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LIST OF ABBREVIATIONS

1	1st person
2	2nd person
3	3rd person
COMP	Complementizer
CONJ	Conjunction
CP	Complementizer Phrase
DAT	Dative
DEIC	Deictic
DET	Determiner
DOM	Differential Object Marking
DP	Determiner Phrase
EMPH	Emphatic
FEM	Feminine
FUT	Future
IP	Inflectional Phrase
L2	Second Language
MASC	Masculine
MLF	Matrix Language Frame
NEG	Negation
NP	Noun Phrase
OBJ	Object
OBL	Oblique
PAST	Past Tense
ϕP	Phi Phrase
PL	Plural
POSS	Possessor
REDUP	Reduplicative
ΣP	Sigma Phrase
SG	Singular
SUBJ	Subject
TRANS	Transitivizer
VP	Verb Phrase
vP	Little v Phrase

SUMMARY

The current study investigates the categorization of pronouns. The two prominent pronoun theories, Cardinaletti and Starke (1999) and Déchaine and Wiltschko (2002), directly conflict one other when categorizing pronouns in different languages, including Spanish and English. To investigate in more detail, the current study uses data from intra-sentential code-switching. Two experiments were conducted where Spanish/English bilinguals completed acceptability judgment tasks for code-switched sentences. There is no correlation between the results and the proposal by Déchaine and Wiltschko (2002). The results do, however, provide experimental evidence in support of the typology of pronouns proposed by Cardinaletti and Starke (1999). Their distinction of strong, weak and clitic pronouns correlates directly with the behavior of pronouns in Spanish/English code-switching. Strong pronouns, such as those that are coordinated, modified, prosodically stressed or in a peripheral position, are able to be switched. This is because the structure of strong pronouns, as proposed by the authors, includes a full Determiner Phrase (DP) projection. Weak and clitic pronouns, lacking a full DP, are unacceptable when code-switched with a finite verb. This difference in pronoun type is able to descriptively account for their acceptability in code-switching, a distinction that had not previously been fully accounted for in the code-switching literature. This study also suggests that this distinction between strong pronouns and weak or clitic pronouns might be further explored with a Phase Theory approach to code-switching.

1 INTRODUCTION

It is commonly understood that pronouns are a related class, united by their ability to substitute a noun. Despite being part of an interrelated group, different pronouns have been found to behave in distinctive manners. Take French for example, where there is a clear syntactic difference between two types of personal pronouns, as shown in (1-2).

(1) a. **Lui** est beau.
3SG.MASC is pretty
'He is pretty.'

b. **Lui** et Jean sont beaux.
3SG.MASC and are pretty
'He and Jean are pretty.'

(2) a. **Il** est beau.
3SG.MASC is pretty
'He/It is pretty.'

b. * **Il** et Jean sont beaux.
3SG.MASC and are pretty
'He/It and Jean are pretty.'

(modified from ex. 10, Cardinaletti and Starke, 1999)

These sentences contain two similar pronouns in that they are both third-person, masculine singular. However, interestingly *lui* 'he' can be coordinated (1b), whereas *il* 'he/it' cannot (2b). This varying behavior of pronouns occurs across languages. Consider the availability of prosodic stress in the US Spanish[1] sentences in (3).

(3) a. **Él/ÉL** habla español.
3SG.MASC speaks Spanish
'He/HE speaks Spanish.'

b. Guillermo **lo/*LO** saluda en español.
3SG.MASC greets in Spanish
'Guillermo greets him/HIM in Spanish.'

[1] Here US Spanish is use an umbrella term referring to the dialect of Spanish spoken by the participants and my consultants. In most cases it is a Mexican-Spanish influenced variety. Some participants speak a dialect of US Spanish influenced by other regions of Latin America due to family descent; however, these differences were not found to have an effect on any aspect within the scope of the current investigation. For the rest of the paper, the term US Spanish will be used interchangeably with simply Spanish as a general term meant to encompass the primary generalizations that hold for the majority of dialects, including the ones spoken by my participants.

When presented in an appropriate context (e.g., contrastive focus), the pronoun *él* 'he' in (3a) can be prosodically stressed. The same does not hold for *lo* 'him' in (3b), which is unable to be stressed. Coordination and prosodic stress are just two contexts in which it can be shown that not all pronouns are created equal. These differences are the tip of the iceberg as a smorgasbord of syntactic, prosodic and phonological distinctions has been found across languages when it comes to pronouns.

Using such differences to properly categorize different types of pronouns has been the subject of much research in the field of theoretical linguistics. Quite a bit of work has been done concerning specific subsets of pronoun behavior, but all-encompassing proposals are limited. Two pronominal typologies in particular have grown prominent. In a seminal work on the topic, Cardinaletti and Starke (1999) hierarchically divide pronouns into three types: strong, weak and clitic. More recently, Déchaine and Wiltschko (2002) have proposed that such a typology is based upon too narrow a dataset, focusing heavily on Romance languages and English. They outline a distinct system that includes more diverse languages and labels pronouns as pro-DP, pro-ϕP or pro-NP. Both of these proposals are still actively cited in the field (e.g., Baltin, 2012; Camacho, 2013; Harley and Trueman, 2010; Macdonald, 2006; Nevins, 2011; among others). The two theories have various components in common, but they also diverge significantly on certain categorizations. For instance, in the examples provided above in (1-3), Cardinaletti and Starke (1999) make distinctions between the pronouns: *lui* 'he' and stressed *él* 'he' are strong pronouns; *il* 'he/it' and unstressed *él* 'he' are weak pronouns; and *lo* 'him' is a clitic pronoun. Under Déchaine and Wiltschko's (2002) classification, however, the pronouns are all of the same type—pro-ϕP. This divergence found between the two theories sets the current scene of pronouns in theoretical linguistics: It is known that pronouns behave differently, but how to account for these dissimilarities is not commonly understood.

What may be helpful to better understand the pronominal system is a new set of data. A yet-to-be explored set comes from bilingualism, an area of research that has grown in recent years. One common phenomenon of bilingualism is intra-sentential code-switching, or the use of more than one language within the same sentence. Research has shown that code-switching is not random, but rule-governed. The same way that a native speaker of Spanish intuitively knows in (3) that *lo* 'him' cannot be stressed but *él* 'he' can, bilingual Spanish/English speakers have similar intuitions when using both languages at the same time. Consider the sentences in (4) that come from US Spanish/English code-switching.

(4) a. * **Yo** *fight all the time.*[2]
1SG
'I fight all the time.'

b. Mis amigos y **yo** *fight all the time.*
my friends and 1SG
'My friends and I fight all the time.'

(modified from ex. 25a and 27a, van Gelderen and MacSwan, 2008)

The two sentences include similar elements from both languages; however, the sentence in (4b) is acceptable, whereas the sentence in (4a) is unacceptable. Although the Spanish personal pronoun *yo* 'I' in preverbal subject position cannot be code-switched with a finite English verb (4a), it can be switched when coordinated with a lexical Determiner Phrase (DP) like *mis amigos* 'my friends' (4b). The ungrammaticality of a pronoun switched with a finite verb is actually a long-standing distinction understood in the literature. Since the work of Timm (1975), it has been noted that within Spanish/English code-switching "one of the strongest restrictions against switching applies to pronominal subjects or objects (direct or indirect) and the finite verbs to which they belong" (p. 477). Since that time,

[2] As is convention in code-switching research, data involving two languages are differentiated using italics for one language and standard typeface for the other. Throughout all examples of code-switching in this paper, English elements are italicized whereas Spanish elements are presented in standard typeface. Other language pairs are noted accordingly as they appear.

though, work on code-switching has reiterated this same idea (Gumperz, 1975; Lipski, 1978; among others), but has not tested it systematically.

The difference in acceptability between the sentences in (4) raises some interesting questions. What is it about the pronoun in (4a) that results in it not being able to be switched? What is it about coordination that makes switching pronouns a possibility? What are the other contexts that either limit or permit a switch involving a pronoun? An all-encompassing theory on pronouns should be able to help answer such questions. Although both Cardinaletti and Starke's (1999) and Déchaine and Wiltschko's (2002) proposals are based entirely on monolingual data, their analyses can be extended to code-switching data. By tapping into a new set of pronoun data that is unavailable in monolingual speech, experimental evidence can be provided that supports one proposal over the other. Depending on which proposal correlates more accurately with the behavior of pronouns in code-switching, syntactic theory on pronouns can be strengthened.

So far both an intriguing issue as well as the potential tool to investigate it have been presented: the behavior of pronouns and intra-sentential code-switching, respectively. Later it will be come clear that the acceptability of pronouns in code-switching can be accounted for by an analysis along the lines of Cardinaletti and Starke (1999). This investigation will show that their proposal correlates directly with the code-switching data, categorically accounting for the acceptability of pronouns in Spanish/English code-switching. Strong pronouns can be switched, whereas weak and clitic pronouns cannot. The proposal by Déchaine and Wiltschko (2002) and its categorization of pro-DPs, pro-ϕPs and pro-NPs shows no compatible relationship with the code-switching data. Overall, this study combines unique evidence from code-switching to contribute to the understanding of pronouns, which is still a fundamental problem in the field of theoretical linguistics.

This study is organized in the following manner. First in Chapter 2, the literature review is laid out. In the first half of the chapter, the two prominent pronoun theories are addressed, starting with Cardinaletti and Starke (1999). The major claims of the analysis are fleshed out first; then the empirical evidence provided by the authors to substantiate their claims is provided; and finally, I explicitly lay out the pronoun inventory for both Spanish and English according to their typology. Next I do the same for the second theory, Déchaine and Wiltschko (2002). The second half of Chapter 2 is dedicated specifically to code-switching. I first introduce intra-sentential code-switching and its ability to function as a linguistic tool. I then establish the connection between code-switching and pronouns. First, I connect the relevant elements from pronoun theory as they relate to the code-switching literature. Then I review the primary approaches to code-switching and address whether they can account for the code-switching data involving pronouns. I conclude by discussing my theoretical framework and assumptions, followed by a summary of the main ideas developed in the literature review. This naturally leads into my research questions and hypotheses in Chapter 3. The following two chapters detail the experimental portions of the study. First, in Chapter 4, I describe the experiment that investigates the possible correlation between Déchaine and Wiltschko's (2002) theory and code-switching data. Within this chapter I outline the design and methodology, the results and how these results relate to my research questions and hypotheses. In Chapter 5, I do the same for the second experimental stage of the study, which investigates Cardinaletti and Starke's (1999) proposal. Finally in Chapter 6, I provide a general discussion and conclusion. First, I present a summary of the findings, followed by their significance. Afterwards, I further discuss pronoun theory by exploring how the conflicts between the two proposals might be resolved, taking into consideration the experimental results. I then discuss how it may be

possible to account for pronouns in code-switching by exploring a Phase Theory approach. Finally, I comment on the future directions and outlook.

2 LITERATURE REVIEW

In order to address the theoretical issue of pronoun categorization via the linguistic tool of code-switching, it is necessary to outline what previous research has said about both topics. I begin by detailing the two distinct analyses on pronouns proposed by Cardinaletti and Starke (1999) and Déchaine and Wiltschko (2002). Both of these theories provide motivation for pronoun behavior based on monolingual data. I then turn to the code-switching literature to establish the relationship between pronouns and code-switching. I first relate the syntactic structures proposed by the two theories to previous code-switching research as well as discuss what sentence types will need to be tested. Then I discuss the different prominent approaches to code-switching that have been proposed, relating each directly to pronouns. Finally, I provide my theoretical framework and assumptions as well as some general conclusions.

2.1 Pronoun Theories

There are two primary theories on how to categorize different types of pronouns: Cardinaletti and Starke (1999) and Déchaine and Wiltschko (2002). Both proposals are similar in a couple of ways. First, they both see the different pronoun types as being hierarchal in nature. Pronoun types are only different from one another in that they have either more or less syntactic structure. Second, both theories divide this hierarchical approach into three levels, with a DP-like pronoun as the type with the most structure. Aside from these commonalities, though, the two proposals are quite divergent, categorizing Spanish and English pronouns distinctly depending on each theory's specific criteria. Although both theories are rooted in differences that include syntax, semantics,

phonology and prosody, it will be shown that for the languages in question, pronouns can ultimately be categorized by either the construction they are in (Cardinaletti and Starke, 1999) or their person feature (Déchaine and Wiltschko, 2002).

2.1.1 Cardinaletti and Starke (1999)

Systematic differences between pronouns have been noted for quite some time, but one of the first prominent works to formalize them was Cardinaletti and Starke (1999). Using an onslaught of descriptive differences from syntax to prosody, the authors make a distinction between three types of pronouns: strong, weak and clitic. A detailed summary of both their proposal and the empirical evidence they provide to support it are outlined in the next two subsections. Afterward, I analyze the pronouns of Spanish and English with respect to the different types proposed by their account.

2.1.1.1 Proposal: Strong, Weak and Clitic Pronouns

The pronominal system proposed by Cardinaletti and Starke (1999) defines pronouns by what they call *deficiency*, a term that is used to refer to the amount of structure each type has. There are three levels of deficiency that are reflected in the different pronoun types. First, non-deficient pronouns are what they refer to as *strong pronouns*. Second, *weak pronouns* are mildly deficient. Finally, *clitic pronouns* are severely deficient. An example of each type of pronoun proposed by Cardinaletti and Starke (1999) is shown in (5) with French.

(5) a. **Lui** est beau. *Strong pronoun*
3SG.MASC is pretty
'He is pretty.'

b. **Il** est beau. *Weak pronoun*
3SG.MASC is pretty
'He/It is pretty.'

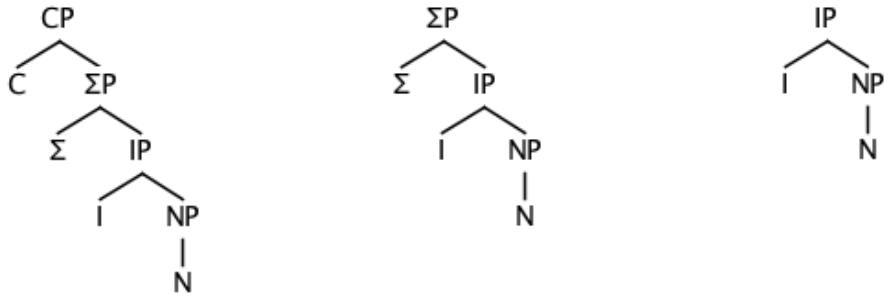
c. Bien sûr que **je** le voit. *Clitic pronoun*
well certain that 1SG 3SG.MASC see
'Of course I see it.'

(modified from ex. 10a-b and 24c, Cardinaletti and Starke, 1999)

The sentences here include three very similar pronouns in that they are all third-person, singular forms. However, each type has a different phonetic realization: *lui* 'he', *il* 'he/it' and *le* 'him/it'. The distinction between the three types of pronouns proposed by Cardinaletti and Starke (1999), though, is not based on phonetic form. It will be shown later that some languages (e.g., Spanish and English) can have different pronoun types with the same phonetic form.

The authors argue that the three pronoun types are differentiated by their unique syntactic structure. The structures for the three types of pronouns proposed by Cardinaletti and Starke (1999) are shown in (6).

(6) a. Strong pronouns b. Weak pronouns c. Clitic pronouns



(modified from ex. 111, Cardinaletti and Starke, 1999)

The structures show that the proposal argues for a hierarchy of pronoun types. The more deficient a pronoun is, the less structure it has and vice versa.

At the bottom of the hierarchy are clitic pronouns, as shown in (6c). These pronominal forms are the least structural. Like all pronoun types proposed, clitics begin as a Noun Phrase (NP), but additionally project an Inflectional Phrase (IP). The IP is, as

Cardinaletti and Starke (1999) state, "a cover term for a set of functional projections" (p. 104). For pronouns, this is the home of person, number, and gender features. Since clitics contain the least amount of structure, this severely limits their syntactic distribution, the details of which will be seen in the next subsection.

On the intermediary tier of the pronoun hierarchy are weak pronouns, as shown in (6b). In addition to an NP and an IP, this pronoun type projects a Sigma Phrase (ΣP). Extending the original analysis by Laka (1990), the authors argue that the ΣP is home to polarity and prosodic features. The next subsection will show how it is prosody that differentiates weak from clitic pronouns.

Finally, at the top of the hierarchy are strong pronouns that project a full Complementizer Phrase (CP) in addition to a ΣP, an IP and an NP, as shown in (6a). Although labeled a CP, the authors state that for all intents and purposes this projection is equivalent to a DP, as is found with other lexical NPs. They refer to it as CP instead of a DP simply because they wish to generalize some of their claims to other word categories, such as adverbs. Since this study maintains its focus on pronouns only, from now on I will refer to the uppermost projection of strong pronouns as the DP. The DP is home to referential, quantificational and case features. Having a full DP, it will be shown in the next subsection how the properties of strong pronouns mirror those of a true lexical DP, such as *the man*.

Now that the general outline of the three different types of pronouns proposed by Cardinaletti and Starke (1999) has been discussed, as well as a brief description of each type's structure, the empirical evidence the authors use to arrive at this three-tier pronominal system can be outlined.

2.1.1.2 Empirical Evidence

The structures proposed by Cardinaletti and Starke (1999) for the three pronoun types involve different hierarchical projections—the DP, ΣP and IP—each of which carries its own set of features and properties. The systematic differences between strong, weak and clitic pronouns is spelled out in the data provided by Cardinaletti and Starke (1999), focusing on syntactic and prosodic differences that result from each projection.

First, the authors differentiate strong pronouns from deficient pronouns (both weak and clitic), arguing that the syntactic distribution of the two groups is quite distinct. Strong pronouns are said to have the same distributional freedom as a lexical DP. To illustrate this with French, Cardinaletti and Starke (1999) argue that strong pronouns are able to be both coordinated (7) and modified (8).

(7) **Lui**/***Il** et Jean sont beaux.
3SG.MASC and are pretty
'He and Jean are pretty.'

(8) **Lui**/***Il** seul est beau.
3SG.MASC alone is pretty
'He alone is pretty.'

(modified from ex. 10, Cardinaletti and Starke, 1999).

To account for the difference in coordination, Cardinaletti and Starke (1999) adopt a theory along the lines of Wilder (1994). Such an analysis posits that both conjuncts of a coordination structure need to be extended projections. The DP is understood to be an extended projection of N, but the same is not true for either the ΣP or the IP. Therefore, only strong pronouns like *lui* 'he' are permitted in examples like (7), as they are the single pronoun type with a full DP shell. Similarly, Cardinaletti and Starke (1999) extend this analysis to modification constructions. Consequently, the restriction on coordinating and modifying deficient pronouns due to their reduced, non-DP structure.

Further mirroring the distribution of lexical DPs, Cardinaletti and Starke (1999) highlight a strict division that permits strong pronouns and prohibits deficient pronouns in peripheral positions. Using Italian examples, the authors include the following: clefting (9a); left dislocation, or hanging topic constructions (9b); and right dislocation (9c).

(9) a. È **lei**/***essa** che è bella.
is 3SG.FEM that is pretty
'It is her that is pretty.'

b. **Lei**/***Essa**, lei è bella.
3SG.FEM 3.SG.FEM is pretty
'Her, she is pretty.'

c. Arriverà presto, **lei**/***essa**.
will-arrive soon 3SG.FEM
'She will arrive soon.'

(modified from ex. 16, Cardinaletti and Starke, 1999).

These positions are syntactically alike in that the periphery lacks any functional heads. The lack of a functional head means that any element in such a construction is not licensed for case features in the peripheral position. Recall that strong pronouns like *lei* 'she/her' contain a DP, which is home to case features, so such pronouns are not required to be licensed for case independently. Consequently, they are able to occupy peripheral positions. Deficient pronouns like *essa* 'she/her' lack a DP, meaning they require being licensed for case, thus prohibiting them from such positions. It is for this same reason that strong pronouns like *lei* 'she/her' can remain in their base-theta positions, whereas deficient pronouns cannot (10).

(10) Forse l'ha fatto **lei**/***essa** da sola.
maybe it-has done 3SG.FEM DA alone
'Maybe she did it alone.'

(modified from ex. 16, Cardinaletti and Starke, 1999)

Again, the authors argue that deficient pronouns, not having a DP, must be licensed for case by a functional head. Therefore, deficient pronouns are forced to move out of such base-theta positions.

The issue of licensing case for pronouns also results in constructions that are exclusively available to weak pronouns. The authors include the following examples from French: expletive constructions (11a) and quasi-expletive constructions, such as impersonal sentences (11b).

(11) a. * **Lui/Il** pleut.
3SG.MASC rains
'It rains.'

b. * **Eux/Ils** m'ont vendu un livre pas cher.
3PL.MASC me-have sold a book not expensive
'They sold me an inexpensive book.'

(modified from ex. 26 and 28, Cardinaletti and Starke, 1999)

Cardinaletti and Starke (1999) posit that weak pronouns are "semantic dummies" whereas strong pronouns need to be referential (p. 52). The result is the opposite distribution that what was found in (9-10). Strong pronouns, containing a DP and thus case features, cannot occur in these referentially vacuous syntactic positions, whereas weak pronouns, lacking a DP with case features, can.

In addition to the syntactic differences seen so far, Cardinaletti and Starke (1999) also discuss prosodic and phonological restrictions that separate strong pronouns from deficient pronouns. The authors argue that the pronoun types contrast in two ways: first, strong pronouns can be prosodically stressed, whereas deficient pronouns (both weak and clitic) cannot (12); and second, deficient pronouns (both weak and clitic) can be phonologically reduced, whereas strong pronouns cannot (13).

(12) a. **Lui** mange beaucoup.
3SG.MASC eats a-lot
'He eats a lot.'

b. **Il** mange beaucoup.
3SG.MASC eats a-lot
'He/It eats a lot.'

c. **LUI** mange beaucoup.
3SG.MASC eats a-lot
'HE eats a lot.'

d. * IL mange beaucoup.
3SG.MASC eats a-lot
'HE/IT eats a lot.'

(13) a. I saw **you** in the garden.

b. I saw **ya** in the garden.

c. I saw **you** and John in the garden.

d. * I saw **ya** and John in the garden.

(modified from ex. 37-38, Cardinaletti and Starke, 1999)

The details why there are prosodic and phonological differences between strong and deficient pronouns are not clear from Cardinaletti and Starke's (1999) proposal. Although they include such examples as distinguishing characteristics, the reason why these differences follow from the structures the authors propose is not addressed.

Thus far, strong pronouns have only been differentiated from deficient pronouns (both weak and clitic). It still remains to be seen how weak pronouns and clitic pronouns differ. The key is found in prosody. Weak pronouns are able to receive word stress whereas clitics cannot. Again, this difference results from the lack of a projection, this time the ΣP. Cardinaletti and Starke (1999) argue that this is where word-level prosody is realized. Consider the French sentences in (14), where the underlining represents the relevant prosodic domains.

(14) a. Jean voit **Anna**.
sees
'Jean sees Anna.'

b. Jean voit **elle**.
sees 3SG.FEM
'Jean sees her.'

c. Jean **la** voit.
3SG.FEM sees
'Jean sees her.'

(modified from ex. 37, Cardinaletti and Starke, 1999)

Weak pronouns are not restricted prosodically as they receive word stress in the same way that a lexical DP does (14a, b). The authors argue that since both structures include a ΣP, they are permitted their own individual prosodic domain at the word level. Recall that the clitic pronoun structure lacks a ΣP. Therefore, they cannot receive word stress and must be in the same prosodic domain as the verb, which results in cliticization (14c).

Overall the differences between the three types of pronouns proposed by Cardinaletti and Starke (1999) are demonstrated by the distribution of various syntactic constructions and/or prosodic and phonological processes. First, strong pronouns are separated from both weak and clitic pronouns in that they behave syntactically like lexical DPs. They can be coordinated and modified because they have the necessary structure of a DP, and they can appear in peripheral positions because of the case features present in the DP. Second, clitic pronouns are differentiated from weak pronouns in that they are restricted prosodically and must adjoin to the verb. The specifics of the criteria Cardinaletti and Starke (1999) use to differentiate between the three types of pronouns are summarized in Table 1.

Table 1

Cardinaletti and Starke's (1999) pronoun-type characteristics

	Construction	Strong	Weak	Clitic
Syntax	Coordination	✓		
	Modification	✓		
	Peripheral positions	✓		
	Base-theta positions	✓		
	Expletive constructions		✓	
Prosody	Sentence-level prosodic stress	✓		
	Word-level prosodic stress	✓	✓	
Phonology	Phonological reduction		✓	✓

Now that the linguistic evidence provided by Cardinaletti and Starke (1999) has been detailed, the pronominal forms of the two languages that are of interest for the current study—Spanish and English—can be categorized. Aside from the empirical examples they provide (primarily from Italian, French and Croatian), the authors do not explicitly categorize the pronominal system for specific languages. However, it is rather straightforward to do so via the criteria just laid out.

2.1.1.3 Pronouns in Spanish: Strong, Weak or Clitic

Given the system Cardinaletti and Starke (1999) propose, Spanish has strong, weak and clitic pronouns. First, the categorization of clitic pronouns is clear-cut, including the Spanish object clitics, which are typically proclitic (17a, b), but can be enclitic in certain contexts (17c).

(17) a. Diego **lo** vio.
3SG.MASC saw
'Diego saw him/it.'

b. Diego **lo** quiere ver.
3SG.MASC wants to-see
'Diego wants to see him/it.'

c. Diego quiere ver**lo**.
wants to-see-3SG.MASC
'Diego wants to see him/it.'

These pronouns differentiate themselves from the others in that they must cliticize to a verb for prosodic reasons due to lacking a ΣP.

Second, certain strong pronouns in Spanish can be categorized according to Cardinaletti and Starke's (1999) definitions. All of the following personal pronouns can be labeled as strong: those in peripheral positions (18a, b), those that are coordinated (18c) and those that are modified (18d).

(18) a. Es **él** que es guapo.
is 3SG.MASC that is handsome
'It is him that is handsome.'

b. **Él**, él es guapo.
3SG.MASC 3SG.MASC is handsome
'Him, he is handsome.'

c. **Él** y Javier son guapos.
3SG.MASC and are handsome
'He and Javier are handsome.'

d. **Él** con la camisa roja es guapo.
3SG.MASC with the shirt red is handsome
'Him with the red shirt is handsome.'

Recall that these constructions all require a full DP, which is only projected for strong pronouns.

The last type of strong pronoun in Spanish is any that is prosodically stressed, for instance, when a standard subject-position pronoun is used in contrastive focus (19).

(19) Ella no vio a[3] nadie, pero **ÉL** vio a Javier.
3SG.FEM NEG saw DOM nobody but 3SG.MASC saw DOM
'Julia didn't see anybody, but HE saw Javier.'

Like the previous strong pronouns, the authors argue that this is something that is only available to a structure with a full DP.

The only remaining pronoun to be categorized in Spanish is unaltered pronouns that are not in focus, nor prosodically stressed (20).

(20) **Él** vio a Javier.
3SG.MASC saw DOM
'He saw Javier.'

Note that this position does not include any structure like coordination or modification that require the need of a DP. Furthermore, a functional head (finite Tense) licenses the pronoun, further demonstrating no need for a DP. Nonetheless, there is no criterion provided that rules out the pronoun in (20) as a strong pronoun. To resolve this, Cardinaletti and Starke (1999) include an *Economy of Representations* principle to their analysis in which "a smaller structure is obligatorily chosen, if possible" (p. 89). Therefore, pronouns in subject position that are not in focus, nor prosodically stressed can be categorized as weak pronouns. Henceforth, such pronouns will be referred to as *unaltered* pronouns.

The notion that these are the only weak pronouns in Spanish is further supported by additional data. Cardinaletti and Starke (1999) provide examples of structures with non-referential contexts in both French and Italian, stating that they exclusively allow weak pronouns. Consider these Spanish examples of such contexts, including expletives (21a) and impersonal constructions (21b).

(21) a. Llueve. / * **Él** llueve.

[3] Here *a* is the Spanish use of Differential Object Marking (DOM), also commonly referred to as the *personal a.*

rains 3SG.MASC rains
'It is raining.'

b. Me vendieron un libro. / * **Ellos** me vendieron un libro.[4]
1SG sold-3PL a book 3PL.MASC 1SG sold-3PL a book.
'They sold me a book.'

Here the Spanish equivalents obligatorily exclude the use of an explicit pronoun. As no pronoun is used in such sentences, there are no other possible weak pronouns in Spanish according to the current proposal.

In summary, using the criteria laid out by Cardinaletti and Starke (1999), the Spanish pronominal system includes all three types of pronouns proposed: strong, weak and clitic pronouns. The type of construction in which a given pronoun is found determines this categorization.

2.1.1.4 Pronouns in English: Strong or Weak

Unlike Spanish, English only possesses two of the three pronoun types proposed by Cardinaletti and Starke (1999): strong and weak. First, according to the criteria spelled out in their analysis, weak pronouns in English include phonologically-reduced object pronouns (22).

(22) Leo saw '**im**.

Recall that such a phonological process is only available to weak pronouns under their proposal.

There is another type of weak pronoun in English—unaltered subject- and object-position pronouns (23).

(23) a. **He** is handsome.

[4] Note that this sentence is grammatical in Spanish, but only in a referential context, which is the same type of example seen in the sentences with an unaltered subject-position pronoun.

b. Leo saw **him**.

As was the case with Spanish, recall that the classification of such pronouns is potentially unclear. Once again, neither being phonologically reduced nor prosodically stressed, these pronouns could be categorized as either strong or weak and not violate any of the criteria outlined by Cardinaletti and Starke (1999). However, using the Economy of Representations principle, these pronouns are considered weak given that the smallest structure available is preferred.

The rest of the pronouns in English are categorized as strong. These include: pronouns that are prosodically stressed (24), pronouns in peripheral positions (25a, b) and pronouns that are either coordinated (26c) or modified (26d).

(24) She didn't see anyone, but **HE** saw Victor.

(25) a. It is **he**/**him**[5] that is handsome.

b. **Him**, he is handsome.

(26) a. **He**/**Him** and Victor are handsome.

b. **He**/**Him** in the red shirt is handsome.

Recall again that such constructions are said to be only available with a full DP structure. As strong pronouns are the only pronoun type with a DP projection, the pronouns in the previous examples must all be categorized as such.

[5] There is substantial variability between using the accusative or the nominative forms of pronouns in constructions that involve clefting, coordination or modification. It is commonly argued that the accusative form is the default case in English whereas the nominative form receives heavy prescriptive influence (Schütze, 2001). As far as this investigation goes, the use of nominative and/or accusative in such contexts depends on the speaker; however, it should not vary between monolingual and code-switched utterances for the same individual.

Finally, clitic pronouns must be ruled out as a possibility in English. One could immediately point to the phonologically-reduced pronoun in (22) and argue that it has cliticized to the verb. Pronouns, like most monosyllabic function words in English, are able to occur without word-level stress and in a phonologically-reduced form, which results in cliticization (Berendsen, 1986). This is not the same as saying that such cliticized English pronouns qualify as a clitic pronoun as defined by Cardinaletti and Starke (1999). I argue that these are weak pronouns because, unlike Spanish clitics for example, they are not syntactically derived differently than weak pronouns. The distinction here is along the lines of Berendsen (1986), who argues for two types of cliticization, one that is prosodic and another that is syntactic. Consider the examples in (27), where the underlining once again represents there relevant prosodic domains.

(27) a. Leo bought his mother **them**.

a. Leo bought his mother '**em**.

b. Leo se **los** compró a su madre.
DAT 3PL.MASC bought DAT his mother
'Leo bought his mother them.'

In (27a, b) the reduced English pronoun *them/'em* cliticizes linearly. In this example, the adjacent is not the verb but rather a lexical DP functioning as the indirect object. Since English pronouns can cliticize to any adjacent lexical item regardless of the syntactic category, the process must occur after syntax and be purely prosodic. Under Cardinaletti and Starke's (1999) proposal then, the pronouns in (27a, b) are categorized as weak. In (27b), however, Spanish clitic pronouns are not able to cliticize to any adjacent element. Their cliticization is syntactically derived, which results in not being able to have any intervening element between the pronoun and the verb, as they are required to be in the same prosodic domain. This difference in cliticization results in distinct pronoun

categorization for the two languages. English, which only has prosodic cliticization, does not have clitic pronouns as defined by Cardinaletti and Starke (1999). Spanish, on the other hand, does have clitic pronouns, as they are stored lexically as clitics and are derived as such syntactically.

In summary, using the criteria laid out by Cardinaletti and Starke (1999), the English pronominal system includes only strong and weak pronouns and not clitics. As was the case with Spanish, this was determined by the type of construction that a given pronouns was in. Henceforth I shall refer to these constructions as sub-types of their proposal.

2.1.1.5 Summary

Cardinaletti and Starke (1999) propose three pronoun types: strong, weak and clitic pronouns. Using the criteria outlined for each of these types, all Spanish and English pronouns have been categorized. First, all pronouns that are coordinated, modified, in a peripheral position or prosodically stressed are categorized as strong, regardless of language. Unaltered pronouns in both languages are considered weak pronouns, as are phonologically-reduced pronouns in English. Finally, Spanish object clitics are categorized as clitic pronouns. A complete summary as well as examples of the pronominal forms in Spanish according to the typology proposed by Cardinaletti and Starke (1999) is presented in Table 2, and the same is done for English in Table 3.

Table 2

Strong, weak and clitic pronouns in Spanish

Type	Sub-type	Example
Strong	Coordination	**Él** y Javier son guapos.
	Modification	**Él** con la camisa roja es guapo.
	Clefting	Es **él** que es guapo.
	Hanging topic	**Él**, él es guapo.
	Prosodic stress	Ella no vio a nadie, pero **ÉL** vio a Javier.
Weak	Unaltered	**Él** vio a Javier.
Clitic	Object clitic	Diego **lo** vio.

Table 3

Strong and weak pronouns in English

Type	Sub-type	Example
Strong	Coordination	**He** and Victor are handsome.
	Modification	**Him** with the red shirt is handsome.
	Clefting	It's **him** that is handsome.
	Hanging topic	**Him**, he is handsome.
	Prosodic stress	She didn't see anyone, but **HE** saw Victor.
Weak	Unaltered	**He** is handsome. / Leo saw **him**.
	Phonological reduction	Leo saw '**im**.

Now that the proposal by Cardinaletti and Starke (1999) has been outlined and Spanish and English pronouns have been categorized according to their criteria, the same can be done for the other major pronoun theory, Déchaine and Wiltschko (2002).

2.1.2 Déchaine and Wiltschko (2002)

The proposal that Déchaine and Wiltschko (2002) posit for pronouns is distinct from that of Cardinaletti and Starke (1999). Focusing on more diverse syntactic differences as well as drawing on evidence from different languages—two Salish varieties and

Japanese—the typology by Déchaine and Wiltschko (2002) explicitly subsumes all pronouns discussed by Cardinaletti and Starke (1999). It re-categorizes the majority of strong, weak and clitic pronouns as the same type—what they call *pro-ϕP*. These pronouns form the middle-tier of a tripartite proposal. *Pro-DPs* are the pronominal form with the most structure and *pro-NPs* are the form with the least. A detailed summary of both Déchaine and Wiltschko's (2002) proposal and the empirical evidence they provide to support it are provided in the next two subsections. Afterward, the pronouns of Spanish and English are analyzed specifically with respect to these newly defined categories.

2.1.2.1 Proposal: Pro-DPs, Pro-ϕPs and Pro-NPs

Déchaine and Wiltschko (2002) differentiate between types of pronouns by outlining their distinct syntactic and semantic behavior. According to the authors there are three different levels: pro-DP, pro-ϕP and pro-NP. An example of each type of pronoun proposed is shown in (28) with English.

(28) a. **I/You/We** sleep all the time. *Pro-DP*

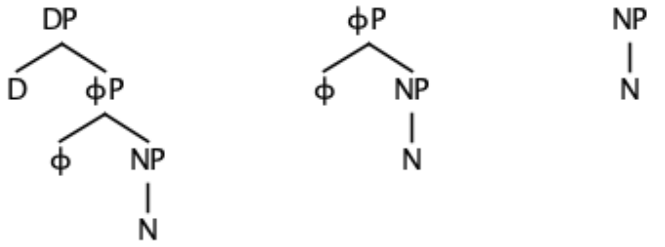
b. **He/She/They** sleep(s) all the time. *Pro-ϕP*

c. That **one** sleeps all the time. *Pro-NP*

Here the entirety of the personal pronoun inventory of English is discriminated into different types by the person feature, or lack there of in the case of *one*.

The distinction between the three types of pronouns, however, is not a direct result of person features. Rather, like the previous proposal, hierarchical differences in the pronoun types' structure result in the different syntactic and semantic properties of each. The syntactic structures for the three types of pronouns proposed by Déchaine and Wiltschko (1999) are shown in (29).

(29) a. pro-DP b. pro-ϕP c. pro-NP



(modified from ex. 1, Déchaine and Wiltschko, 2002)

Here there is a similar set up as with Cardinaletti and Starke (1999), with a DP as the outermost projection and an NP as the innermost. However, the specifics beyond that are quite distinct.

First, Déchaine and Wiltschko (2002) argue that the pronoun type with the most structure is the pro-DP. According to the authors, pro-DPs are in every way the same as lexical DPs. Any and all syntactic and semantic features of a lexical DP are also found in pro-DPs. Specifically, they argue that pro-DPs are only found in argument position and can only function as an R-expression with respect to binding theory.

The second pronoun type according to Déchaine and Wiltschko (2002) lacks a DP shell. Pro-ϕPs project only a ϕP, and as its name implies, this projection is home to phi-features such as person, number and gender. The authors argue that these pronouns are neither fully DP-like nor NP-like. They do not define any other specific characteristics of the ϕP other than to say that they can exhibit behavior of both lexical DPs and lexical NPs. This includes occurring in both argument and predicate positions as well as being able to function as a bound variable.

The third and final type of pronoun Déchaine and Wiltschko (2002) propose is pro-NP. As its name indicates, this type of pronoun behaves like a true NP. The authors claim that any syntactic and semantic behavior associated with lexical NPs is extended to pro-NPs.

Specifically, pro-NPs only occur in predicate position and are semantically constant and undefined with respect to binding theory.

Now that the general proposal by Déchaine and Wiltschko (2002) as well as a brief description of each pronoun type's structure has been outlined, the specific empirical evidence the authors use to argue for their theory of pronouns can be detailed.

2.1.2.2 Empirical Evidence

Although the authors state their system extends to all languages, Déchaine and Wiltschko (2002) focus on three specific languages to spell out their proposal for pronouns. These languages are Halkomelem, Shuswap and Japanese, which are used to demonstrate the properties of pro-DPs, pro-ϕPs and pro-NPs respectively.

First, for pro-DPs the authors use the Central Coast Salish language of Halkomelem. They argue that the set of independent pronouns in this language are all pro-DPs. On account of their DP projection, they have all the same properties as lexical DPs. For example, the authors present examples illustrating what position these pronouns are able to occupy (30).

(30) a. Lám **tú-tl'ò**.
go DET-3SG
'He goes'.

b. * **Tú-tl'ò**-cha te Bill kw'e may-th-óme.
3SG-FUT DET COMP help-TRANS-2SG.OBJ
'It will be Bill that helps you.'

(ex. 6, Déchaine and Wiltschko, 2002; originally ex. 173, Galloway, 1993)

Follow an analysis along the lines of Stowell (1989) and Longobardi (1994), the authors claim that the pronoun *tú-tl'ò* 'he/it' exhibits the same behavior as any other DP. It is found only in argument position, such as functioning as the subject (30a), and never found in predicate position, such as in a cleft construction (30b).

In a similar vein, Déchaine and Wiltschko (2002) argue that all of the Halkomelem pronouns have the binding-theoretic status of R-expressions (31).

(31) a. * Súq'-t-es [te swíyeqe]$_i$ te kopú-s [**tú-tl'ò**]$_i$.
search-TRAN-3.SUBJ DET man DET coat-3.POSS DET-3SG
≠'The man was looking for his coat.'

b. * [Mékw' ye swíyeqe]$_i$ kw'ákw'ets-et-es te stoles-s [**tú-tl'òlem**]$_i$.
every DET.PL man looking-TRANS-3.SUBJ DET wife-3.POSS DET-3PL
≠'All men are looking at their wives'.

(ex. 9-10, Déchaine and Wiltschko, 2002; originally ex. 444-445, Wiltschko 1998)

Once again the authors argue that these pronouns act like true lexical DPs. First, the pronoun *tú-tl'ò* 'he/it' cannot have an antecedent that c-commands it, such as the lexical DP *te swíyeqe* 'the man' (31a). Nor can it function as a bound variable, as shown with the plural pronoun *tú-tl'òlem* and the quantified version of the same lexical DP (31b).

For pro-ϕPs, Déchaine and Wiltschko (2002) use the pronominal system of Shuswap, which is also from the Salish family, but of the Northern Interior variety. Although related to Halkomelem, the set of pronouns in Shuswap are strikingly different. Not having a full DP shell, while at the same time having more than just an NP projection, these pro-ϕPs occupy an intermediate level. The authors first illustrate this middle ground by providing the examples in (32) and (33).

(32) * Yirí7 te **newí7-s** wí.w.k-t-sem-s.
DEIC OBL EMPH-3 see(REDUP)-TRANS-1SG.OBJ-3SG.SUBJ
'That's HIM that saw me.'

(ex. 14, Déchaine and Wiltschko, 2002; originally ex. 39b, Lai, 1998)

(33) a. Wí.w.k-t-Ø-en re **n-tséts-we7**.
see(REDUP)-TRANS-3SG.OBJ-1SG.SUBJ DET 1SG-EMPH-DEIC
'I saw him.'

b. Wí-t-Ø-s re **John**.
see-TRANS-3SG.OBJ-3SG.SUBJ DET
'He/She saw John.'

(modified from ex. 15, Déchaine and Wiltschko, 2002; originally ex. 10 and 15, Lai, 1998)

Following the analysis by Lai (1998), the authors argue that these pronouns do not have a truly N syntax, as they cannot occur in complex nominal predicates (32). On the other hand, they state that these pronouns do not have a truly DP-like syntax either, as the same determiner *re* that can precede full NPs (33b) can also precede them (33a).

Further highlighting that pro-ϕPs are different from pro-DPs and pro-NPs, Déchaine and Wiltschko (2002) address what positions these pronouns can occupy (34).

(34) a. **Newí7-s** re wík-t-Ø-m-es
EMPH-3 DET see-TRANS-3SG.OBJ-PAST-3SG.CONJ
'It is HIM that saw him/her.'

b. **Newí7-s** wik-t-Øs re Mary.
EMPH-3 see-TRANS-3SG.OBJ-3SG.SUBJ DET
'HE saw Mary.'

(ex. 16-17, Déchaine and Wiltschko, 2002; originally ex. 13a and 11c, Lai, 1998)

Unlike the pro-DPs of Halkomelem in (30), here the authors show that a Shuswap pronoun like *newí7s* 'he/him' can function as both a predicate, such as in a cleft construction (34a), and as an argument, such as functioning as the subject (34b).

Finally, the authors turn to the semantic properties of pro-ϕPs, which again show more flexibility than pro-DPs (35).

(35) a. Tsut-$Ø_i$ m qwetéts-$Ø_i$ [**newí7-s**]$_i$.
say-3SG.SUBJ PAST leave-3SG.SUBJ EMPH-3
'He said that HE left.'

b. [Xwexwéyt]$_i$ re swet xwis-t-Ø-és **[newí7-s]**$_i$ re qé7tse-s$_i$.
all DET who like-TRANS-3SG.OBJ-3SG.SUBJ EMPH-3 DET father-3.POSS
'Everyone likes HIS father.

(ex. 18-19, Déchaine and Wiltschko, 2002)

Here the embedded pronoun *newí7-s* 'he/him' is bound non-locally by the subject of the matrix sentence (35a). Furthermore, the same pronoun can function as a bound variable with a quantifier like *xwexwéyt* 'all/every' (35b). This contrasts sharply with the semantics of pro-DPs, which was shown in (31).

The final pronominal category for Déchaine and Wiltschko (2002) is pro-NP. The example provided for this form is the Japanese pronoun *kare*. The authors argue that this pronoun has all the properties of any other lexical NP based on its syntactic distribution (36).

(36) a. tiisai **kare**
small 3SG.MASC
'he who is small'

b. watasi-no **kare**
3SG.GEN 3SG.MASC
'my boyfriend'

c. kono **kare**
this 3SG.MASC
'this guy here'

(ex. 21, Déchaine and Wiltschko, 2002)

Following Kuroda (1965) and Noguchi (1997), the authors argue in favor of an NP-like syntax for *kare* in that it can be preceded by an adjective (36a), a possessive (36b) or a demonstrative (36c).

The semantic properties of *kare* are also NP-like according to Déchaine and Wiltschko (2002). Consider the sentences in (37).

(37) a. * Daremo$_i$-ga **kare**$_i$-no hahaoya-o aisite-iru.
everyone-NOM he-GEN mother-ACC love-PRES
≠'Everyone loves their mother.'

b. John$_i$-ga **kare**$_i$-no hahaoya-o aisite-iru.
John-NOM he-GEN mother-ACC love-PRES
'John loves his mother.'

(ex. 18-19, Déchaine and Wiltschko, 2002; originally ex. 1-2, Noguchi, 1997)

Here *kare* is shown not to be able to function as a bound variable (37a), but it can be co-referential (37b).

Overall the difference between the three types of pronouns proposed by Déchaine and Wiltschko (2002) is found in both syntax and semantics. First, pro-DPs are separated from the other types in that they behave both syntactically and semantically like lexical DPs. The authors argue that they can only occur in argument position and function as an R-expression. At the opposite end of the hierarchy, pro-NPs are differentiated from the other two types in that they always behave syntactically like a lexical NP and are undefined semantically. Pro-ϕPs occupy a middle ground between the two in that their syntax and semantics are neither truly DP- nor NP-like. First, their syntactic distribution includes both argument and predicate positions. Second, they operate as a bound variable as their ϕP projection only allows them to spell out phi-features. The specifics of the criteria Déchaine and Wiltschko (2002) use to differentiate between the three types of pronouns are summarized in Table 4.

Table 4

Déchaine and Wiltschko's (2002) pronoun-type characteristics

	Characteristic	Pro-DP	Pro-ϕP	Pro-NP
Syntax	Argument position (DP-like)	✓	✓	
	Predicate position (NP-like)		✓	✓
Semantics	R-expression (DP-like)	✓		
	Bound variable		✓	
	Undefined (NP-like)			✓

Now that the linguistic evidence provided by Déchaine and Wiltschko (2002) has been discussed, the pronouns of the two languages of interest for the current study—Spanish and English—can be categorized.

2.1.2.3 Pronouns in Spanish: Pro-ϕ

Déchaine and Wiltschko (2002) argue that Spanish, as a Romance language, only has pronouns of the type pro-ϕP. In their proposal, the authors explicitly argue that French clitics are pro-ϕPs, stating that this extends to all Romance languages. The authors argue for this both syntactically and semantically.

First, they illustrate that Romance clitics can function as either arguments or predicates, which is a characteristic that is unique to pro-ϕPs. Consider the examples with Spanish clitics in (38).

(38) a. Diego **la** ve.
3SG.FEM sees
'Diego sees her/it.'

b. Diego **lo** ve.
3SG.MASC sees
'Diego sees him/it.'

c. Julia es una abogada y Victoria **lo**/***la** es también.
is a lawyer-FEM and it is too
'Julia is a lawyer and Victoria is one too.'

d. Diego es un abogado y Javier **lo** es también.
Diego is a lawyer-MASC and Javier it is too
'Diego is a lawyer and Javier is one too.'

The authors claim that there is a difference between argument and predicate clitics based on gender inflection. Argumental pro-ϕPs inflect for gender (38a, b), whereas predicative pro-ϕPs do not (38c, d). Semantically, Déchaine and Wiltschko (2002) turn to binding effects (39).

(39) Diego llamó a todos$_i$ antes de que Javier **los**$_i$ viera.
Diego called DOM everyone before of that Javier 3PL.MASC saw
'Diego called everyone before Javier saw them.'

Here a Romance clitic such as the Spanish pronoun *los* 'them' can function as bound variable of a quantifier like *todos* 'everyone'. Therefore, based on the syntactic and semantic arguments that the authors provide, all Spanish clitics can be categorized as pro-ϕP.

Although they spell out an argument for clitics, Déchaine and Wiltschko (2002) are less explicit for the rest of the Romance pronouns. The authors do state, though, that the personal pronouns in all Romance languages, including those specifically addressed by Cardinaletti and Starke (1999), are all of type pro-ϕP like the clitic forms. Déchaine and Wiltschko (2002) suggest that the characteristics outlined in the previous theory are a result of internal differences. Strong pronouns are pro-ϕPs that include the internal structure of an NP, weak pronouns are pro-ϕPs with no internal structure and clitic pronouns are just a ϕ-head. Consequently, all Spanish personal pronouns can be categorized as pro-ϕP.

In conclusion, despite the various differences that can be found with Spanish pronouns, under the system proposed by Déchaine and Wiltschko (2002) they are of the same type: pro-ϕP. The authors base this on the fact that pronouns in Spanish exhibit both

DP- and NP-like syntactic and semantic behavior, and the differences within the pronominal system are a result of the internal structure.

2.1.2.4 Pronouns in English: Pro-DP, Pro-ϕ or Pro-NP

Unlike Spanish, Déchaine and Wiltschko (2002) are explicit for the entire inventory of English pronouns, arguing that it has each of the three types. First, the authors classify a single pro-NP: the pronoun *one*. They substantiate this claim by saying that *one* has the syntax of an NP (40).

(40) a. Mary saw that **one**.

b. Mary saw some**one**.

c. Mary saw the real **one**.

(modified from ex. 27, Déchaine and Wiltschko, 2002)

Similar to what was seen previously with the Japanese pronoun *kare* in (36), here *one* can be preceded a determiner (40a), a quantifier (40b) or a modifier (40c). They also argue for *one* being a pro-NP for semantic reasons. Consider the sentence in (41).

(41) * Mary$_i$ thinks **one**$_i$ is a genius.

(modified from ex. 31, Déchaine and Wiltschko, 2002)

Semantically, *one* has no referential content and therefore cannot be co-referent (41). No other pronoun in English is NP-like like *one.*

As for English personal pronouns, Déchaine and Wiltschko (2002) make a strict division. According to the authors, the first- and second-person pronouns are pro-DPs and third-person pronouns are pro-ϕPs. They first argue this distinction syntactically. Consider the sentences in (42).

(42) a. **We/Us** linguists are intelligent.

b. **You** linguists are intelligent.

c. * **They/Them** linguists are intelligent.[6]

(modified from ex. 32, Déchaine and Wiltschko, 2002)

Here the authors state that since first- and second-person pronouns can function as determiners (42a, b) they are of type pro-DP. Since third-person pronouns cannot do so (42c), the authors propose that they must be of type pro-ϕP. Déchaine and Wiltschko (2002) also state that there is a semantic difference between first-and and second person pronouns that qualifies them as pro-DPs. Note the binding phenomena in (43).

(43) a. I know that John saw **me**, and Mary does too.
= 'I know that John saw me, and Mary knows that John saw me.'
≠ 'I know that John saw me, and Mary knows that John saw her.'

b. He knows that John saw **him**, and Mary does too.
= 'He knows that John saw him, and Mary knows that John saw him.'
= 'He knows that John saw him, and Mary knows that John saw her.'

(modified from ex. 40, Déchaine and Wiltschko, 2002)

The authors argue that first- and second person pronouns in English cannot function as bound variables, but rather are R-expressions like lexical DPs (43a). English third-person pronouns on the other hand do not exhibit such a restriction (43b).

In summary, English has each of the three types of pronouns proposed by Déchaine and Wiltschko (2002): pro-DPs, pro-ϕPs and pro-NPs. This sets it apart from Spanish, which only has one type of pronoun according to the typology: pro-ϕP.

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[6] Déchaine and Wiltschko (2002) do comment on the existence of *them linguists* in some dialects, but choose to analyze *them* as a determiner in such constructions. This topic will be addressed in more detail in Chapter 6.

2.1.2.5 Summary

Déchaine and Wiltschko (2002) propose three types of pronouns: pro-DP, pro-ϕP and pro-NP. English exhibits all three pronoun types that are proposed. Although these types are defined by syntactic and semantic differences, on the surface the types can be distinguished by person. As for the personal pronouns, all first- and second-person forms are categorized as pro-DP, whereas all third-person forms are categorized as pro-ϕP. The pronominal form *one*, which has no person features, is the only example of the form pro-NP. Spanish on the other hand, only has pro-ϕP forms. This includes all clitic and personal pronouns, regardless of person.

A complete summary as well as examples of the pronoun types in Spanish according to the typology proposed by Déchaine and Wiltschko (2002) is presented in Table 5, and the same is done for English in Table 6.

Table 5

Pro-ϕPs in Spanish

		Example	
Type	Sub-Type	Subject	Object
Pro-ϕP	1st person	**Yo** tengo mucho dinero. / **Nosotros** tenemos mucho dinero.	Diego **me**/**nos** vio.
	2nd person	**Tú** tienes mucho dinero.	Diego **te** vio
	3rd person	**Él**/**Ella** tiene mucho dinero. / **Ellos** tienen mucho dinero.	Diego **lo**/**la**/**los** vio.

Table 6

Pro-DPs, pro-ϕPs and pro-NPs in English

Type	Sub-Type	Example Subject	Object
Pro-DP	1st person	**I/We** have a lot of money.	Leo saw **me/us**.
	2nd person	**You** have a lot of money.	Leo saw **you**.
Pro-ϕP	3rd person	**He/She/They** have a lot of money.	Leo saw **him/her/ them**.
Pro-NP	No person feature	That **one** has a lot of money.	Leo saw that **one**.

Now the proposals by both Cardinaletti and Starke (1999) and Déchaine and Wiltschko (2002) have been outlined and the pronominal forms of both Spanish and English have been categorized according to their respective criteria. The literature review of pronoun theories can now be concluded, summing up what has been shown so far.

2.1.3 Conclusions on Pronoun Theories

Up to this point, the details of two prominent theories on pronouns have been discussed. Both the proposals by Cardinaletti and Starke (1999) and Déchaine and Wiltschko (2002) are similar in that they focus on hierarchical, syntactic structures to differentiate between pronominal forms. They differ crucially in how these syntactic structures are defined. This also leads to conflicting categorizations of pronominal systems, which was shown for both Spanish and English. For the two languages in question, different pronoun types depend on construction for Cardinaletti and Starke (1999), but it is based on person for Déchaine and Wiltschko (2002). In an attempt to resolve the conflicts found in the proposals and to subsequently shine new light on pronominal theory in general, the discussion now turns to code-switching.

2.2 Code-switching

If intra-sentential code-switching is going to be used as a linguistic tool to better understand pronoun theory, there is certain background information that needs to be established. First, it is essential to generally describe intra-sentential code-switching and how it is distinct from other forms of bilingual phenomena. This is done in the first subsection, which introduces the topic.

Additionally, it is important to establish the relationship between code-switching and pronouns. This is two-sided: (i) indicating how elements of the syntactic structures that both pronoun theories propose are related to what has been reported in the code-switching literature; and (ii) describing what the code-switching literature has said specifically about pronouns. Regarding the former, to my knowledge there has been no prior attempt to expand on pronoun theory via code-switching data. Thus, in the second subsection I briefly detail the pertinent structural elements from the two pronoun theories in question and how they relate to code-switching. I also outline the different sentence types that will need to be tested in code-switching based on the two proposals. Regarding the latter, some previous work has commented on specific behavior of pronouns in code-switching. Others have even attempted to account for such behavior within a given framework. First, I outline various prominent approaches to code-switching. They are divided into two major camps: third-grammar approaches and generative approaches. After describing the central tenants of each approach, I address how each proposal either explicitly accounts for the behavior of pronouns or what predictions it would make with respect to pronouns. It will be shown that none of the approaches are able to account for the full breadth of data concerning pronouns in code-switching.

2.2.1 Code-switching as a Linguistic Tool

Code-switching, the use of two grammatical systems in the same discourse, is a common phenomenon in bilingual communities. There are different types of code-switching—some switches taking place as merely tags and others occurring between sentences or conversational turns. However, code-switching can also take place within the same sentence, which is commonly referred to as intra-sentential code-switching. Several examples of intra-sentential code-switching in Spanish/English bilingual speech have already been shown. As an additional example, consider the sentence in (44).

(44) Pocos estudiantes *finished the exam*.
few students
'Few students finished the exam.'

(ex. 18a, Belazi, Rubin and Toribio, 1994)

Here is one of the most commonly accepted switches that has been consistently reported in the literature: that of a lexical DP and a finite verb.

It is important to note that the example provided, like all instances of code-switching, is distinct from language contact phenomena. For instance, in US Spanish the use of English loanwords, commonly referred to as borrowings, such as *el surf* or *un gángster*, or calques like *escuela alta* 'high school' or *grado (de escuela)* 'grade (in school)' is distinct from code-switching. On the surface there appears to be a mixture of the two languages. Despite the influence from one language to the other, though, such utterances are monolingual Spanish. Code-switching occurs when a proficient bilingual uses both languages intermittently, incorporating two complete grammatical systems (including phonology, morphology, syntax, etc.).

When two complete grammatical systems are mixed, the types of utterances produced are restricted by the linguistic competence of bilingual speakers. These speakers

are not able to switch anywhere within a sentence at random. An example of an unacceptable switch was shown in the introduction. Restrictions on code-switching are akin to the restrictions found in monolingual speech. Therefore, the same way that previous authors have looked at the behavior of pronouns in monolingual speech to help categorize them into different types, the behavior or pronouns in code-switching can be investigated in a similar manner as a source of untapped data. For instance, take another look at the French monolingual sentence in (7) and the Spanish/English code-switching sentences in (4), repeated here.

(7) **Lui**/***Il** et Jean sont beaux.
3SG.MASC and are pretty
'He and Jean are pretty.'

(4) a. * **Yo** *fight all the time*.
1SG
'I fight all the time.'

b. Mis amigos y **yo** *fight all the time.*
my friends and 1SG
'My friends and I fight all the time.'

Recall that Cardinaletti and Starke (1999) use example (7) to illustrate a syntactic difference between strong and weak pronouns. Given that intra-sentential code-switching is a result of linguistic competence as well, an example like (4) can also be considered as relevant data. Specifically, it will be shown that the difference in acceptability between the sentences in (4) is the same as the difference in acceptability in (7): strong pronouns can be switched with a finite verb, whereas weak pronouns cannot.

Now that the phenomenon of intra-sentential code-switching and how it can be used as a linguistic tool has been described, it is necessary to discuss what aspects of the pronoun theories are necessary to use code-switching data as such.

2.2.2 Connecting Pronoun Theory to Code-switching

The two pronoun theories outlined previously deal exclusively with monolingual data. It is the current study's job to directly tie the components of these proposals to code-

switching. This can be done in two ways: first, by specifically addressing the syntactic structures proposed by each; and second, by simply outlining the different relevant sentence types that need to be looked at in code-switching.

When talking about the proposed structures, first recall that Cardinaletti and Starke's (1999) pronoun types include DP, ΣP, IP and NP projections. Déchaine and Wiltschko's (2002) structures also contain DP and NP projections, but also involve a ϕP. The ϕP is congruous to the IP as both house the inflectional features of the pronouns. Therefore, I consider these projections equal. Both theories argue that it is the characteristics of each of these projections that determine the behavior of pronouns in monolingual speech. Therefore, this can be extended by stating that these projections also determine the behavior of pronouns in code-switching. The question becomes, how do these projections typically behave in code-switching?

As for the DP projection, a relevant datum in Spanish/English bilingual speech has already been shown in (44), which is repeated here.

(44) Pocos estudiantes *finished the exam*.
few students
'Few students finished the exam.'

(ex. 18a, Belazi, Rubin and Toribio, 1994)

Once again this sentences illustrates a commonly accepted switch that has been consistently reported in the literature: a lexical DP and a finite verb. Consequently, I will assume that DP structures can be switched.

Lexical DP switches are not the only common switches that have been reported. Another common example is shown in (45).

(45) a. Yo lo puse allá en [$_{DP}$ el [$_{NP}$ *doorway*]].
1SG 3SG.MASC put over-there in the
'I put it over there in the doorway.'

(modified from ex. 19, Jake, Myers-Scotton and Gross, 2002)

Here there is a switch within the DP, where the determiner *el* 'the' is in Spanish, but the NP *doorway* is in English. This is another commonly accepted switch. Therefore, like DPs, I will also assume that NP structures can be switched.

As for the other projections mentioned by the authors—the ΣP and the IP/ϕP—the code-switching literature has not reported on any such switches. Therefore, due to a lack of any previous data, I will assume that ΣP and IP/ϕP structures are expected to not be able to be switched.

Having addressed the syntactic projections included in the proposal and how they are connected to the code-switching literature, the different types of sentences the authors base their typologies on can now be related directly to code-switching as well. It is necessary to take into account a wide array of different sentence types in order to directly connect to the two prominent theories on pronouns. What follows is an overview of the various sentences types that include pronouns in Spanish/English code-switching that are addressed in this study. The judgments associated with these examples come from US Spanish/English bilingual consultants[7]. It will be shown in Chapters 4 and 5 that these judgments are confirmed experimentally.

The sentence types using code-switched pronouns that are discussed vary syntactically, prosodically and phonologically. The first three contexts include: pronouns in

[7] For these judgments I consulted three different Spanish/English bilingual speakers: one male and one female consultant from Chicago and another female consultant from Los Angeles. All three were between the ages of 21 and 28, grew up speaking both Mexican Spanish and US English, and code-switch between the languages on a daily basis with both family members and friends.

preverbal subject position (46), pronouns in postverbal object position (47) and preverbal Spanish object clitics (48).

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

(47) a. * *Bradley invites* **él** a todas las fiestas.
3SG.MASC to all the parties
'Bradley invites him to all the parties.'

b. * Bernardo invita a[8] ***him*** *to all the parties*.
invites DOM
'Bernardo invites him to all the parties.'

(48) * *Scott* **lo** *accompanies* al cine.
3SG.MASC to-the cinema
'Scott accompanies him to the movies.'

So far all the examples presented include pronouns in the third-person, masculine form. It is important to look at pronouns that vary according to person as well (49-50).

(49) a. * **Yo** *talk too loudly*.
1SG
'I talk too loudly.'

b. * ***I*** hablo demasiado alto.
talk too high
'I talk too loudly.'

(50) a. * **Tú** *write very quickly*.
2SG
'You write very quickly.'

b. * ***You*** escribes muy rápido.
write very quickly
'You write very quickly.'

Recall that the types of pronouns shown in (46-50) are what I refer to as unaltered pronouns, as they have no change in syntactic, prosodic or phonological structure.

In addition to the unaltered pronouns, it is necessary to examine more varied syntactic structures involving pronouns, including: coordination (51), modification (52), hanging topics (53) and clefting (54).

[8] The presence or absence of DOM in a code-switched sentence does not affect the acceptability. However, if forced to choose the consultants preferred the presence of DOM when the verb was in Spanish and preferred its absence when the verb was in English.

(51) a. **Él** y Alberto *sleep during the day*.[9]
3SG.MASC and
'He and Alberto sleep during the day.'

b. ***He*** *and Alex* duermen durante el día.
sleep during the day
'He and Alex sleep during the day.'

(52) a. **Él** con el pelo negro *sleeps during the day.*[10]
3SG.MASC with the hair black
'Him with the black hair sleeps during the day.'

b. ***Him*** *with the black hair* duerme durante el día.
sleeps during the day
'Him with the black hair sleeps during the day.'

(53) a. Juanita dijo que **él**, *he sleeps during the day.*
said that 3SG.MASC
'Juanita said that him, he sleeps during the day.'

b. *Jennifer said that* ***him***, duerme durante el día.
sleeps during the day
'Jennifer said that him, he sleeps during the day.'

(54) a. *Evan said it's* **él** que duerme durante el día.
3SG.MASC that sleeps during the day
'Evan said it's him that sleeps during the day.'

b. Eduardo dijo que es ***him*** *that sleeps during the day*.
said that is
'Eduardo said it's him that sleeps during the day.'

Finally, there are two other non-syntactic constructions involving pronouns that are explored: prosodic stress (55) and phonological reduction (56), the latter of which only occurs with English pronouns.

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[9] In the coordination examples, the pronoun is the first coordinated element with a proper name as the second element. This is due to naturalness sounding of coordinating such a pronoun with a proper name and a third-person pronoun. Monolingual variation will be discussed more in detail in Chapter 5. Regardless, a pilot study testing various coordination orders show that it is possible to switch a pronoun as the first, the second or both elements of the coordination.

[10] Modifying a pronoun with a prepositional phrase like this is not grammatical for all Spanish speakers. However, it is possible in the dialect of US Spanish spoken by my consultants and a subsection of the participants. Monolingual variation will be discussed more in detail in Chapter 5.

(55) a. Ella duerme durante la noche, pero **ÉL** *sleeps during the day*.
3SG.FEM sleeps during the night but 3SG.MASC
'She sleeps at night, but HE sleeps during the day.'

b. ? *She sleeps at night, but **HE*** duerme durante el día.[11]
sleeps during the day
'She sleeps at night, but HE sleeps during the day.'

(56) * Teresa abraza a *'**im** all the time*.
hugs DOM
'Teresa hugs him all the time.'

As can be seen, the code-switching data including pronouns is wide-ranging. All the different sentence types laid out here will need to be addressed to fully investigate the central theories on pronouns.

In this subsection, the two prominent pronoun theories were directly related to code-switching. First, the specific structures that are proposed for the different pronoun types were compared to code-switching data. This is necessary because the different maximal projections of pronouns that determine behavior in monolingual sentences should be parallel to the determination of behavior in code-switching. Previous code-switching data indicates that both DPs and NPs are commonly accepted switches. The other relevant projections, ΣPs and IP/ϕPs, have no history in the literature as being accepted in code-switching. Second, all of the sentence types central to the two theories were laid out with respect to code-switching.

2.2.3 Accounting for Pronouns via Third-grammar Approaches to Code-switching

In the following subsections I continue to establish the connection between pronouns and code-switching by looking at the various approaches to code-switching and

[11] The question mark indicates that the consultants found this sentence acceptable, however, switching the English pronoun sounded not quite as acceptable as the Spanish pronoun.

how they take pronouns into consideration. Since the work of Poplack (1980), there have been a number of attempts to formalize the constraints on code-switching. The first set of approaches that are discussed view code-switching as a linguistic phenomenon that is constrained via factors different than what is involved in monolingual speech. Under such a framework, a bilingual has separate grammars for each of their two languages when speaking in a monolingual discourse. Additionally, the mixing of those two languages is viewed as a process that is distinct from monolingual sentences. These approaches to code-switching are commonly referred to as *third-grammar* approaches. In the following subsections three influential third-grammar approaches to code-switching will be addressed: Poplack (1980), Joshi (1985) and Jake (1994), the last of which operates under the framework of Myers-Scotton (1993, et seq.).

2.2.3.1 Poplack (1980)

Poplack (1980) was groundbreaking in that it was the first proposal that attempted to formalize constraints on code-switching. The core of the proposal is articulated in the *Equivalence Constraint*, as stated in (57):

(57) Equivalence Constraint: Code-switches will tend to occur at points in discourse where juxtaposition of L1 and L2 elements does not violate a syntactic rule of either language, i.e. at points around which the surface structures of the two languages map onto each other.

(Poplack, 1980, p. 586)

The concept is straightforward and is best demonstrated with an example that outlines the same sentence in two languages—English and Spanish, for example—as shown in (58).

(58)

I	told him	that	so that	he	would bring it	fast.
(Yo)	le dije	eso	pa' que	(él)	la trajera	ligero.

(modified from Poplack, 1980, p. 586)

Here a monolingual English sentence and the monolingual Spanish counterpart are shown side-by-side. The Equivalence Constraint makes specific predictions for possible switches by a Spanish/English bilingual within such a sentence: Switches should be possible at any of the switch sites, which are represented by dashed lines. With specific attention paid to pronouns, Poplack's (1980) proposal would expect possible code-switches at two sites in a sentence like (58): (i) the subject pronoun of the matrix clause, *I*/*yo*; and (ii) the subject pronoun of the embedded clause, *he*/*él.* The third pronoun in the sentence, the indirect object of the matrix clause, *him/le*, has no switch site between it and the finite verb. Therefore, such a switch is predicted to be unacceptable.

Contrary to the Equivalence Constraint, data has already been shown that shows that switches between a subject pronoun and a finite verb are unacceptable, originally shown in (46) and repeated here.

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

It is important to note that the ungrammaticality of (46) holds regardless of person and/or number as well as whether it is in a matrix context or embedded. To illustrate this, examples that more directly mirror the sentence in (58) are shown in (59).

(59) a. * **Yo** *have a lot of money.*
1SG
'I have a lot of money.'

b. * ***I*** tengo mucho dinero.
have a-lot money
'I have a lot of money.'

c. * Carlos cree que **él** *has a lot of money.*
believes that 1SG.MASC
'Carlos thinks that he has a lot of money.'

d. * *Charlie thinks that* ***he*** tiene mucho dinero.
has a-lot money
'Charlie thinks that he has a lot of money.'

The predictions that the Equivalence Constraint makes for pronouns are not borne out. In both contexts, matrix and embedded, the structures of the two languages "map onto each other," yet are still unacceptable to switch a pronoun with the finite verb.

Although Poplack's (1980) model is unable to account for the code-switching data, it does highlight some important notions. It is apparent that the theory of code-switching adopted must delve deeper than just the surface of such utterances. There is a need to relate this phenomenon more directly to syntactic structure. Second, it shows that pronouns are intriguing. On the surface it would appear the pronouns in these two languages are operating in a very similar fashion. The subject-position pronouns in the example appear pre-verbally, receive nominative case, and so on. Nonetheless, the inability to switch between a pronoun and a finite verb here indicates a difference that is not available in monolingual speech.

The following two theories on code-switching continue to consider it a phenomenon that is separate from monolingual speech. However, the restrictions included are based more directly on syntactic theory instead of solely the linear order of mixed sentences.

2.2.3.2 Joshi (1985)

Joshi (1985) proposes an account of code-switching that is structural, but not strictly linear in nature. Of particular interest in his account is "which language the mixed sentence is coming from," which he calls the *matrix language* (p. 191). The other language—one inserted into the matrix language—is the *embedded language*. The designation of each is described simply by the fact that "speakers and hearers usually agree on" knowing which is the matrix language (p. 190-191). Joshi (1985) further asserts that there is an asymmetry between language pairs in that one is always the matrix language while the other is always the embedded language. For instance, consider an example he provides from

Marathi/English code-switching (60), with Marathi in standard typeface and English in italics.

(60) mi tyālā ghar ghyāylā *persuade* kela
1SG 3SG.MASC.DAT house to-buy did
'I persuaded him to buy a house'

(modified from ex. 12, Joshi, 1985)

The author declares Marathi as the matrix language and English as the embedded language. This holds not only for the sentence provided, but for all sentences involving a switch between these two languages.

Joshi (1985) outlines two primary constraints on switching between a language pair such as Marathi/English: first, you can only switch from the matrix language into the embedded language; and second, you can never switch closed-class items (e.g., determiners, quantifiers, prepositions, tense, helping verbs, etc.). As an example of the first constraint, Joshi (1985) argues that the sentence in (60) is grammatical because the embedded-language (English) verb *persuade* is inserted into the matrix-language (Marathi) Verb Phrase (VP) and not the other way around. As for the second constraint, it can be seen that the closed-class item tense, lexicalized as *kela* 'did', is maintained in the matrix-language (Marathi). Joshi (1985) claims that it would not be able to be formed the other way around with English tense and a Marathi verb.

Pronouns are not explicitly addressed in Joshi's (1985) proposal. However, two predictions the theory would make can be discussed. First, recall that the second restriction the author posits is on closed-class items. Although, not explicitly mentioned in the list provided by Joshi (1985), pronouns are commonly understood to be closed-class (Garrett, 1975), at least for Spanish and English. Therefore, pronouns in such a language pair should never be allowed to switch. This is not the case, though; Spanish/English bilinguals are able to switch pronouns with the finite verb, as already seen in examples like (55), repeated here.

(55) a. Ella duerme durante la noche, pero **ÉL** *sleeps during the day*.
3SG.FEM sleeps during the night but 3SG.MASC
'She sleeps at night, but HE sleeps during the day.'

Here a prosodically-stressed pronoun is switched with the finite verb. Acceptable switches of a pronoun when it was coordinated, modified, or in a peripheral position have also already been shown. Such sentences should be completely ungrammatical based on Joshi's (1985) analysis since pronouns are a closed-class category.

This is not the only incorrect prediction made by such an approach. Even if one were to argue that pronouns are exempt from the restriction on closed-class items, one would still expect to see an asymmetry between a matrix and an embedded language that is not found with the Spanish/English code-switching data. If English were chosen as the matrix language, then pronouns from the Spanish would only be able to be code-switched into English. The opposite would be true if Spanish is chosen as the matrix language. However, the language of the pronoun has been shown to not play a role in the grammaticality of the code-switching data. The sentences like the one just seen in (55) is grammatical regardless of the direction of the switch.

Based on the two incorrect predictions just laid out, there is no way to account for the code-switching data using Joshi's (1985) analysis. Nonetheless, the notion of matrix and embedded languages is something that has been elaborated on and maintained, which will be seen in the subsequent third-grammar approach.

2.2.3.3 Myers-Scotton (1993, et seq.) and Jake (1994)

As the name indicates, Myers-Scotton's (1993, et seq.) Matrix Language Frame (MLF) model focuses heavily on the previously mentioned relationship between a matrix language and an embedded language. Like Joshi (1985), the central idea behind this model is to make clear the two different roles the languages in question play in code-switching.

Differentiating itself from the previous model, these roles can change. For different discourses, one language is designated as the matrix language and the other as the embedded language. For a subsequent discourse these designations can be maintained or swapped.

To identify the matrix language, the MLF model focuses on the relative frequency of morphemes from one language or the other. This is referred to as the *ML Criterion*, as defined in (61):

(61) ML Criterion: The [matrix language] is the language of more morphemes in interaction types including intrasentential code-switching.

(Myers-Scotton, 1993, p. 68)

The author states that this counting of morphemes must be done at the discourse level, not sentence-by-sentence. It also excludes any cultural borrowings that would erroneously inflate the number of morphemes from an embedded language. For the purposes of this study, it is not necessary to go into further detail on assigning the matrix language. It will be seen later that regardless of which language is assigned which role, the theory cannot account for the pronoun data.

Myers-Scotton (1993) does not address pronouns explicitly. However, Jake (1994), a subsequent work that operates within the MLF model, does attempt to account for pronouns in code-switching. The author proposes a general analysis of code-switching that hinges upon the difference between *content morphemes* and *system morphemes* (Myers-Scotton, 1993). She states that content morphemes are typically nouns and verbs. System morphemes are functional elements like agreement, determiners and other inflectional morphemes. Jake (1994) formulates code-switching restrictions using these different morphemes in combination with the aforementioned concepts of matrix language and embedded language.

For pronouns, Jake's (1994) proposal predicts that pronouns from the matrix language are always grammatical, as is the case with any element from the matrix language. As for pronouns from the embedded language, it is contingent upon whether the pronoun is considered a content morpheme or a system morpheme. Restrictions on code-switching include pronouns from the embedded language that are system morphemes, whereas pronouns that are considered content morphemes can be switched.

According to Jake (1994), determining whether specific pronouns are one type or the other depends on a morphosyntactic analysis of the pronominal system of the language in question. Therefore, it is best to illustrate Jake's (1994) argument with her own examples. Consider the examples in (62) that the author provide from Moroccan Arabic/French code-switching, where French is in italics and Arabic is in standard typeface.

(62) a. ***moi*** dxlt
1SG went-in
'me, I went in'

b. **nta** *tu vas travailler*
2SG 2SG go work
'you, you are going to work'

c. **huwa** *il s'en fout*
3SG.MASC 3SG.MASC does
'him, he doesn't care'

(modified from ex. 3-5, Jake, 1994; originally ex. 39-41, Bentahila and Davies, 1983)

Here the French pronoun *moi* 'me' as well as the Arabic pronouns *nta* 'you' and *huwa* 'him' are what she refers to as *discourse-emphatic* pronouns, which are categorized as content morphemes. In the examples above, all of the discourse-emphatic pronouns are described as coming from the embedded language, as Arabic is the matrix language in (62a) and French is the matrix language for (62b, c). Jake (1994) argues that they can be switched even if they come from the embedded language because they are content morphemes.

Differentiating themselves from discourse-emphatic pronouns are what Jake (1994) refers to as *grammatical* pronouns, which are considered system morphemes. Consider another example that the author provides, shown in (63).

(63) * ***je*** ghadi
1SG go
'I go'

(modified from ex. 6, Jake, 1994; originally ex. 42, Bentahila and Davies, 1983)

Here the author labels Arabic as the matrix language. The French pronoun is a subject clitic—as opposed to a discourse-emphatic pronoun like in (62a). The proposal argues that such a sentences where the pronoun is both a system morpheme and from the embedded language results in an unacceptable switch.

Jake's (1994) proposal, however, is not able to account for the Spanish/English code-switching data. Consider the sentences originally shown in (46), repeated here.

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

The sentences here are comparable to what was shown in (63). Both the pronoun and Spanish pronoun *él* 'he' and its English counterpart *he* would be considered grammatical pronouns. Recall that any pronoun from the matrix language is acceptable. Therefore, to account for their ungrammaticality, English would have to be the matrix language for (46a) and Spanish the matrix language for (46b). However, the unacceptability holds regardless of the matrix language. Consider an example like (64).

(64) ***He***/*__Él__ *sleeps during the day. That's because* **él**/*__he__ trabaja por la noche.
works through the night
'He sleeps during the day. That's because he works at night.'

Recall that in the MLF model the matrix and embedded language are determined at the discourse level and not sentence-by-sentence. Here pronouns from both languages are

unable to be switched in the same discourse. Given that either Spanish or English has to be the matrix language for both of the sentences in (64), Jake's (1994) theory predicts that one of the switches involving a pronoun would be acceptable. However, in neither sentence is the switch acceptable.

Thus far, three different but related approaches to code-switching have been discussed. All resort to accounting for restrictions on switched sentences using a grammar that is specific to code-switching. Whether the approach was linear in nature like Poplack (1980) or reliant upon a matrix and embedded language like Joshi (185), Myers-Scotton (1993, et seq.) and Jake (1994), none of the proposals accurately accounts for the pronoun data. The discussion now turns to a separate camp of approaches to code-switching that do not employ the use of a third grammar.

2.2.4 Accounting for Pronouns via Generative Approaches to Code-switching

Differentiating themselves from third-grammar approaches, generative analyses do not view code-switching as a phenomenon dictated by factors unique from monolingual speech. These approaches do not include anything that is specific to code-switching, as the constraints are simply the result of the mixture of the two grammars. In such a system, the same processes are involved for bilingual speakers whether they are speaking one or two languages. In the following subsections, four prominent generative approaches to code-switching are presented: Woolford (1983); Di Sciullo, Muysken and Singh (1986); Belazi, Rubin and Toribio (1994); and MacSwan (1999). In addition to providing the key components of each proposal, I connect them directly to pronouns. If an account does not explicitly address them, what predictions it would make for pronouns can be assessed. As with the third-grammar approaches, none of the generative approaches is currently able to account for the pronoun code-switching data.

2.2.4.1 Woolford (1983)

Woolford (1983) was influential in that it was the first attempt at an approach with no rules specific to code-switching, such as constraints that refer to a matrix language or an embedded language. As with subsequent generative approaches, the proposal is based upon the notion that code-switched sentences are formed in the same way as monolingual sentences. What are important are the syntactic processes involved when constructing sentences.

To account for the different restrictions found in code-switching data, Woolford (1983) argues that as long as the phrase structure rules that generate certain structures are analogous in the two languages, switches can occur. To illustrate how this code-switching account works, it is helpful to look at a straightforward example involving a pronoun. Spanish object clitic pronouns within the context of Spanish/English code-switching are explicitly addressed in Woolford's (1983) proposal. She points out that a Spanish object clitic cannot be code-switched with an English verb, which has already been shown in (48), repeated here.

(48) * *Scott* **lo** *accompanies* al cine.
3SG.MASC to-the cinema
'Scott accompanies him to the movies.'

Woolford (1983) argues that clitic constructions are base-generated in Spanish. English does not have object clitics and as a consequence does not have an equivalent phrase structure rule. The constraint on a sentence like (48) follows from Woolford's (1983) model in that "the phrase structure rule that generates object clitics in preverbal position is uniquely Spanish" (p. 529). For such a construction to be grammatical—either in monolingual speech or in code-switching—both the pronoun and the verb need to be in Spanish.

Object clitics are a clear example of a syntactic asymmetry found between Spanish and English pronouns. But what about other constructions where the phrase structure rules overlap in the two languages? It has already been discussed how structurally Spanish and English preverbal subject pronouns appear to operate in a similar manner. In a footnote, Woolford (1983) points out that the benefit of her proposal is that it does not over restrict other pronoun constructions, such as standard subject position. Specifically, she cites examples from Sankoff and Poplack (1981) that include code-switched pronouns (65).

(65) a. ***You*** estás diciéndole la pregunta *to the wrong person.*
are asking-3SG.DAT the question
'You are asking the question to the wrong person.'

b. *There was this guy, you know,* que ***he*** se montó.
that 3SG.REFLEXIVE mounted
'There was this guy, you know, that he got up.'

(modified from ex. 6-7, Sankoff and Poplack, 1981)

According to Woolford's (1983) model, such switches are possible because the phrase structure rules for standard subject position are analogous in Spanish and English. However, recall that similar constructions are not accepted, as originally shown in (46), repeated here.

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

These judgments come from my consultants, but it will be shown that these are confirmed experimentally. How can one account for the discrepancy in grammaticality between the two sets of examples in (65) and (46)? My consultants do not accept the examples in (65) as grammatical. They can accept them, though, if they are prosodically stressed. As the prosody of the sentences are not reported in Sankoff and Poplack (1981) in can be

hypothesized that this is the factor that makes such a switch grammatical.[12] The non-prosodically stressed pronouns, as in (46), remain ungrammatical.

Woolford's (1985) approach correctly rules out Spanish object clitics. Nonetheless, it cannot account for the ungrammaticality of unaltered subject-position pronouns. As the phrase structure rules for such pronouns are analogous in Spanish and English, they should be able to be switched, but are not.

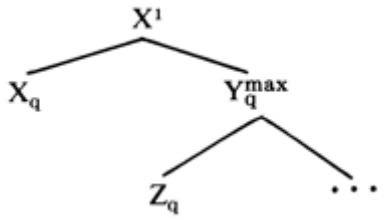
2.2.4.2 Di Sciullo, Muysken and Singh (1986)

Furthering the generative approach to code-switching, Di Sciullo, Muysken and Singh (1986) propose a model based on the structural relation of government. Crucial to their theory is the notion of *language index*, which is marked on every lexical item. At first glance, this sounds similar to the third-grammar approaches. However, this is different than labeling languages as either matrix or embedded in that in monolingual speech lexical items also carry a language index. In monolingual speech, the language index just happens to always be the same since the items come from the same lexicon.

Within the proposal by Di Sciullo, Muysken and Singh (1986), language indexes are determined by government relationships, resulting in constraints on code-switching. A governed category must be in the same language as its governor. The authors argue that the language index of a maximal projection is determined by the highest lexical element of that particular projection, which is what they refer to as an L_q *carrier*. Structurally their proposal looks like the following:

[12] Further corroborating this claim is the fact that Jake (1994) argues the same for these exact same sentences, referring to both of the pronouns in (65) as discourse emphatic.

(66)



(ex. 8, Di Sciullo, Muysken and Singh, 1986)

Here X_q is the highest lexical element of the projection X and is therefore the L_q carrier. All lexical elements c-commanded by X_q are required to have the same L_q index. To illustrate this, consider the sentences in (67), where an English verb is the L_q carrier (i.e., X_q in the structure above) of the VP.

(67) a. I **saw that** he left.

b. I **saw the** man.

c. I **went to** Rome.

(modified from ex. 12, Di Sciullo, Muysken and Singh, 1986)

These sentences include three different lexical items—a complementizer (67a), a determiner (67b) and a preposition (67c)—all c-commanded by the English verb. The proposal by Di Sciullo, Muysken and Singh (1986) argues then that such elements are required to be in English in any code-switched sentence.

Di Sciullo, Muysken and Singh (1986) do not explicitly address pronouns. Nonetheless, at least one prediction for pronouns can be extrapolated that is not borne out. Specifically, they argue that a switch may occur between an item in subject-position and the VP. According to the authors, this is because there is no government relationship between those two elements. However, recall that the grammaticality of a switch between a subject and a finite verb varies, as originally shown in (44) and (46) and repeated here.

(44) Pocos estudiantes *finished the exam*.
few students
'Few students finished the exam.'

(ex. 18a, Belazi, Rubin and Toribio, 1994)

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

The constraint proposed by Di Sciullo, Muysken and Singh (1986) accurately predicts that a switch is possible when the subject is a lexical DP (44). However, it is unable to account for the ungrammaticality of a switch of a pronoun in subject position (46). Considering there is no government relation between the subject and the verb in either sentence, both should be grammatical switches within such an approach to code-switching.

Although Di Sciullo, Muysken and Singh (1986) are unable to account for the pronoun data, the idea of marking items is carried over into another prominent generative approach to code-switching.

2.2.4.3 Belazi, Rubin and Toribio (1994)

Similarly to Di Sciullo, Muysken and Singh (1986), Belazi, Rubin and Toribio (1994) propose a generative model that marks lexical items. However, they do no rely upon relations of government to account for constraints to code-switching. Their proposal hinges upon a refinement of Abney's (1987) notion of *f-selection*. This refers to the idea that functional heads selects the features of its complement.

By making the language index on each lexical item a feature, they propose the Functional Head Constraint, as stated in (68).

(68) Functional Head Constraint: The language feature of the complement f-selected by a functional head, like all other relevant features, must match the corresponding feature of the functional head.

(ex. 16, Belazi, Rubin and Toribio, 1994)

As with the language index in Di Sciullo, Muysken and Singh's (1986) proposal, the Functional Head Constraint is applied in all forms of speech—both monolingual utterances and code-switching. The difference, of course, is that it does not ever constrain anything in monolingual sentences as the language features always match, as the lexical items come from the same lexicon.

With code-switching, there is a difference in grammaticality for functional heads and lexical heads. First, there is a restriction between a functional head and its complement, meaning that both elements must come from the same language. Second, switching between a lexical head and its complement is possible. For example, the authors cite the following as switches that are not allowed: between C and TP, between T and VP, and between Neg and VP.

Pronouns are not specifically addressed by Belazi, Rubin and Toribio (1994). However, same problem seen with Di Sciullo, Muysken and Singh's (1986) proposal resurfaces. Again, it has been shown that the grammaticality of a switch between a subject and a finite verb varies, as originally shown in as originally shown in (44) and (46) and repeated here.

(44) Pocos estudiantes *finished the exam*.
few students
'Few students finished the exam.'

(ex. 18a, Belazi, Rubin and Toribio, 1994)

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

Both examples include a subject switched with the finite verb. In both (44) and (46a), the language feature of the subject is Spanish, however, there is a difference in acceptability. For

Belazi, Rubin and Toribio's (1994) proposal to account for this distinction, one would have to assume that the functional head that selects a lexical DP subject is in Spanish, but the functional head that selects a pronominal subject is in English. This seems improbable given how parallel the sentences are.

Although Belazi, Rubin and Toribio's (1994) analysis is not able to account for all the data, this idea of feature checking is something that is continued in the final generative approach to code-switching that will be considered, the Minimalist approach to code-switching.

2.2.4.4 MacSwan (1999) and van Gelderen and MacSwan (2008)

MacSwan (1999) is innovative in that it analyzes code-switching data within the framework of the Minimalist Program (Chomsky, 1995, et seq.). Crucial to this is the idea that nothing constrains code-switching apart from the requirements of the mixed grammars. The difference between this approach and Belazi, Rubin and Toribio's (1994), is that the notion of a language feature is gone. A Minimalist account of code-switching includes "the elimination of all mechanisms that are not necessary and essential on conceptual grounds alone," including a language feature, as it is not independently motivated (MacSwan, 1999, p. 174). More of the details of this proposal will be discussed in the next subsection, which includes the theoretical assumptions and framework.

Within the Minimalist approach to code-switching, there is a proposal by van Gelderen and MacSwan (2008) that is relevant to the current investigation. The authors attempt to account for switches involving subjects in Spanish/English code-switching. Crucial to the analysis is data related to subject pronouns. It has already been shown several times that there is a difference in acceptability between switching a lexical DP or a pronoun with a finite verb. The authors argue that this distinction is the result of each element

checking its features differently. According to the proposal, subject pronouns undergo a checking mechanism via D-to-T movement. Consider the example in (69).

(69) * [$_{TP}$ **Yo**$_i$ [$_{Spec\ vP}$ t_i [$_{vP}$ [$_{VP}$ *fight all the time*]]]].
1SG
'I fight all the time.'

(modified from ex. 25, van Gelderen and MacSwan, 2008)

Here the Spanish pronoun *yo* 'I' is considered by the authors as a D-head, which internally merges with T to check its features. T is assumed to be English given the language of the verb. The result is a complex D-T head that is part Spanish and part English. Such a complex head crashes at Phonological Form (PF) due to the PF Disjunction Theorem (MacSwan, 1999), which states that switching within a complex head in the PF component is not possible.

Van Gelderen and MacSwan (2008) argue that the D-to-T movement that subject pronouns undergo contrasts with that of lexical DPs. Consider the sentence in (70).

(70) [$_{Spec\ TP}$ **Mi novia**$_i$ [$_{TP}$ [$_{Spec\ vP}$ t_i [$_{vP}$ [$_{VP}$ *fights all the time*]]]]].
my girlfriend
'My girlfriend fights all the time.'

(modified from ex. 26, van Gelderen and MacSwan, 2008)

Here the lexical DP *mi novia* 'my girlfriend' does not internally merge with T, but rather checks its features in [Spec, TP]. The result does not create a complex head, meaning the sentences does not subsequently crash at PF.

Note that their analysis focuses on subject pronouns. It makes no prediction in regards to object pronouns. However, as mentioned previously, it has been noted since Timm (1975) that this distinction holds both for both pronominal subjects and objects. Examples of this have already been shown in (46-48), repeated here.

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

(47) a. * *Bradley invites* **él** a todas las fiestas.
3SG.MASC to all the parties
'Bradley invites him to all the parties.'

b. * Bernardo invita a ***him*** *to all the parties*.
invites DOM
'Bernardo invites him to all the parties.'

(48) * *Scott* **lo** *accompanies* al cine.
3SG.MASC to-the cinema
'Scott accompanies him to the movies.'

Van Gelderen and MacSwan's (2008) proposal would require that two different analyses be proposed to account for the impossibility of switching subject and object pronouns, which although possible, is not ideal.

The proposal by van Gelderen and MacSwan (2008) only looks a specific subsection of the relevant Spanish/English code-switching data—subject pronouns. The current investigation continues is similar in that it also adopts a Minimalist approach to code-switching to account for the entirety of the pronoun behavior in Spanish/English code-switching. This naturally leads into the following subsection where I lay out the details of my theoretical framework and assumptions.

2.3 Theoretical Framework and Assumptions

The current investigation of pronouns in code-switching continues in the same vein of MacSwan (1999) by employing a Minimalist approach. In this section, I first discuss the Minimalist Program, which is the theoretical framework that I adopt. A brief introduction to the topic was included when discussing MacSwan's (1999) approach to code-switching, but it is here where I discuss the proposal more in detail. Afterwards I discuss the concept of a

language within any generative theory and what sort of effect that has on our view of code-switching. Finally, I make my theoretical assumptions explicit.

I adopt the Minimalist Program (Chomsky, 1995 et seq.) as the framework for the current investigation. In this model there are two essential components: the computational system and the lexicon. The computational system is the set of syntax-building mechanisms for all languages. Syntactic phrases are formed via the computational system by combining and/or moving items in the derivation. How these items can be combined or moved depends on their features. The features themselves are universal. Any given speaker, however, only acquires a specific subset of features, which are encoded in the lexicon. How these lexical items operate in conjunction with the universal processes of the computational system forms an individual's linguistic knowledge, or competence. It is this competence, or I-language, that is the object of study for theoretical linguistics. The overlapping of I-languages among a group of speakers manifests as what is commonly understood as a language. Syntactic differences between languages are derived from different feature combinations present in the lexical items.

A theory within this framework can be used to analyze code-switching data. Recall that the computational system is universal and that syntactic variance is due to the features encoded in lexical items. Under such an approach, the socio-political concept of language is not relevant to linguistic competence. A monolingual sentence is simply a combination of lexical items that are from the same "language," which, recall, is nothing more than an overlapping group of I-languages. Code-switching occurs when an individual combines lexical items that are from two different "languages." Regardless of whether an element is considered to be English or Spanish, for example, the computational system is only interested in what features are encoded in the lexical item. Therefore, code-switched

elements are checked for features the same way that monolingual elements are. Nothing constrains code-switching beyond what would constrain the derivation of any sentence in any natural language. That is, mutatis mutandis, my research is in line with other generative approaches to code-switching (Belazi, Rubin and Toribio, 1994; Di Sciullo, Muysken and Singh, 1986; MacSwan, 1999; Woolford, 1983; among others) in that it operates under the assumption that there is no third grammar. With such an approach, code-switching can be taken to be an I-language phenomenon. That is, it is an expression of linguistic competence. By understanding code-switching as an expression of linguistic competence in the same way the monolingual speech is, direct comparisons can be made between the theoretical research based on monolingual data and the code-switching data.

The only other assumption needed for the current investigation is that of the DP. Like other generative works, I assume a DP structure with a determiner head selecting its complement (Abney, 1987). The exact details of the internal structure of the DP are not crucial for this study. All DP (and NP) structures used do not include any additional elements such as adjectives, quantifiers or adverbs.

2.4 General Conclusions

Thus far, two prominent, yet conflicting theories on pronouns have been discussed in detail. Both Cardinaletti and Starke's (1999) and Déchaine and Wiltschko's (2002) proposals provide descriptions of how to categorize pronominal forms into distinct, hierarchically-structured pronoun types. The application of this categorization, as seen explicitly with both Spanish and English, results in conflicting results. A relationship between pronouns and code-switching has also been established. First, the various elements of the proposed pronoun structures were considered in light of code-switching data. Second, various approaches to code-switching were discussed. Regardless of the

approach, there has yet to be an account for the behavior of pronouns in code-switching. Using this information, in conjunction with the theoretical framework and assumptions, my research questions and hypotheses are ready to be outlined, the details of which are included in the next chapter.

3 RESEARCH QUESTIONS AND HYPOTHESES

In this chapter, I outline my research questions and hypotheses. First, I summarize the overarching goal of the current investigation. I then formulate this goal into two specific research questions, each of which ties directly to the two pronoun theories under analysis. Given these research questions, I am then able to posit various hypotheses related to each. I do this by first outlining the types of sentences that need to be tested, and then describing how those sentences could produce different patterns in the results. Connecting the information seen in the previous chapter from the code-switching literature, I make specific predictions for the experimental data. I finish the chapter by discussing a pilot study that was conducted to best prepare for implementing the full-fledged testing of the research questions.

3.1 Research Questions

The behavior of pronouns has been established as a phenomenon that still requires research. First, it was shown that there are competing theories for how to account for the distribution of pronouns in monolingual speech, where syntactic and prosodic/phonological characteristics vary. Regardless of whether one adopts the analysis proposed by Cardinaletti and Starke (1999) or the analysis proposed by Déchaine and Wiltschko (2002), empirical evidence shows that the behavior of different types of pronouns is not uniform. Furthermore, how the two particular proposals in question would analyze these differences in behavior has been shown with both Spanish and English pronouns, the results of which being unique to each theory.

In addition to the typologies that are based on monolingual data, intriguing code-switching data concerning pronouns has been presented. It was first generally discussed

how and why it is that intra-sentential code-switching can be used as a theoretical tool in linguistics, providing extra insight that is not available in monolingual data. The connection between pronouns and code-switching was then established. First, structural aspects and sentence types from the two pronoun theories were connected to code-switching. Second, various approaches to the code-switching that make distinct predictions about pronouns were discussed. Interestingly, none of these proposals where able to fully account for the code-switching pronoun data.

The combination of everything that has been discussed so far results in the overarching goal of the current study: investigating the possible link between pronoun theory and the acceptability of pronouns in code-switching. If there is a connection between the two, this study will provide experimental evidence from the behavior of pronouns in Spanish/English code-switching that supports a specific theory of pronouns. This can now be formalized via research questions.

The task at hand is to take the criteria laid out by both Cardinaletti and Starke (1999) and Déchaine and Wiltschko (2002) and link them directly to code-switching. The criteria of each theory can be used to make specific predictions for code-switching. This leads to two clear research questions. First, concerning the pronoun types proposed by Cardinaletti and Starke (1999), the following research question can be formulated:

(71) Research Question 1: Does the acceptability of pronouns in Spanish/English code-switching align with Cardinaletti and Starke's (1999) proposal?

Similarly, for the pronoun types proposed by Déchaine and Wiltschko (2002), a related, but distinct research question can be formulated:

(72) Research Question 2: Does the acceptability of pronouns in Spanish/English code-switching align with Déchaine and Wiltschko's (2002) proposal?

To answer both of these questions the dependent variable is the acceptability judgments of bilingual participants. The independent variables are unique for each question—the

respective pronoun types. Thus, the proposal by Cardinaletti and Starke (1999) and the proposal by Déchaine and Wiltschko (2002) can be investigated experimentally with code-switching.

3.2 Hypotheses

To answer the research questions, it is helpful to first outline the types of sentences that need to be tested. In order to address pronouns in Spanish/English code-switching based on the relevant theories, there are a number of different sentences types that need to be considered. Examples of these are laid out in Table 7 for Cardinaletti and Starke's (1999) proposal, and the same is done in Table 8 for Déchaine and Wiltschko's (2002).

Table 7

Strong, weak and clitic pronouns in Spanish/English code-switching

		Example	
Type	Sub-type	Spanish-to-English	English-to-Spanish
Strong	Coordination	**Él** y Alberto *sleep during the day*.	***He** and Alex* duermen durante el día.
	Modification	**Él** con el pelo negro *sleeps during the day.*	***Him** with the black hair* duerme durante el día.
	Clefting	*Evan said it's* **él** que duerme durante el día.	Eduardo dijo que es ***him** that sleeps during the day.*
	Hanging topic	Juanita dijo que **él**, *he sleeps during the day.*	*Jennifer said that **him**,* duerme durante el día.
	Prosodic stress	Ella duerme durante la noche, pero **ÉL** *sleeps during the day.*	*She sleeps at night, but* **HE** duerme durante el día.
Weak	Unaltered	**Él** *sleeps during the day.*	***He*** duerme durante el día.
	Phonological reduction		Teresa abraza a *'**im** all the time.*
Clitic	Object clitics	*Scott* **lo** *accompanies* al cine.	

Table 8

Pro-DPs, pro-ϕPs and pro-NPs in Spanish/English code-switching

Type	Sub-type	Example Spanish-to-English	English-to-Spanish
Pro-DP	1st person		***I*** hablo demasiado alto.
	2nd person		***You*** escribes muy rápido.
Pro-ϕP	1st person	**Yo** *talk to loudly*.	
	2nd person	**Tú** *write very quickly*.	
	3rd person	**Él** *sleeps during the day*.	***He*** duerme durante el día.
Pro-NP	English *one*		Ese ***one*** duerme durante el día.

The example sentences in the tables above are the same as the consultant data outlined previously in (46-56). The difference is that now each of these examples has been assigned a specific type within the two different pronominal theories. By organizing the different pronoun types in such a way, clear connections can be made between the theories and the experimental results.

Now that the different types of code-switched sentences that need to be tested have been outlined, it can be reiterated that there is a clear distinction between the two theories. The difference in pronoun type in Spanish and English according to Cardinaletti and Starke (1999) can be seen via construction, whereas with Déchaine and Wiltschko (2002) the differences are seen via person. This distinction between the two theories is central in formulating the hypotheses, as they produce incompatible predictions.

There are various possible outcomes for the first research question, which asked about the acceptability of pronouns in Spanish/English code-switching in relation to categorizing them as strong, weak or clitic. Although Cardinaletti and Starke's (1999) typology includes three types of pronouns, the code-switching data have to be categorized dichotically as either acceptable or unacceptable. Therefore, based on their proposal,

theoretically there are eight different patterns for the experimental results, as illustrated in Table 9.

Table 9

Possible outcomes using Cardinaletti and Starke's (1999) typology

Possibility	Results by Pronoun Type Acceptable	Unacceptable
1	✓ Strong	* Weak, Clitic
2	✓ Weak	* Strong, Clitic
3	✓ Clitic	* Strong, Weak
4	✓ Strong, Weak	* Clitic
5	✓ Strong, Clitic	* Weak
6	✓ Weak, Clitic	* Strong
7	✓ Strong, Weak, Clitic	* *None*
8	✓ *None*	* Strong, Weak, Clitic

Possibilities 1 through 3 describe outcomes in which just one of the pronoun types is acceptable in code-switching, possibilities 4 through 6 have two of the pronoun types being acceptable, possibility 7 has all of them being acceptable and possibility 8 has none of them.

Given these eight options, which pattern is likely to be seen in the results? To narrow it down, specific predictions for each pronoun type can be made individually, starting with strong pronouns. Recall that lexical DPs have been known to be able to be code-switched, as originally shown in (44) and repeated here.

(44) Pocos estudiantes *finished the exam*.
few students
'Few students finished the exam.'

(ex. 18a, Belazi, Rubin and Toribio, 1994)

Recall also that according to the theory proposed by Cardinaletti and Starke (1999), strong pronouns are the only pronominal forms that include a full DP shell. If they truly behave like

lexical DPs, then I predict that they would be grammatical in code-switching. The results of the experiment would be expected to pattern like any possibility where strong pronouns are grammatical, eliminating possibilities 2, 3, 6 and 8 in the Table 9. This prediction, along with the sentence types laid out in Table 7, leads to the first hypothesis for Research Question 1, stated as follows:

(73) Hypothesis 1: Pronouns that are coordinated, modified, prosodically stressed or in peripheral positions can be switched with a finite verb in Spanish/English code-switching.

For weak and clitic pronouns, recall that the authors propose that these pronouns maximally project a ΣP and an IP respectively, meaning neither has a full DP projection. Without having the structure of a DP, they cannot be expected to behave like lexical DPs. Furthermore, there is no common understanding in the code-switching literature of ΣP or IP projections being switchable. Therefore, I adopt a default prediction that such a switch will not be found acceptable. Combining this with the rest of the sentence types laid out in Table 7, I make the following hypotheses for Research Question 1:

(74) Hypothesis 2: Pronouns that are phonologically reduced or unaltered cannot be switched with a finite verb in Spanish/English code-switching.

(75) Hypothesis 3: Clitic pronouns cannot be switched with a finite verb in Spanish/English code-switching.

The second research question, which looks at the acceptability of pronouns in Spanish/English code-switching in relation to them being considered pro-DP, pro-ϕP or pro-NP, can be addressed in a similar manner. Once again the outcome for each type can be categorized dichotically as either acceptable or unacceptable. Therefore, based on the proposal by Déchaine and Wiltschko (2002), there could again theoretically be eight different patterns for the experimental results, as illustrated in Table 10.

Table 10

Possible outcomes using Déchaine and Wiltschko's (2002) typology

Possibility	Results by Pronoun Type Acceptable	Unacceptable
1	✓ Pro-DP	* Pro-ϕP, pro-NP
2	✓ Pro-ϕP	* Pro-DP, pro-NP
3	✓ Pro-NP	* Pro-DP, pro-ϕP
4	✓ Pro-DP, pro-ϕP	* Pro-NP
5	✓ Pro-DP, pro-NP	* Pro-ϕP
6	✓ Pro-ϕP, pro-NP	* Pro-DP
7	✓ Pro-DP, pro-ϕP, pro-NP	* *None*
8	✓ *None*	* Pro-DP, pro-ϕP, pro-NP

Possibilities 1 through 3 describe outcomes in which just one of the pronoun types is acceptable in code-switching, possibilities 4 through 6 have two of the pronoun types being acceptable, possibility 7 has all of them being acceptable and possibility 8 has none of them.

Of these possibilities, once again a prediction favoring one over the others can be made. First, it is important again to recall the notion that lexical DPs are able to be code-switched. According to the theory proposed by Déchaine and Wiltschko (2002), pro-DPs are the only pronominal forms that include a full DP shell. Behaving like other lexical DPs, pro-DPs are expected to be acceptable in code-switching, eliminating possibilities 2, 3, 6 and 8. This, in conjunction with the sentence types laid out in Table 8, allows for the formulation of the first hypothesis for Research Question 2, stated as follows:

(76) Hypothesis 4: English first- and second-person pronouns can be switched with a finite verb in Spanish/English code-switching.

As for pro-ϕPs, recall that such pronouns do not project a full DP and, therefore, cannot be expected to behave like a lexical DP. Furthermore, the code-switching literature has no report of being able to switch a ϕP projection. Therefore, I adopt a default prediction

that such a switch will not be found acceptable. Combining this with information laid out in Table 8, I am able to make to the second hypothesis for Research Question 2:

(77) Hypothesis 5: All Spanish pronouns and English third-person pronouns cannot be switched with a finite verb in Spanish/English code-switching.

This leaves just the final type, pro-NPs. Like DP switches, the code-switching literature has reported acceptable switches with NPs. Recall, though, that the English pronoun *one* is the only pro-NP given the two languages of interest. Consultant information regarding a switch with *one* judges the acceptability as questionable. Consider the sentences in (78-79).

(78) a. **One** lives very well in Chicago.

b. **Uno** vive muy bien en Chicago.
one lives very well in
'One lives very well in Chicago.'

c. ? ***One*** vive muy bien en Chicago.
lives very well in
'One lives very well in Chicago.'

(79) a. Julia wants to buy that **one**.

b. Julia quiere comprar ese.
wants to-buy that
'Julia wants to buy that one.'

c. ? Julia quiere comprar ese ***one***.
wants to-buy that
'Julia wants to buy that one.'

The sentences in (78a, b) include the impersonal use of *one* and its Spanish counterpart *uno* 'one'. Consultants do not outright dislike the switch in (78c), but consider it awkward. This could be a result of there being other impersonal constructions in both languages not involving *one* or *uno* 'one' (e.g., *you* in English; *usted* 'you (formal)', *tú* 'you (informal)' or the impersonal *se* in Spanish). The sentence in (79a) shows that *one* is used in English NP-deletion, whereas (79b) shows that in a similar Spanish construction, the NP is completely

omitted. Again consultants rated such a switch as questionable (79c). This consultant data is likely due to a factor unrelated to the pronoun itself. Therefore, due to intervening factors that do not relate to the proposal by Déchaine and Wiltschko (2002), pro-NPs are not tested experimentally in the current study.

It is within this scope that the current study operates. In theory, there are three different outcomes based on these research questions and hypotheses: (i) that Cardinaletti and Starke's (1999) proposal aligns with the code-switching data, (ii) that Déchaine and Wiltschko's (2002) proposal aligns with it or (iii) that neither does. It is impossible for the data to support both proposals as each theory categorizes pronouns differently and, therefore, the predictions made about how pronouns behave in Spanish/English code-switching would conflict. First, Hypotheses 1 and 4 are in direct competition. Using Cardinaletti and Starke's (1999) proposal, I predict that any Spanish or English pronoun that are in peripheral positions, coordinated, modified or prosodically stressed are acceptably switched as they are DP-like in behavior. With Déchaine and Wiltschko (2002), on the other hand, I predict that only English first- and second-person pronouns would be acceptably switched for the same reason. Similar competition is found with Hypotheses 3 and 4 with Hypothesis 6, but in terms of unacceptability. Depending on which hypotheses are supported by the results, experimental evidence will support one theory over the other.

3.3 Pilot Study

As a preliminary stage in testing the research questions, a pilot study with several experiments was done in preparation for the full-fledged study. In total there were four different written experiments that tested various aspects of pronouns in Spanish/English code-switching. The pilot study is informative in two ways: (i) it provides a general

prediction of what to expect in the results of the current investigation, and (ii) it influenced certain methodological factors of the full-fledged study.

The results of the pilot study suggest that a theory of pronouns along the lines of Cardinaletti and Starke (1999) goes hand-in-hand with the behavior of pronouns in code-switching, whereas the proposal by Déchaine and Wiltschko (2002) does not. The results show that factors such as person, number, and direction of the switch are not relevant to the acceptability of pronouns in Spanish/English code-switching. Acceptability does vary, though, based on construction. The pilot study results show that two types of strong pronouns, those that are coordinated or modified, are acceptability switched with a finite verb, whereas unaltered weak and clitic pronouns are not. These results fall in line with both the consultant judgments and the analysis of pronouns proposed by Cardinaletti and Starke (1999).

There was one type of strong pronoun tested in the pilot that did not pattern as predicted. Sentences designed to test prosodically-stressed pronouns were found to be unacceptable when switched with a finite verb. This contradicts both the consultant judgments and the predictions that were made based on Cardinaletti and Starke's (1999) proposal. I believe this is due to the modality of the experiment. The pilot study was conducted with a written acceptability judgment task. In order to produce prosodic stress, sentences were written in which an embedded subject pronoun was placed in contrastive focus. Although such a construction is felicitous for prosodic stress there is no way to be certain that the participants interpreted such pronouns as being stressed. Were they to not stress such pronouns while reading the sentence to themselves, the ratings would be expected to mirror those of unaltered pronouns, which is what was found in the results.

To rule out this ambiguity in interpretation of prosodic stress, the full-fledged study includes two experiments that vary by modality. This dual-experiment design has two

advantages. First, the vast number of sentence types that need to be tested can be divided between the two experiments, each including stimuli designed to investigate the pronoun types of one theory or the other. The difference in modality is determined by whether prosodic and phonological factors are relevant or not. The first experiment includes a written acceptability judgment task that directly mirrors the pilot study, exploring the pronoun types proposed by Déchaine and Wiltschko (2002). The second experiment uses aural acceptability judgment tasks, investigating the types proposed by Cardinaletti and Stake (1999). The second benefit of such a design is that although each experiment coincides directly with one theory or the other, it is still possible to gain insight for both theories from both experiments. In other words, the first experiment can be used as a partial replication of the second experiment and vice versa. To do this, the pronouns tested will simply need to be re-categorized by the opposite theory.

The pilot study also had an influence on the magnitude of the Likert scale used in both experiments. All of the pilot studies were conducted using written acceptability judgment tasks on a one-to-five Likert scale. Judgment tasks are a common method used by linguists to collect data that test theoretical claims. The pilot study results showed the need to expand from a five-point Likert scale to a seven-point scale, following the methods proposed by (González-Vilbazo et al. 2013). In the pilot, some bilingual speakers consistently rated code-switched stimuli slightly lower than monolingual ones, probably due to some extra linguistic factor (such as the social stigma sometimes associated with code-switching). On a seven-point scale subjects have the option of rating acceptable code-switched stimuli as lower (rating of 5 or 6) than monolingual stimuli (rating of 7), while still allowing for more fine-tuned measurement of the ratings.

Given the expected results just described and taking into consideration these methodological issues, the full-fledged experimental portion of the current investigation can now be outlined and discussed.

4 EXPERIMENT 1: PRO-DPS AND PRO-ϕPS IN SPANISH/ENGLISH CODE-SWITCHING

In the following subsections I describe the design and methodology of the first experiment, detailing the participants, the stimuli and the experimental procedure. Afterwards I present the results. Finally, I conclude by revisiting the research questions and hypothesis in light of the results.

4.1 Design and Methodology

The experiment design and methodology is comprised of three separate parts. First, I describe the participants. This consists of both specifying the type of participant required for the experiment as well as providing the general description of the individuals who completed the study. Next, I describe the design of the experimental stimuli that were tested. Finally, I explain the specifics of the experimental procedure.

4.1.1 Participants

Before providing information about the participants who completed the experiment, it is important to establish specific selection criteria for the participant group. This holds for both experiments, as the common goal is to use code-switching as a linguistic tool to investigate the behavior of pronouns in Spanish. To do so, the type of data to be collected must be clearly defined. For that, I now expand on the specific type of participant desired.

Overall, the methodology follows the standards for code-switching research discussed in González-Vilbazo et al. (2013). Included in this comprehensive article are concerns related to participant selection in code-switching research, all of which were taken into consideration for the current investigation. There are, however, two key characteristics

of the type of code-switching participant required for the current study that I would like to discuss here in more detail.

Recall that the overarching research question for the current study is to lend empirical support to one of two conflicting pronoun theories via evidence found in Spanish/English code-switching data. To obtain this data, it is obvious that the desired participant group needs to be composed of individuals who: (i) are bilingual speakers of Spanish and English; (ii) use both languages on a regular basis; and (iii) are code-switchers. However, such a definition describes a vast group of individuals that includes a wide variety of different types of speakers. All bilingual speakers are able to code-switch, whether they regularly produce mixed utterances or not. However, the data from different types of bilinguals would provide differing types of insight. Previous research has observed that the degree of bilingualism can affect code-switching judgments (Belazi, 1991). Recall that the theories being tested are derived from monolingual data. The judgments that these authors use are based on native speaker competences. Bilingual competences are not (nor should they be) directly comparable to native monolingual competences. However, for the purposes of this study I focus on two defining characteristics that ensure that the data is the result of the combination of two completely native-like grammatical systems: age of acquisition and proficiency. By defining the participant group in such a manner, it can be assured that their competences in each language are as similar as possible to native monolingual speakers.

First, it is necessary to have speakers who are, for lack of a better term, *native bilinguals*. That is to say, this study does not attempt to take into account bilinguals who learned either Spanish or English as a second language (L2). Much research has been done to ascertain whether highly proficient L2 speakers reach native-like competence, but I leave

these issues aside and focus on bilinguals who learned both languages from a young age. This way I can safely assume that the participants were exposed to and acquired both languages in a native-like manner.

Age of acquisition is not enough to ensure native competence in both languages, however, as issues such as language attrition are quite common in bilingual speakers. The typical scenario of a participant recruited in the current study involves learning Spanish from birth in the household and subsequently learning English once entering the school system. Being a member of an English-dominant society, the result is a speaker who is considered a native speaker English and a *heritage speaker* of Spanish. This label is an umbrella term that can describe a wide range of individuals, including those who only have receptive skills in the language as well as those who have fluency akin to that of a monolingual speaker. Thus, within this group of speakers, there is variability with respect to linguistic competence in Spanish that is not a concern with monolingual individuals. The literature on heritage speakers is lengthy and insightful, however, for the purposes of this study it is important to ensure that each individual's competence in both languages (at the time of the study) is as native-like as possible. Therefore, all participants completed a proficiency task in both languages. Participants completed an adapted Cloze test (O'Neill, Cornelius and Washburn, 1981) for English and a modified version of the *Diplomas de Español como Lengua Extranjera* (DELE) 'Diplomas of Spanish as a Foreign Language' for Spanish. Higher scores on this measure are taken to reflect that these individuals, after learning each language from a young age, have maintained their native linguistic competence. This does not imply that those individuals who scored below the current study's threshold have no linguistic competence in either English or Spanish, but rather that they fall somewhere outside the scope of this study on the spectrum of bilingual speakers.

Now that the type of participant needed has been established, the specific group of individuals who participated in the first experiment can be described in more detail. There were two different forms of recruitment: first, a total of 5 bilingual Spanish/English participants were recruited via an online advertisement; additionally 42 bilingual individuals were recruited from classes in the University of Illinois at Chicago Spanish for Bilinguals Program, which are courses specifically catering to the needs of heritage speakers of Spanish. Of these 47 participants, a total of 19 remained in the dataset for the first experiment. A total of 8 participants were removed having reported learning one language not at an early age (i.e., later than age 6[13]). Another 20 participants were removed for scoring below the proficiency score threshold (advanced or native-like) in Spanish and/or English.

Demographically speaking, there were 6 males and 13 females whose ages ranged between 18 and 43 (M = 23.2). All were either simultaneous or early-sequential Spanish/English bilinguals living in Chicago, Illinois. Two participants were born outside the US in Mexico and moved to the Chicago area before age 5, whereas the rest of the participants were born and raised in Illinois. The majority of participants were of Mexican heritage except one participant each of Colombian, Ecuadorian, Guatemalan and Puerto Rican descent. Although there are various differences in the dialect of Spanish spoken by each of these groups, for this experiment none of those factors had an effect on the stimuli in question. Finally, all participants are self-reported code-switchers and indicated that they grew up hearing and using both languages as well as still use both on a regular basis.

[13] Age 6 was chosen as a maximum due to the specific participant pool. Many of the individuals who consider themselves native-speakers of English, did not report significant exposure in the language until first entering the school system.

4.1.2 Experimental Stimuli

The first experiment looks at a subsection of the code-switching data related to pronouns, specifically targeting the pronoun types as categorized by Déchaine and Wiltschko (2002). Looking back at the pro-DPs, pro-ϕPs and pro-NPs in Spanish/English code-switching, which was originally shown in Table 8 and is repeated here, recall the types of sentences that need to be tested in the first experiment.

Table 8

Pro-DPs, pro-ϕPs and pro-NPs in Spanish/English code-switching

Type	Sub-type	Example Spanish-to-English	English-to-Spanish
Pro-DP	1st person		***I*** hablo demasiado alto.
	2nd person		***You*** escribes muy rápido.
Pro-ϕP	1st person	**Yo** *talk to loudly*.	
	2nd person	**Tú** *write very quickly*.	
	3rd person	**Él** *sleeps during the day*.	***He*** duerme durante el día.
Pro-NP	English *one*		Ese ***one*** duerme durante el día.

Recall that the current study is not looking at the English pronoun *one*, which is the sole example of a pro-NP between the two languages. The first experiment focuses on the other two pronoun types.

To investigate pro-DPs and pro-ϕPs a total of 60 unique stimuli were tested. All sentences include intra-sentential code-switching and investigate the following types of switches: a switch between the preverbal subject pronoun and the finite verb; a switch between the postverbal object pronoun and the finite verb; and a switch between the preverbal object clitic and the finite verb. Examples of these types of switches with pronouns were shown in (46-48) and are repeated here.

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

(47) a. * *Bradley invites* **él** a todas las fiestas.
3SG.MASC to all the parties
'Bradley invites him to all the parties.'

b. * Bernardo invita a ***him*** *to all the parties*.
invites DOM
'Bernardo invites him to all the parties.'

(48) * *Scott* **lo** *accompanies* al cine.
3SG.MASC to-the cinema
'Scott accompanies him to the movies.'

Because the authors propose that the difference between pro-DPs and pro-ϕPs in English is related to person, the stimuli include a variety of person and number combinations, half being first- or second-person and half being third-person. Specifically, the sub-types of pronouns included for both languages are: first-person singular, second-person singular, first-person plural masculine, third-person singular masculine, third-person singular feminine and third-person plural masculine. Examples of first- and second person singular have already been shown in (49-50), which are repeated here along side examples of the rest of the person/number combinations tested (80-83).

(49) a. * **Yo** *talk too loudly*.
1SG
'I talk too loudly.'

b. * ***I*** hablo demasiado alto.
talk too high
'I talk too loudly.'

(50) a. * **Tú** *write very quickly*.
2SG
'You write very quickly.'

b. * ***You*** escribes muy rápido.
write very quickly
'You write very quickly.'

(80) a. **Él** *works very hard.*
3SG.MASC
'He works very hard.'

b. ***He*** trabaja muy duro.
works very hard
'He works very hard.'

(81) a. **Ella** *studies at the library.*
3SG.FEM
'She studies at the library.'

b. ***She*** estudia en la biblioteca.
studies in the library
'She studies at the library.'

(82) a. **Nosotros** *run every morning.*
1PL.MASC
'We run every morning.'

b. ***We*** corremos cada mañana.
run every morning
'We run every morning.'

(83) a. **Ellos** *read every day.*
3PL.MASC
'They read every day.'

b. ***They*** leen todos los días.
read all the days
'They read every day.'

Sentences (49b), (50b) and (82b) represent the three pro-DP sub-types as they include English first- and second-person pronouns. The nine other sentences represent the pro-ϕP sub-types tested.

Example sentences of all the pronoun stimuli tested in the first experiment have now been illustrated. Another 48 unique stimuli were tested that include lexical DPs. These are included as control stimuli in order to compare the behavior of pronouns based on whether they are DP-like or not. These sentences are formed from the exact same ones just described but with lexical DPs in place of pronouns. There are two sub-types: half of the time the sentence includes a third-personal singular lexical DP and the other half of the time it includes a third-person plural lexical DP. For example, the control stimuli for the pronoun stimuli in (46-47) are provided in (84-85).

(84) a. **Esas señoras** *sleep during the day*.
those ladies
'Those ladies sleep during the day.'

b. ***Those ladies*** duermen durante el día.
sleep during the day
'Those ladies sleep during the day.'

(85) a. *James invites* **esas mujeres** a todas las fiestas.
those women to all the parties
'James invites those women to all the parties.'

b. Javier invita a ***those women*** *to all the parties*.
invites DOM
'Javier invites those women to all the parties.'

The one sentence type that could not be controlled for by replacing the pronoun with a lexical DP is the stimuli testing object clitics, as such a preverbal position is impossible for a lexical DP.

Finally, in addition to the code-switching stimuli, monolingual sentences were also included in the experiment. These stimuli directly mirror the code-switching stimuli but are entirely in either Spanish or English. This is done in order to have a baseline comparison for the code-switching stimuli. A baseline is used to assure that whatever rating a code-switching stimulus receives is due to the specific switch in question and not because of any other element in the sentence. For example, the monolingual stimuli for both the pronoun stimuli in (46-48) and the lexical DP stimuli in (84-85) are shown in (86-90).

(86) a. **Él** duerme durante el día.
3SG.MASC sleeps during the day
'He sleeps during the day.'

b. **He** sleeps during the day.

(87) a. Bernardo invita a **él** a todas las fiestas.
invites DOM 3SG.MASC to all the parties
'Bernardo invites him to all the parties.'

b. Bradley invites **him** to all the parties.

(88) Santiago **lo** acompaña al cine.
3SG.MASC accompanies to-the cinema
'Santiago accompanies him to the movies.'

(89) a. **Esas señoras** duermen durante el día.
those ladies sleep during the day
'Those ladies sleep during the day.'

b. **Those ladies** sleep during the day.

(90) a. Javier invita a **esas mujeres** a todas las fiestas.
invites DOM those women to all the parties
'James invites those women to all the parties.'

b. James invites **those women** to all the parties.

For instance, if a participant rated both monolingual sentences in (86) as acceptable, then one would expect the same participant to rate the equivalent code-switched sentences in (46) as acceptable. Were the participant to rate the code-switched sentences lower, it is the result of something inherently unacceptable with that isolated switch.

Various factors were controlled for in both the code-switching and monolingual stimuli. First, each participant was presented with the same stimuli structure in two different lexical variations. For the lexical DPs, the determiner is always the distal demonstrative: *ese/esa/esos/esas* 'that/those' in Spanish and its equivalent *that/those* in English. Finally, recall that the critical switch is always between either the subject or object and the finite verb. Thus, all other possible switches are controlled for. First, the verbs chosen for subject-position stimuli are all intransitive so that no object is necessary. The verbs chosen for the object-position stimuli are transitive for the opposite reason, but the subject is always realized as a proper name (e.g., *Javier* with Spanish verbs or *William* with English verbs) so there is no switch necessary. Also, notice that in all the examples listed so far, the sentence always finishes with an adjunct Adverb Phrase. The language of this adjunct for the subject stimuli is always the same as the language of the verb, whereas with the object stimuli it is always in the same language as the object.

In summary, the experimental design has been detailed for a total of 108 code-switched stimuli, 38 monolingual English stimuli and 72 monolingual Spanish stimuli. In the following subsection I describe how these stimuli were presented to the participants as well as the additional components of the experimental procedure.

4.1.3 Experiment Procedure

To complete the procedure, participants were provided instructions to access the study entirely online via the Ibex hosting server. First, after signing the consent form, all participants completed a background questionnaire. This was administered to collect sociolinguistic information on the subjects, to ensure they met the age of acquisition qualification to participate (≤6 years old for both languages) and to identify any possible confounding variables.

Recall that the first experiment is designed with respect to the pronoun types proposed by Déchaine and Wiltschko (2002). As prosodic and phonological factors are not relevant to their theory, this experiment includes a written acceptability judgment task. Judgment tasks are a common method used by linguists to collect data that test theoretical claims. They are useful in linguistic theory for various reasons: they provide access to structures that are not common in spontaneous speech; they obtain negative evidence for structures that are not part of the language; they avoid the issue of production problems (as found in corpora data); and they minimize the influence of the communicative and representational functions of the language (Schütze, 1996).

In order to complete the acceptability judgment task, the first portion of the experimental procedure was a brief training session. The specific instructions for each participant on how to complete the task were kept minimal to not influence their ratings, merely explaining via examples (unrelated to pronouns) that they needed to decide whether something was "a possible sentence" in English, Spanish or a mixture of the two. As for the scale, the participants were told that "1 means completely impossible while 7 means completely possible." To ensure the participants understood what was being asked of them, a practice round of judgments was administered.

Next, the participants received the actual experimental stimuli. These were divided into 7 blocks. Three of these blocks included the code-switching stimuli and distractors (110 per block), two included the monolingual English stimuli and distractors (84 per block) and the final two included the monolingual Spanish stimuli and distractors (82 per block). For each block, the sentences were presented one at a time in the center of the screen. Below the sentence was a series of clickable boxes labeled 1 through 7. On either side of the boxes were the labels "completely bad" and "completely good," to remind the participants how to use the scale. Below the boxes was a prompt instructing the participant to "Click boxes to answer." Upon doing so, a placeholder would briefly appear in the center of the screen followed by a new sentence to be rated. At the very top of the screen was a progress bar indicating how far along in the entire experiment the participant was. An example of the experiment screen for a code-switched stimulus is shown in Figure 1.

Figure 1. Written acceptability judgment task experiment screen

The seven blocks of the experiment were separated by a few different tasks, including the proficiency measures as well as two different types of non-linguistic activities to force the participants to take a break from rating sentences. The entire sequence for each participant was as follows: code-switching block 1, memory game, code-switching block 2, puzzle game, code-switching block 3, English proficiency test, English block 1, memory game, English block 2, Spanish proficiency test, Spanish block 1, puzzle game, Spanish block 2.

As mentioned, the stimuli were presented with distractors. A total of 222 code-switched sentences were included as distractors, as well 120 monolingual English and 92 monolingual Spanish distractor sentences. All distractors come from concurrent experiments in the UIC Bilingualism Research Laboratory. The sentences were pseudo-randomized so that there were no more than three in a row of either the target stimuli or distractors. Additionally, each block was divided into two equal parts, the order of which was counterbalanced among the participants. Total procedure time for each participant was between an hour and a half and two hours.

4.2 Results

Recall that there were three different types of sentences tested with respect to language: code-switched sentences that include elements from both languages, monolingual English sentences and monolingual Spanish sentences. Before any of the code-switching results are discussed, it is important to establish that there were no unexpected results in the monolingual stimuli. The group of participants was homogeneous with their Spanish and English judgments. Recall that the types of sentences tested in this experiment included pronouns and lexical DPs as unaltered preverbal subjects and unaltered postverbal objects, as well as Spanish object clitics. All participant responses were uniform with these

monolingual constructions. Specifically, all sentences were accepted except for a Spanish monolingual sentence that only included a postverbal object pronoun. This is expected as the acceptable object constructions in Spanish include either just the object clitic or a postverbal object pronoun in conjunction with an object clitic. The homogeny in the monolingual judgments means a baseline comparison for code-switching was established. Since the participants accepted the monolingual stimuli, the ratings that the code-switching stimuli receive are a direct result of the switch and not any other factor.

Having ruled out monolingual variation, the Spanish/English code-switching stimuli can now be discussed. The results can be described by looking at the mean average rating by what type of element is switched with a finite verb: lexical DP, pro-DP or pro-ϕP. Recall that within each of these types there are various sub-types based on person. First, lexical DPs include only third-person forms for both languages. These results are presented in Figure 2.

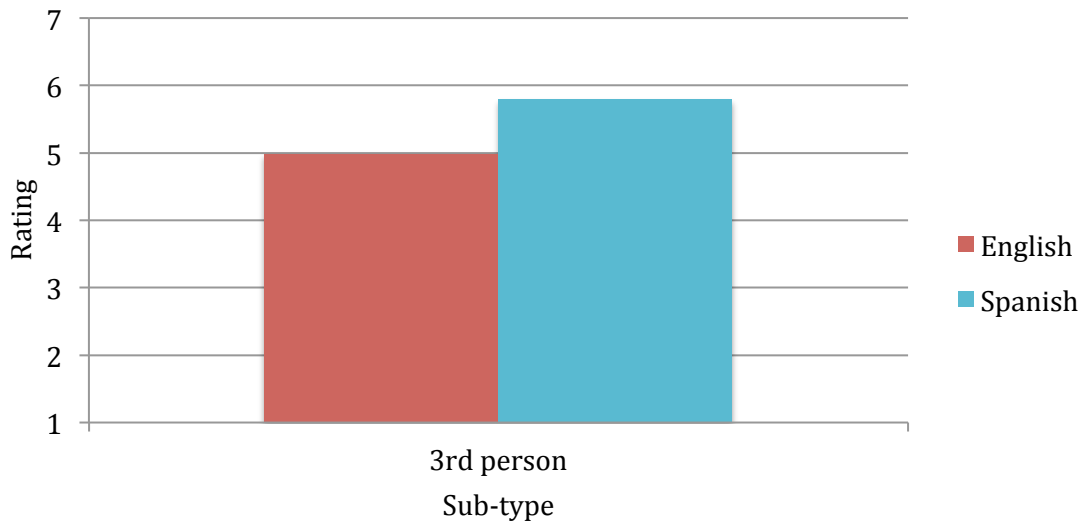


Figure 2. Lexical DPs in Spanish/English code-switching

On the x-axis is the sole sub-type of lexical DPs tested—third person—with each bar representing the language of that element. The mean average ratings for each are on the y-axis. Recall that 1 is "completely bad" and 7 is "completely good." Overall, sentences with a lexical DP switched with a finite verb received high scores, regardless of whether it was in English (M = 4.99; SD = 2.52) or Spanish (M = 5.80; SD = 2.03). Participants rated these sentences as a 5, 6 or 7 (the upper end of the scale) about 72.8% of the time. This is expected as it has been consistently reported in the literature that a switch between a lexical DP and the finite verb is grammatical in code-switching.

As for pro-DPs, recall that there are only two sub-types tested based on Déchaine and Wiltschko's (2002) typology: English first-person (singular and plural) and English second-person (singular) pronouns. These results are shown in Figure 3.

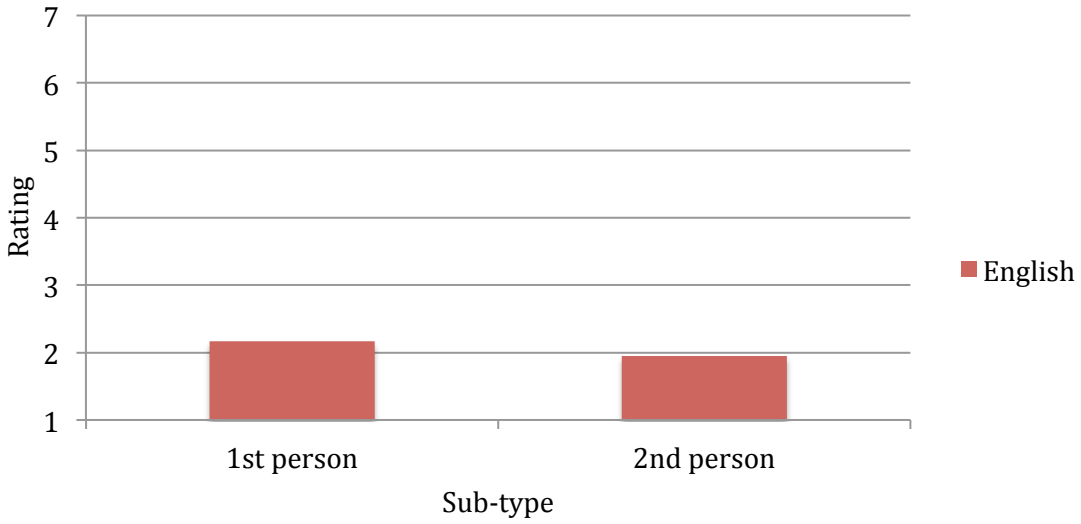


Figure 3. Pro-DPs in Spanish/English code-switching

Here there is a different pattern than before. Sentences that include pro-DPs switched with a finite verb primarily received very low scores, both for first person (M = 2.17; SD = 2.16)

and second person (*M* = 1.95; *SD* = 1.92). Participants rated these as 1, 2 or 3 (the lower end of the scale) about 78.9% of the time. This is surprising as pro-DPs, having a full DP shell, are expected to pattern similar to lexical DPs.

Finally, recall that there were various pro-ϕP sub-types tested, including all Spanish pronouns as well as the English third-person pronouns. These results are shown in Figure 4.

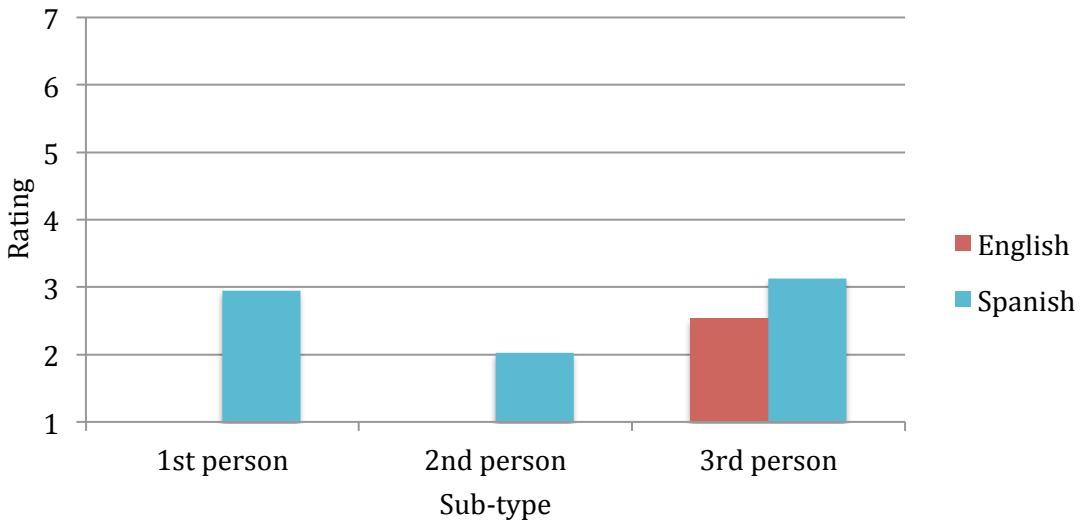


Figure 4. Pro-ϕPs in Spanish/English code-switching

Pro-ϕPs faired slightly better than pro-DPs, but still received low scores overall. Recall that in English this only included third person pronouns (*M* = 2.54; *SD* = 2.39). For Spanish, this included first person (*M* = 2.95; *SD* = 2.56), second person (*M* = 2.03; *SD* = 2.05) and third person (*M* = 3.13; *SD* = 2.60). Overall, pro-ϕPs received a 1, 2 or 3 about 67.2% of the time. Recall that a difference in acceptability based on pronoun type was expected. Nonetheless, it seems as though pronouns are behaving more-or-less uniformly, regardless of the type proposed by Déchaine and Wiltschko (2002). If anything, pro-ϕPs are slightly more acceptable than pro-DPs, which was the opposite of what was expected.

Recall that this experiment uses the theory proposed by Déchaine and Wiltschko (2002) to make the same prediction for code-switching within each sub-type. Therefore, the sub-types were collapsed and mean averages were calculated for all switches involving a lexical DP (*M* = 5.40; *SD* = 2.32), all switches involving a pro-DP (*M* = 2.10; *SD* = 2.08) and all switches involving a pro-ϕP (*M* = 2.80; *SD* = 2.50). This is shown in Figure 5.

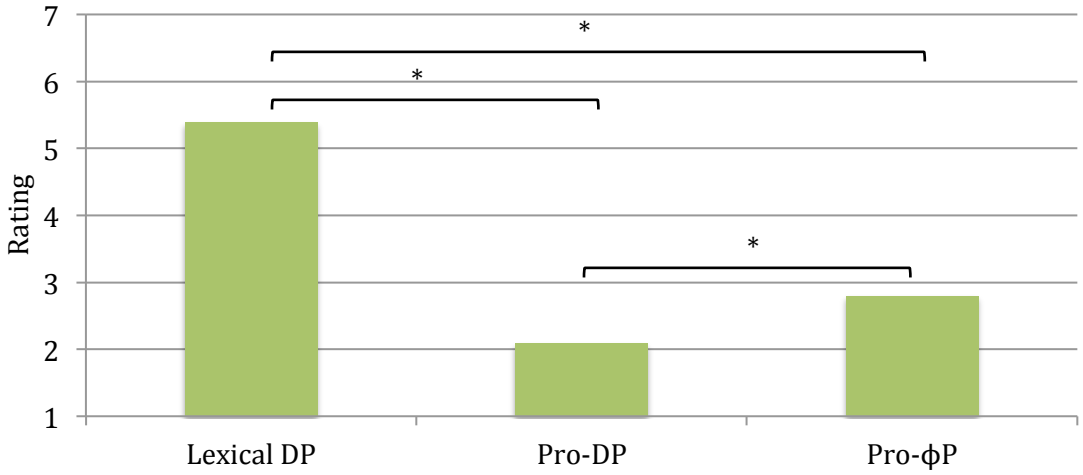


Figure 5. Lexical DPs, pro-DPs and pro-ϕPs in Spanish/English code-switching

A one-way ANOVA showed there are statistically significant differences between mean averages by type (F = 343.478, p < .000). A Tukey post-hoc analysis showed a significant difference between all three groups. Not only is the mean average rating for sentences with lexical DPs significantly higher than sentences with either pro-DPs (p < .000) or pro-ϕPs (p < .000), but also the mean average rating for sentences with pro-ϕPs is significantly higher than that of pro-DPs (p < .000).

So far the results have only been presented in terms of pro-DPs and pro-ϕPs. Recall, though, that based on the dual-experiment design, both experiments can serve as partial replications of each other. Although the stimuli in this experiment are designed according to

Déchaine and Wiltschko's (2002) proposal, the pronouns tested can be re-categorized using Cardinaletti and Starke's (1999) proposal. The first experiment only includes two of their pronoun types: weak and clitic pronouns. The mean averages were calculated for all switches involving a weak pronoun (*M* = 2.78; *SD* = 2.49) and all switches involving a clitic pronoun (*M* = 2.18; *SD* = 2.15). The re-categorization of the results is shown in Figure 6.

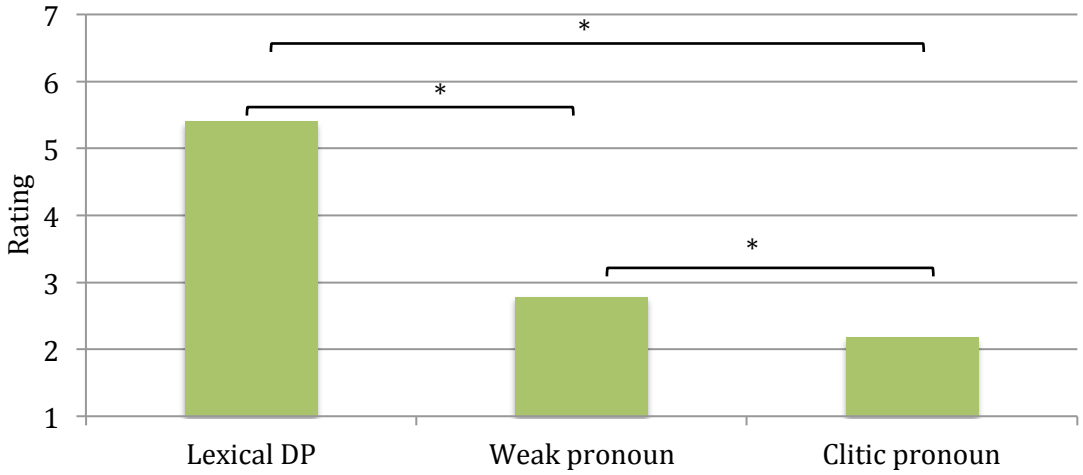


Figure 6. Lexical DPs and weak/clitic pronouns in Spanish/English code-switching

A one-way ANOVA showed there are statistically significant differences between mean averages by type ($F = 324.220$, $p < .000$). A Tukey post-hoc analysis showed a significant difference in mean average rating between all groups. Not only is the mean average rating for sentences with lexical DPs significantly higher than sentences with either weak ($p < .000$) or clitic pronouns ($p < .000$), but also the mean average rating for sentences with weak pronouns is significantly higher than that of clitic pronouns ($p < .003$).

Overall, the results of the first experiment are straightforward. On one hand, sentences with a lexical DP switched with a finite verb were predominately rated high, indicating that on the whole participants accepted such a switch. On the other hand, both types of sentences involving a switch between a pronoun and a finite verb were rated low,

indicating that such a switch in unacceptable for the participants. There was no drastic difference between types regardless of the pronoun theory used to categorize the pronouns.

4.3 Research Questions and Hypotheses Revisited

The results of the first experiment provide a clear look at the behavior of pronouns in Spanish/English code-switching. How does this relate to the research questions? First, recall the two research questions, repeated here:

(71) Research Question 1: Does the acceptability of pronouns in Spanish/English code-switching align with Cardinaletti and Starke's (1999) proposal?

(72) Research Question 2: Does the acceptability of pronouns in Spanish/English code-switching align with Déchaine and Wiltschko's (2002) proposal?

Recall that the first experiment was specifically designed to test the second question, including the pronoun types proposed by Déchaine and Wiltschko (2002). There were eight different possible outcomes, which were originally outlined in Table 10, repeated here.

Table 10

Possible outcomes using Déchaine and Wiltschko's (2002) typology

Possibility	Results by Pronoun Type Acceptable	Unacceptable
1	✓ Pro-DP	* Pro-ϕP, pro-NP
2	✓ Pro-ϕP	* Pro-DP, pro-NP
3	✓ Pro-NP	* Pro-DP, pro-ϕP
4	✓ Pro-DP, pro-ϕP	* Pro-NP
5	✓ Pro-DP, pro-NP	* Pro-ϕP
6	✓ Pro-ϕP, pro-NP	* Pro-DP
7	✓ Pro-DP, pro-ϕP, pro-NP	* *None*
8	✓ *None*	* Pro-DP, pro-ϕP, pro-NP

Possibility 1 was expected over all others due to previous data in the code-switching literature. First, lexical DPs have been consistently found to be acceptable when switched with the finite verb; therefore, using the proposal by Déchaine and Wiltschko (2002), I predicted that pro-DPs, projecting a full DP shell, would be able to be switched as well. Recall that the authors only categorize English first- and second-person pronouns as pro-DPs. This is the basis of the fourth hypothesis, repeated here:

(76) Hypothesis 4: English first- and second-person pronouns can be switched with a finite verb in Spanish/English code-switching.

Based on the results from the first experiment, this hypothesis was not supported. Sentences that contained a code-switch between a pro-DP and a finite verb were consistently found to be unacceptable by the participants.

As for pro-ϕPs, there was no evidence from the literature supporting such a switch. Therefore, it was predicted that unlike pro-DPs, pro-ϕPs would not be able to be switched. Recall that this pronoun type includes all Spanish pronouns as well as English third-person pronouns. This was the fifth hypothesis, repeated here:

(77) Hypothesis 5: All Spanish pronouns and English third-person pronouns cannot be switched with a finite verb in Spanish/English code-switching.

Based on the results from the first experiment, this hypothesis was supported. Sentences that contained a code-switch between a pro-ϕP and a finite verb were consistently found to be unacceptable by the participants.

Although, the first experiment was designed to explicitly test the pronoun types proposed by Déchaine and Wiltschko (2002), the results can also be used to address the first research question, at least partially. Since the first experiment tested unaltered Spanish and English pronouns that were in standard subject and object position as well as Spanish object clitics, the Cardinaletti and Starke (1999) would categorize such pronouns as weak

and clitic pronouns respectively. These pronoun types were the subject of Hypotheses 2 and 3, repeated here:

(74) Hypothesis 2: Pronouns that are phonologically reduced or unaltered cannot be switched with a finite verb in Spanish/English code-switching.

(75) Hypothesis 3: Clitic pronouns cannot be switched with a finite verb in Spanish/English code-switching.

The results of the first experiment support both of these hypotheses. All sentences tested that contained a switch between a finite verb and either weak or clitic pronouns were found to be unacceptable. As for Hypothesis 1, which focuses on the acceptability of strong pronouns, its validity cannot be comment on, as none of the pronouns included in the first experiment are categorized as a strong pronoun.

Overall the results from the first experiment show uniform behavior of pronouns in Spanish/English code-switching. The participants deemed all sentences tested unacceptable if they included a switch between a pronoun and a finite verb. This restriction was found regardless of pronoun type. Lexical DPs, on the other hand, were found to be acceptable when switched with a finite verb.

Recall that the first experiment was designed to test the proposal by Déchaine and Wiltschko (2002). Pro-ϕPs were expected to be unacceptable when switched and the results confirmed this. Pro-DPs, however, were expected to behave like the lexical DPs, yet were found unacceptable. Therefore, the results of the first experiment do not support a theory of pronouns along the lines of Déchaine and Wiltschko (2002).

As for the other pronoun theory by Cardinaletti and Starke (1999), this experiment only included two of the three pronoun types they propose—weak and clitic pronouns. Both pronoun types were expected to be unacceptable when switched with a finite verb and the results confirmed this. After the first experiment, the results support an analysis of

pronouns along the lines of Cardinaletti and Starke (1999). This can be confirmed by the second experiment, which includes strong pronouns, the one pronoun type that has yet to be tested.

5 EXPERIMENT 2: STRONG AND WEAK PRONOUNS IN SPANISH/ENGLISH CODE-SWITCHING

The second experiment is very similar in design and execution as the first. In the following subsections I first describe the design and methodology of the second experiment, providing details about the participants, the stimuli and the experimental procedure. Afterwards I present the results of the experiment. Finally, I conclude by revisiting the research questions and hypotheses in light of the results.

5.1 Design and Methodology

As with the first experiment, the design and methodology is comprised of three separate parts—participants, stimuli and procedure. Many of the specific aspects are carried over entirely from the first experiment. Therefore, in the following subsections I detail each only as they differ from the first experiment.

5.1.1 Participants

Recall that the type of participant needed has already been established in subsection 4.1.1, specifically focusing on Spanish/English bilinguals who started acquiring both languages at a young age and have maintained a high proficiency in both as well. In search of this type of participant for the second experiment, 32 bilingual individuals were recruited from intermediate Spanish classes in the University of Illinois at Chicago, which included both heritage and L2 speakers of Spanish. Of these, a total of 18 remained in the dataset for the second experiment. A total of 8 participants were removed for having reported learning Spanish not at an early age (i.e., later than age 6). Another 6 participants were removed for scoring below the proficiency score threshold (advanced or native-like) in Spanish.

Demographically speaking, there were 15 females and 4 males whose ages ranged between 18 and 30 (M = 21.6). All were either simultaneous or early-sequential Spanish/English bilinguals living in Chicago, Illinois. Four participants were born outside the US in Mexico and moved to the Chicago area before age 5, whereas the rest of the participants were born and raised in in the greater Chicago area. The majority of participants were of Mexican heritage, except two individuals who were of Ecuadorian descent. It is possible that dialectal variation had an effect on the judgments for particular sentence structures, but this was accounted for by taking monolingual variation into consideration. The details of this are discussed in the results section. Finally, all participants are self-reported code-switchers and indicated that they grew up hearing and using both languages and still use both on a regular basis.

5.1.2 Experimental Stimuli

The second experiment looks at a different subsection of the code-switching data related to pronouns, specifically targeting the pronoun types as categorized by Cardinaletti and Starke (1999). Strong, weak and clitic pronouns in Spanish/English code-switching were originally shown in Table 7 and are repeated here.

Table 7

Strong, weak and clitic pronouns in Spanish/English code-switching

		Example	
Type	Sub-type	Spanish-to-English	English-to-Spanish
Strong	Coordination	**Él** y Alberto *sleep during the day*.	***He*** *and Alex* duermen durante el día.
	Modification	**Él** con el pelo negro *sleeps during the day.*	***Him*** *with the black hair* duerme durante el día.
	Clefting	*Evan said it's* **él** que duerme durante el día.	Eduardo dijo que es ***him*** *that sleeps during the day.*
	Hanging topic	Juanita dijo que **él**, *he sleeps during the day.*	*Jennifer said that* ***him****,* duerme durante el día.
	Prosodic stress	Ella duerme durante la noche, pero **ÉL** *sleeps during the day.*	*She sleeps at night, but* **HE** duerme durante el día.
Weak	Unaltered	**Él** *sleeps during the day.*	***He*** duerme durante el día.
	Phonological reduction		Teresa abraza a *'**im** all the time.*
Clitic	Object clitics	*Scott* **lo** *accompanies* al cine.	

Although the above table details all three different pronoun types, the second experiment eliminates the Spanish clitics, which were already exhaustively tested in the first experiment. Recall that they were found to be unacceptable in Spanish/English code-switching. The second experiment focuses on the other two pronoun types—strong and weak.

To investigate strong and weak pronouns, a total of 52 unique stimuli were tested. These were all sentences including intra-sentential code-switching. They tested the following sub-types: unaltered pronouns, coordinated pronouns, modified pronouns, pronouns as hanging topics, pronouns in cleft position, prosodically-stressed pronouns and phonologically-reduced pronouns.

Examples of the unaltered pronouns have already been shown in (46) and are repeated here.

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

These are the only stimuli that are directly repeated from the first experiment, as all other constructions involving pronouns are unique to the proposal by Cardinaletti and Starke (1999).

Examples of pronouns that are coordinated or modified were shown in (51-52) and are repeated here.

(51) a. **Él** y Alberto *sleep during the day*.
3SG.MASC and
'He and Alberto sleep during the day.'

b. ***He*** *and Alex* duermen durante el día.
sleep during the day
'He and Alex sleep during the day.'

(52) a. **Él** con el pelo negro *sleeps during the day.*
3SG.MASC with the hair black
'Him with the black hair sleeps during the day.'

b. ***Him*** *with the black hair* duerme durante el día.
sleeps during the day
'Him with the black hair sleeps during the day.'

Like the unaltered pronouns, these constructions were tested as preverbal subjects. Examples of pronouns that are hanging topics, cleft or prosodically stressed were shown in (53-55) and are repeated here.

(53) a. Juanita dijo que **él**, *he sleeps during the day.*
said that 3SG.MASC
'Juanita said that him, he sleeps during the day.'

b. *Jennifer said that* ***him***, duerme durante el día.
sleeps during the day
'Jennifer said that him, he sleeps during the day.'

(54) a. *Evan said it's* **él** que duerme durante el día.
3SG.MASC that sleeps during the day
'Evan said it's him that sleeps during the day.'

b. Eduardo dijo que es ***him*** *that sleeps during the day*.
said that is
'Eduardo said it's him that sleeps during the day.'

(55) a. Ella duerme durante la noche, pero **ÉL** *sleeps during the day*.
3SG.FEM sleeps during the night but 3SG.MASC
'She sleeps at night, but HE sleeps during the day.'

b. ? *She sleeps at night, but* ***HE*** duerme durante el día.
sleeps during the day
'She sleeps at night, but HE sleeps during the day.'

Notice that these stimuli all include an embedded sentence structure to provide a more natural context for such constructions.

The final type of pronoun tested in the second experiment is phonologically-reduced pronouns.

(56) * Teresa abraza a ***'im*** *all the time*.
hugs DOM
'Teresa hugs him all the time.'

It was necessary to test these with object pronouns, as this is where the phenomenon is found with English. There is no Spanish equivalent so these were the only sentences that had no complementary versions with a switch in the opposite direction.

Example sentences of all the target stimuli tested in the first experiment have now been described. In addition to the code-switching stimuli that involve pronouns, another 48 unique stimuli were tested that include lexical DPs. Once again these are included as control stimuli in order to compare the behavior of pronouns based on whether they are DP-like or not. This other half of the stimuli was formed from the exact same sentences just described but with lexical DPs in place of pronouns, half of the time including a third-personal singular

lexical DP and the other half of the time including a third-person plural lexical DP. For example, the control stimuli for the pronoun stimuli in (51-52) are provided in (91-92).

(91) a. **Ese hombre** y Alberto *sleep during the day*.
that man and
'That man and Alberto sleep during the day.'

b. ***That guy*** *and Alex* duermen durante el día.
sleep during the day
'That guy and Alex sleep during the day.'

(92) a. **Ese hombre** con el pelo negro *sleeps during the day.*
that man with the hair black
'That guy with the black hair sleeps during the day.'

b. ***That guy*** *with the black hair* duerme durante el día.
sleeps during the day
'That guy with the black hair sleeps during the day.'

The only sentences that did not include a lexical DP equivalent were those involving a phonologically reduced pronoun.

Finally, in addition to the code-switching stimuli, monolingual sentences were once again included in the experiment as a baseline comparison for the code-switched sentences. For example, the monolingual equivalents for both the pronoun stimuli in (51-52) and the lexical DP stimuli in (91-92) are shown in (93-96).

(93) a. **Él** y Alberto duermen durante el día.
3SG.MASC and sleep during the day
'He and Alberto sleep during the day.'

b. **He** and Alex sleep during the day.

(94) a. **Él** con el pelo negro duerme durante el día.
3SG.MASC with the hair black sleeps during the day
'Him with the black hair sleeps during the day.'

b. **Him** with the black hair sleeps during the day.

(95) a. **Ese hombre** y Alberto duermen durante el día.
that man and sleep during the day
'That man and Alberto sleep during the day.'

b. **That guy** and Alex sleep during the day.

(96) a. **Ese hombre** con el pelo negro duerme durante el día.
that man with the hair black sleeps during the day
'That guy with the black hair sleeps during the day.'

b. **That guy** with the black hair sleeps during the day.

If a participant rated both monolingual sentences in (94) as acceptable, then one would expect the same participant to rate the equivalent code-switched sentences in (52) as acceptable. It will be shown later that there are participants who do not accept certain sub-types in the monolingual context, such as the modified pronouns in (94). If they do not accept such a construction in monolingual sentences, obviously the code-switched equivalents will be rated low as well. Consequently, no information about the switch itself can be gleaned from such data. Therefore, I will control for this monolingual variation by removing such ratings from the dataset. This process is discussed more in detail in the results section.

For all of the stimuli, both code-switching and monolingual, the factors that were controlled for in the first experiment were maintained. This includes the use of the distal demonstrative for the lexical DPs and controlling for all other switch points. Contrary to the first experiment, since person was not a factor relevant for pronoun type in the theory by Cardinaletti and Starke (1999), all sentences tested in the second experiment included only pronouns in third-person and were balanced between singular and plural. The singular pronouns included both masculine and feminine forms. Finally, each participant was presented with the same target stimuli structure in four different lexical variations.

In summary, the experimental design has been detailed for a total of 100 code-switched stimuli, 52 monolingual English stimuli and 48 monolingual Spanish stimuli. In the following subsection I describe how these stimuli were presented to the participants as well as the additional components of the experimental procedure.

5.1.3 Experimental Procedure

As with the stimuli design, the procedure for the second experiment was very similar to that of the first. Once again participants were provided instructions to complete the study entirely online via the Ibex hosting server. The experiment itself was almost identical save for the fact that the sentences were no longer provided in written form. Recall that the second experiment is designed with respect to the pronoun types proposed by Cardinaletti and Starke (1999). Prosodic and phonological factors are directly tied to their theory; therefore, this experiment uses aural acceptability judgment tasks. Instead of a written sentence, a play button was presented one at a time in the center of the screen. Upon clicking the participant would hear pre-recorded audio of the given stimulus or distractor sentence.[14] Participants were able to replay each sentence as many times as they preferred before rating it on the same scale from one ("completely bad") to seven ("completely good"). An example of the experiment screen for a code-switched stimulus is shown in Figure 7.

[14] All recordings were conducted with a consultant who is a member of the bilingual Spanish/English Mexican community in Chicago.

Figure 7. Aural acceptability judgment task experiment screen

Overall the entire sequence for each participant was the same as before: code-switching block 1, memory game, code-switching block 2, puzzle game, code-switching block 3, English proficiency test, English block 1, memory game, English block 2, Spanish proficiency test, Spanish block 1, puzzle game, Spanish block 2. A total of 128 code-switched sentences were included as distractors, as well 76 monolingual English and 72 monolingual Spanish distractor sentences. Each code-switching block consisted of 76 sentences (both target stimuli and distractors), each English block included 64 sentences, and each Spanish block included 60 sentences. Total procedure time for each participant was between an hour and a half and two hours.

5.2 Results

Before looking at the code-switching results, it is important to discuss the monolingual stimuli. Unlike with the first experiment, the participants were not homogeneous in their Spanish and English judgments for the types of sentences tested. This is not surprising as the second experiment includes several constructions that are less frequent in use and more variable among monolingual speakers. Nonetheless, a baseline comparison for code-switching can be established if the results of the monolingual judgments are taken into consideration.

There were no variations in the monolingual judgments with sentences testing lexical DPs or pronouns that were prosodically stressed, phonologically reduced or unaltered. Therefore, the code-switching data including these structures are not affected. There was variation, however, in sentences with hanging topics, modification, clefting and coordination.

First, across the board participants did not accept hanging topics in either language (M = 2.46; SD = 2.26). As for modification in monolingual sentences, the participants patterned into three different groups: 7 individuals who accepted modified pronouns in both languages (M = 6.30; SD = 1.67); 4 individuals who did not accept them in either language (M = 1.88; SD = 1.66); and 7 individuals who accepted them in Spanish (M = 6.14; SD = 1.24) but not in English (M = 2.71; SD = 2.14). With cleft constructions, the participants patterned into four different groups: 6 individuals who accepted pronouns in cleft position in both languages (M = 7.00; SD = 0.00); 2 individuals who did not accept them in either language (M = 1.44; SD = 1.50); 5 individuals who accepted them in Spanish (M = 6.70; SD = 0.47) but rated them in the middle for English (M = 4.05; SD = 2.58); and another 5 individuals who rated them in the middle for both languages (M = 4.58; SD = 1.81). Finally, all participants accepted coordinated pronouns in both languages (M = 6.77; SD = 0.82)

except for two individuals who rated such constructions in the middle (M = 4.58; SD = 1.81). A summary of the monolingual judgment variation is presented in Table 11.

Table 11

Strong pronoun monolingual variation

Participant	Hanging Topic	Modification	Clefting	Coordination
1	Neither	Neither	Neither	Both
2	Neither	Both	Both	Both
3	Neither	Spanish Only	Spanish Only	Both
4	Neither	Both	Both	Both
5	Neither	Both	Both	Both
6	Neither	Both	Both	Both
7	Neither	Both	Both	Both
8	Neither	Both	Spanish Only	Both
9	Neither	Neither	Unsure	Unsure
10	Neither	Neither	Unsure	Both
11	Neither	Spanish Only	Spanish Only	Both
12	Neither	Spanish Only	Spanish Only	Both
13	Neither	Spanish Only	Unsure	Both
14	Neither	Spanish Only	Unsure	Both
15	Neither	Spanish Only	Spanish Only	Both
16	Neither	Both	Unsure	Both
17	Neither	Spanish Only	Both	Both
18	Neither	Neither	Neither	Unsure

Taking into consideration the variation described, the sub-types that participants did not accept in the monolingual stimuli were removed from the code-switching dataset. Specifically, for any participant who accepted neither the English nor Spanish version, the ratings for that particular structure were removed. The same goes for any participant who was unsure about a particular sentence type. Finally, for any participant who accepted only the Spanish version, half of their code-switching judgments were removed. All other

acceptability ratings remained in the dataset. By establishing this baseline comparison for code-switching from the monolingual judgments, the remaining data is based strictly on the availability of a switch and not any other factor.

Now that monolingual variation has been accounted for, the Spanish/English code-switching stimuli can be discussed. The results can be assessed descriptively by looking at the mean average rating by the type of element switched: lexical DP, strong pronoun or weak pronoun.

First, stimuli with lexical DPs include five different sentence types for both languages. These results are presented in Figure 8.

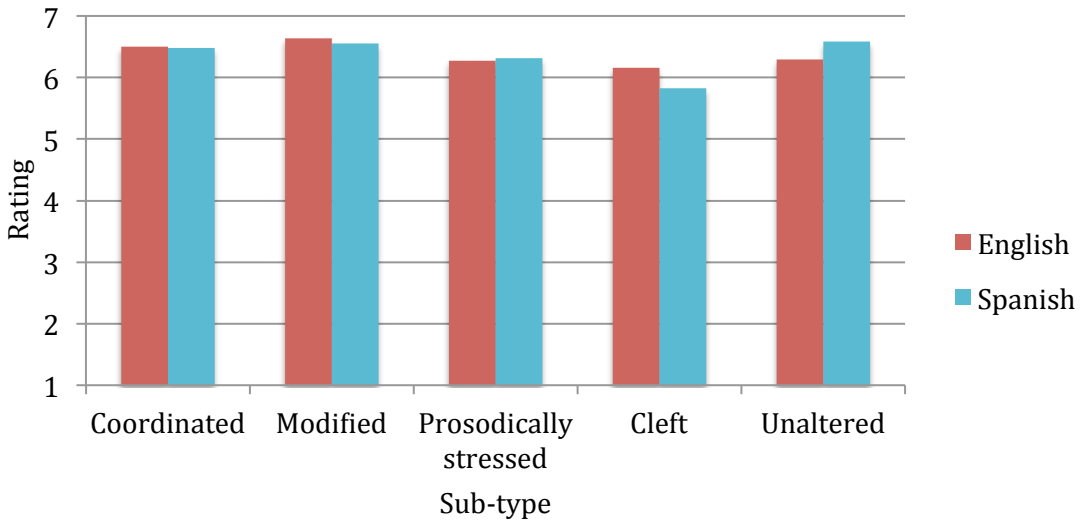


Figure 8. Lexical DPs in Spanish/English code-switching

Once again recall that 1 is "completely bad" and 7 is "completely good." Overall the same pattern arises as in the first experiment. Sentences with a lexical DP switched with a finite verb received high scores. This includes lexical DPs in English that are coordinated (M = 6.50; SD = 1.31), modified (M = 6.64; SD = 1.16), prosodically stressed (M = 6.28; SD = 1.30), cleft (M = 6.16; SD = 1.54) or unaltered (M = 6.29; SD = 1.60), as well as Spanish

lexical DPs that are coordinated (M = 6.48; SD = 1.27), modified, (M = 6.55; SD = 1.14), prosodically stressed (M = 1.46; SD = 0.00), cleft (M = 5.83; SD = 2.06) or unaltered (M = 6.58; SD = 0.88). Participants rated these sentences as a 5, 6 or 7 about 91.7% of the time. This is expected as it has been consistently reported in the literature that a switch between a lexical DP and the finite verb is grammatical in code-switching.

As for strong pronouns, recall that there were a variety of sub-types tested based on Cardinaletti and Starke's (1999) typology: pronouns that are coordinated, modified, prosodically stressed or cleft. These results are shown in Figure 9.

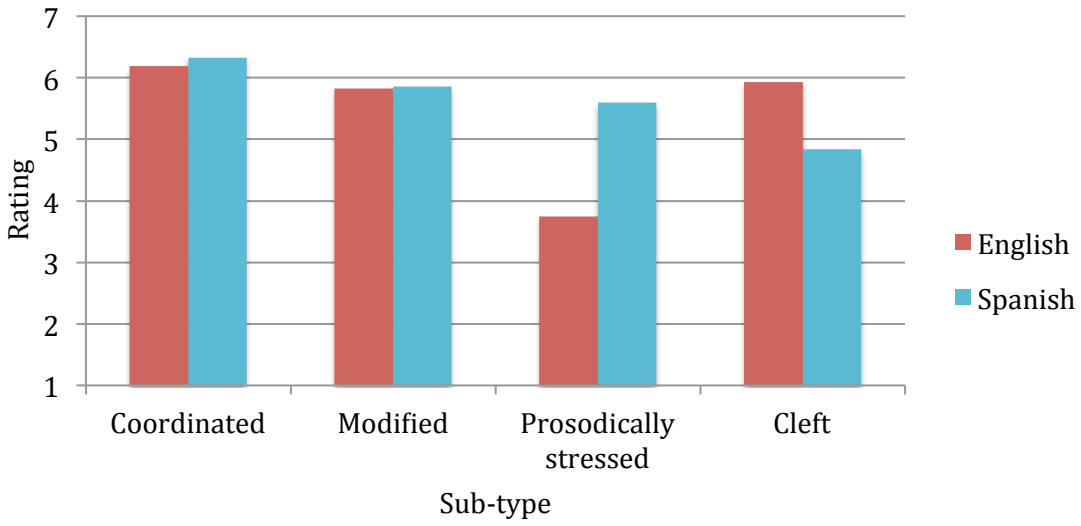


Figure 9. Strong pronouns in Spanish/English code-switching

Here there is a similar pattern overall. Sentences that include strong pronouns switched with a finite verb received high scores with one exception. All Spanish strong pronouns were rated high, regardless of whether they were coordinated (M = 6.33; SD = 1.64), modified (M = 5.86; SD = 1.93), prosodically stressed (M = 5.60; SD = 2.05) or cleft (M = 4.83; SD = 2.66). The English strong pronouns were rated high if they were coordinated (M = 6.19; SD = 1.59), modified (M = 5.82; SD = 2.23) or cleft (M = 5.93; SD = 1.96).

Prosodically-stressed English pronouns received scores in the middle (M = 3.75; SD = 2.58), which is not expected and is a potential problem as they are the one strong pronoun sub-type not behaving like the rest. For now this concern will be set aside, but issues related to prosody will be revisited in the discussion in Chapter 6. Also, note that Spanish pronouns in cleft position are not equal to the other high-scoring sub-types; however, by comparing this with Figure 8, note that Spanish cleft sentences were also the lowest rated of the sentences with lexical DPs. Overall, participants rated strong pronouns as 5, 6 or 7 about 81.4% of the time. This is not surprising as strong pronouns, having a full DP shell, were expected to pattern similar to lexical DPs.

Finally, recall that there were two different weak pronoun sub-types tested, including unaltered standard subject-position pronouns and phonologically-reduced object pronouns in English. These results are shown in Figure 10.

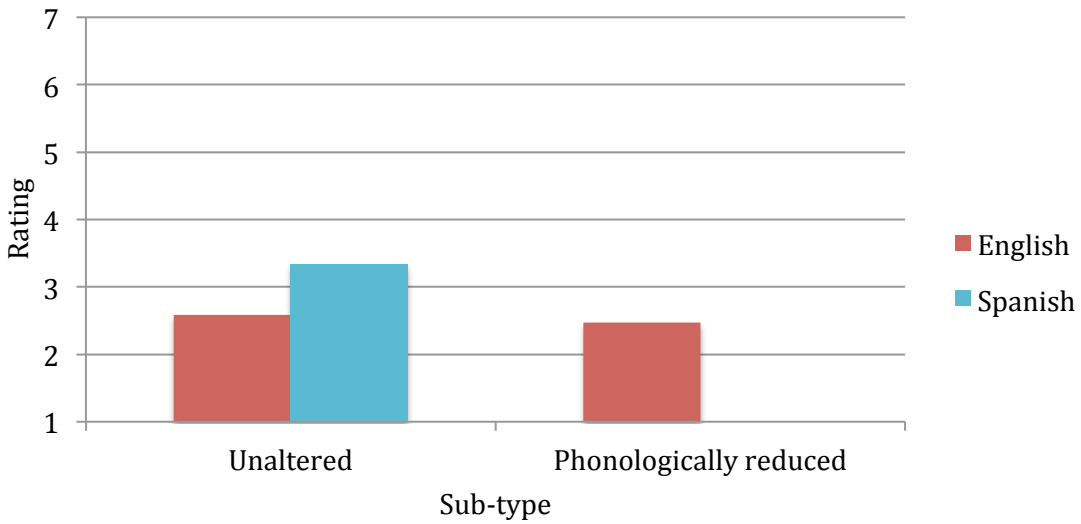


Figure 10. Weak pronouns in Spanish/English code-switching

Here weak pronouns are behaving differently than strong pronouns. Unaltered pronouns were scored low regardless of whether they were in English (M = 2.58; SD = 2.28) or

Spanish (*M* = 3.33; *SD* = 2.59). The same goes for phonologically-reduced English pronouns (*M* = 2.47; *SD* = 2.27). Weak pronouns on the whole were rated as a 1, 2 or 3 about 70.8% of the time. This is not surprising as weak pronouns were expected to be unacceptable in code-switching. Furthermore, the same pattern was found with weak pronouns in the first experiment.

Recall that this experiment was designed according to the proposal by Cardinaletti and Starke (1999), and the same prediction was made for code-switching within each sub-type. Therefore, the sub-types were collapsed and mean averages were calculated for all switches involving a lexical DP (*M* = 6.09; *SD* = 1.74), all switches involving a strong pronoun (*M* = 4.73; *SD* = 2.56) and all switches involving a weak pronoun (*M* = 2.80; *SD* = 2.41). This is shown in Figure 11.

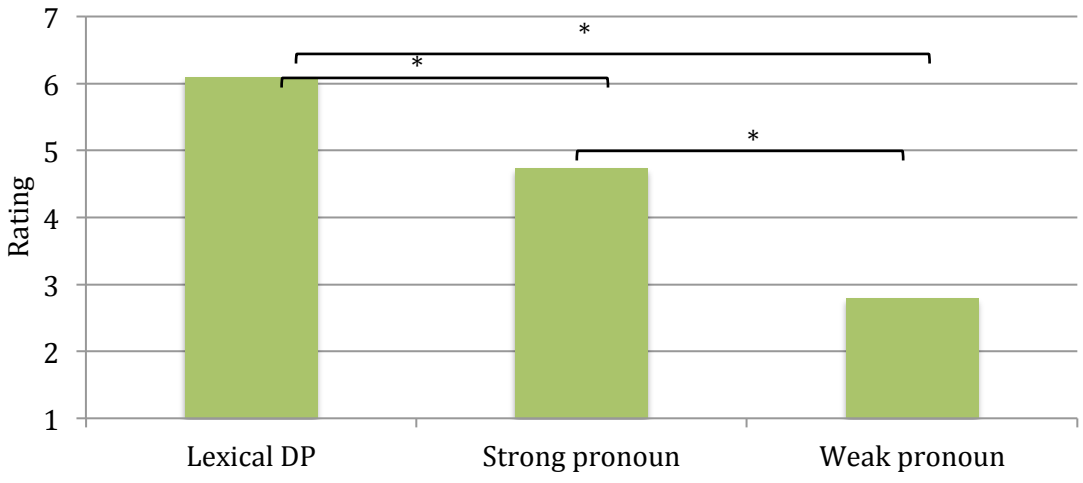


Figure 11. Lexical DPs and strong/weak pronouns in Spanish/English code-switching

A one-way ANOVA was run to assess whether there are statistically significant differences between mean averages. This showed that there is a significant difference by type ($F=278.207$, $p < .000$). A Tukey post-hoc test showed a significant difference in mean average rating between all groups. The mean average rating for sentences with weak pronouns is significantly lower than sentences with either lexical DPs ($p < .000$) or strong pronouns ($p < .000$), and the mean average rating for sentences with strong pronouns is significantly lower than that of lexical DPs ($p < .000$).

So far the results have only been presented in terms strong and weak pronouns. Recall, though, that based on the dual-experiment design, both experiments can serve as partial replications of each other. Although the stimuli in this experiment are designed according to the theory proposed by Cardinaletti and Starke (1999), the pronouns tested can be re-categorized using Déchaine and Wiltschko's (2002) proposal. In this experiment, the pronouns rated by the participants were all of the same sub-type: pro-ϕP. The mean averages were calculated for all switches involving a pro-ϕP ($M = 4.20$; $SD = 2.66$). The re-categorization of the results is shown in Figure 12.

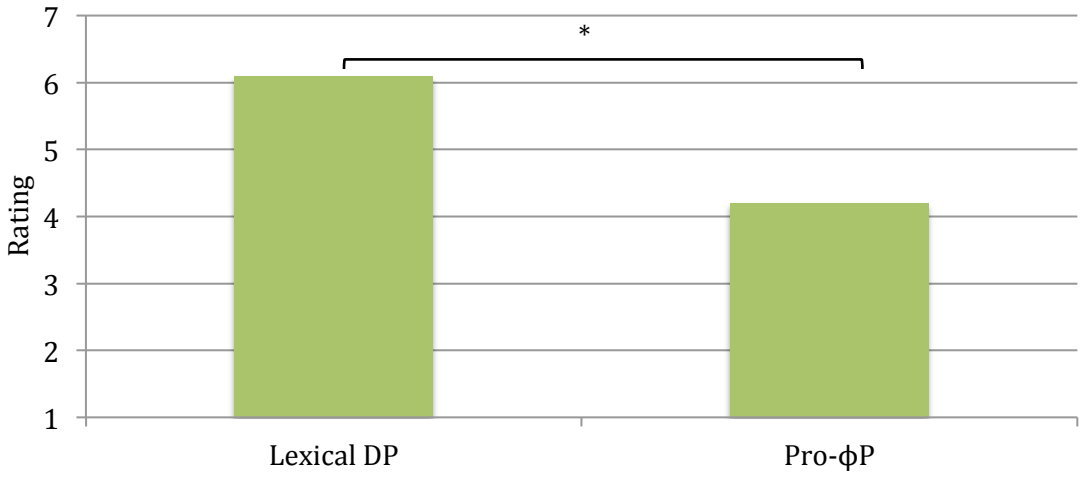


Figure 12. Lexical DPs and pro-ϕPs in Spanish/English code-switching

An independent samples t-test showed there was a statistically significant difference between mean averages by type ($F = 800.045$), with the rating for sentences with lexical DPs being significantly higher than that of pro-ϕPs ($p < .000$).

Overall the results of the second experiment are more informative than the results of the first experiment. As expected, sentences with a lexical DP switched with a finite verb were predominately rated high, repeating the results of the first experiment. Pronouns, on the other hand, did not behave uniformly as they did previously. Sentences involving a switch between a strong pronoun and a finite verb were rated high, indicating that such a switch is acceptable for the participants. Sentences with a switch between a weak pronoun and finite verb were rated low, meaning they were unacceptable.

5.3 Research Questions and Hypotheses Revisited

The results of the first experiment provide an interesting look at the behavior of pronouns in Spanish/English code-switching. How does this relate to the research questions? First, recall the two research questions, repeated here:

(71) Research Question 1: Does the acceptability of pronouns in Spanish/English code-switching align with Cardinaletti and Starke's (1999) proposal?

(72) Research Question 2: Does the acceptability of pronouns in Spanish/English code-switching align with Déchaine and Wiltschko's (2002) proposal?

Recall that the second experiment was specifically designed to test the first question, explicitly looking at the pronoun types proposed by Cardinaletti and Starke (1999). There were eight different possible outcomes, which were originally outlined in Table 9, repeated here.

Table 9

Possible outcomes using Cardinaletti and Starke's (1999) typology

Possibility	Results by Pronoun Type Acceptable	Unacceptable
1	✓ Strong	* Weak, Clitic
2	✓ Weak	* Strong, Clitic
3	✓ Clitic	* Strong, Weak
4	✓ Strong, Weak	* Clitic
5	✓ Strong, Clitic	* Weak
6	✓ Weak, Clitic	* Strong
7	✓ Strong, Weak, Clitic	* *None*
8	✓ *None*	* Strong, Weak, Clitic

Possibility 1 was expected over all others to due to previous data in the code-switching literature. First, lexical DPs have been consistently found to be acceptable when switched with a finite verb; therefore, based on the proposal by Cardinaletti and Starke (1999) I

predicted that strong pronouns, projecting a full DP shell, would be able to be switched as well. Recall that the authors only consider strong pronouns to be those that are in peripheral positions or coordinated, modified or prosodically stressed. This is the basis of the first hypothesis, repeated here:

(73) Hypothesis 1: Pronouns that are coordinated, modified, prosodically stressed or in peripheral positions can be switched with a finite verb in Spanish/English code-switching.

Based on the results from the second experiment, this hypothesis is supported. Sentences that contained a code-switch with a strong pronoun were found to be acceptable by the participants. The one possible exception is prosodically-stressed English pronouns, which were rated somewhere in the middle. However, these pronouns were still rated higher than weak pronouns on the whole.

As for weak pronouns, there was no evidence from the literature supporting such a switch. Therefore, I predicted that unlike strong pronouns, weak pronouns would not be able to be switched. Recall that this pronoun type includes those that are phonologically reduced or unaltered. This was then the fifth hypothesis, repeated here:

(74) Hypothesis 2: Pronouns that are phonologically reduced or unaltered cannot be switched with a finite verb in Spanish/English code-switching.

Based on the results from the second experiment, this hypothesis was also supported. Sentences that contained a code-switch between a weak pronoun and a finite verb were consistently found to be unacceptable by the participants.

The final pronoun type, clitic pronouns, was not included in the second experiment as they were exhaustively tested in the first experiment. Recall that participants consistently rated them low, similarly to weak pronouns.

Although the second experiment was designed to include the pronoun types proposed by Cardinaletti and Starke (1999), the results can be discussed with respect to the

second research question as well. Based on Déchaine and Wiltschko's (2002) proposal, the second experiment only tested pro-ϕPs, as all pronouns included were in the third person. These pronoun types were the subjects of Hypothesis 5, repeated here:

(77) Hypothesis 5: All Spanish pronouns and English third-person pronouns cannot be switched with a finite verb in Spanish/English code-switching.

The results of the second experiment do not support this hypothesis. The acceptability of sentences tested that contained a switch between a finite verb and a pro-ϕP varied, as there were instances where they were found to be unacceptable and other instances where they were found to be acceptable. As for Hypothesis 4, which focuses on the acceptability of pro-DPs, its validity cannot be commented on, as none of the pronouns included in the second experiment would be categorized as a pro-DP.

Overall the results from the second experiment show an interesting pattern of behavior for pronouns in Spanish/English code-switching. The acceptability of a code-switch involving a pronoun was categorical, depending on the particular construction of the pronoun. Participants deemed all sentences tested unacceptable if they included a switch between an unaltered or phonologically-reduced pronoun and a finite verb. Pronouns that were coordinated, modified, prosodically stressed or in a peripheral position were acceptably switched, mirroring switches with lexical DPs. The one possible exception is prosodically-stressed English pronouns, which received ratings somewhere in the middle—neither fully acceptable, nor fully unacceptable.

Recall that the second experiment was designed to investigate the proposal by Cardinaletti and Starke (1999). Weak pronouns were expected to be unacceptable when switched and the results confirmed this. Strong pronouns, however, were expected to behave like the lexical DPs, and the results also confirmed this. Therefore, the results of the

first experiment provide evidence that supports a theory of pronouns along the lines of Cardinaletti and Starke (1999).

As for the other pronoun theory by Déchaine and Wiltschko (2002), this experiment only included one of the three pronoun types they propose—pro-ϕPs. This pronoun type is expected to be unacceptable when switched with a finite verb. The results, however, do not confirm this as pro-ϕPs were sometimes found to be acceptable. Therefore, the experimental results once again do not provide any support for an analysis of pronouns along the lines of Déchaine and Wiltschko (2002).

6 GENERAL DISCUSSION AND CONCLUSION

In this chapter, I first summarize the results of the two experiments testing pronouns in Spanish/English code-switching, drawing some basic conclusions. Next I discuss what implications these results have both for the theoretical understanding of pronouns and the field of code-switching research. Finally, I discuss future research and a general outlook.

6.1 Summary of Findings

Overall the results from the two experiments paint a clear picture of the behavior of pronouns and lexical DPs in Spanish/English code-switching. In both experiments lexical DPs were consistently found to be acceptable when switched, confirming previous reports in the literature. The acceptability of pronouns, on the other hand, varied depending on the particular construction in which the pronoun occurred.

In the first experiment the participants deemed all sentences unacceptable if they included a switch between a pronoun and a finite verb. This unacceptability was found regardless of whether the pronoun was first, second or third person. Nor was there an effect for any other factor included in the dataset (e.g., language of the pronoun, whether it was functioning as a subject or object, whether it was a clitic or not, number, etc.). Unaltered pronouns were found to be behaving uniformly in Spanish/English code-switching.

The second experiment, however, showed a difference in acceptability based on the type of construction. Participants deemed all sentences tested unacceptable if they included a switch between an unaltered or phonologically-reduced pronoun and a finite verb. These results mirror those of the first experiment. Pronouns that were coordinated, modified, or cleft, however, were acceptably switched with a finite verb. Prosodically-stressed pronouns varied slightly by language: Spanish pronouns were accepted, whereas English pronouns

were rated as questionable. Pronouns that were in hanging topic position were removed from the dataset due to the monolingual variation. A summary of these findings is presented in Table 12.

Table 12

Acceptability of pronouns in Spanish/English code-switching

Sub-type	Acceptable	Unacceptable
Coordinated	✓	
Modified	✓	
Cleft	✓	
Hanging topic	N/A	
Prosodically stressed - Spanish	✓	
Prosodically stressed - English	?	
Unaltered		*
Phonologically reduced		*
Clitic		*

6.2 Significance of Findings

The experimental results provide intriguing insight into the behavior of pronouns in code-switching, shedding light on our understanding of pronoun theory. The current study is able to provide evidence in support of a theory of pronouns like the one by Cardinaletti and Starke (1999). No evidence was found to support the proposal by Déchaine and Wiltschko (2002).

The hypotheses concerning Déchaine and Wiltschko's (2002) theory were not borne out in either experiment. In the first experiment, it was predicted that pro-DPs would be acceptable when switched with a finite verb, but the results showed the opposite. In the second experiment, pro-ϕPs were expected to always be unacceptable, yet the results showed that the acceptability varied and such pronouns can be switched at times. Assuming

a Minimalist approach to code-switching, this could have an impact on the authors' proposal. If one were to adopt their analysis of pronouns, one would need to account for both of these inconsistencies.

As for pro-ϕPs, recall that the theory is vague about the behavior of this pronoun type, arguing that they are neither fully DP- nor NP-like. These pronouns can exhibit or not exhibit DP- and NP-like behavior. The variation in code-switching acceptability could be argued as a continuation of that variable property. Pro-ϕPs, occupying a middle ground between DP and NP, can sometimes be switched and sometimes not. The specifics of this, however, would have to be spelled out in more detail.

More troubling, though, is the behavior of pro-DPs. If one were to adopt Déchaine and Wiltschko's (2002) proposal, one would need to explain why pro-DPs behave like lexical DPs in monolingual contexts but not in code-switching. Here one cannot resort to an explanation via variation, as was the case with pro-ϕPs. Pro-DPs are expected to be entirely DP-like all the time. One possible way that this issue could be resolved will be addressed in the next subsection. With a closer look at the categorization of pronouns in Déchaine and Wiltschko's (2002) proposal, the data may not be incongruous with their designation of pronoun types. There is evidence to suggest that all the pronouns tested in the current study are type pro-ϕP.

As for the proposal by Cardinaletti and Starke (1999), the results of both experiments support their analysis of pronouns. The first experiment included what they call weak and clitic pronouns, both of which were predicted to be unacceptable and the results confirm this. In the second experiment, both strong and weak pronouns were tested and a distinction was predicted between the two types. Strong pronouns were expected to be able to switched, whereas weak pronouns were once again expected to not be able to. The results confirmed this as well.

Despite the overall trend seen in the results, there are still two subsets that need further analysis to fully support Cardinaletti and Starke (1999). Two strong pronoun sub-types are not accounted for: hanging topic, as they were excluded from the dataset; and English prosodically-stressed pronouns, which received judgments ratings as neither fully acceptable, nor unacceptable. To address hanging topics, there is evidence in the code-switching literature that has already been discussed. Recall the Moroccan Arabic/French code-switching examples Jake (1994) provided, which were originally shown in (62) and are repeated here.

(62) a. ***moi*** dxlt
1SG went-in
'me, I went in'

b. **nta** *tu vas travailler*
2SG 2SG go work
'you, you are going to work'

c. **huwa** *il s'en fout*
3SG.MASC 3SG.MASC does
'him, he doesn't care'

Jake (1994) refers to the pronouns *moi* 'me', *nta* 'you' and *huwa* 'him' in these examples as discourse-emphatic pronouns. Syntactically speaking these switched pronouns are hanging topics. Under her analysis is it necessary to declare a matrix and embedded language for each sentence in order to account for these switches. Given what has been seen so far, that is not necessary. The analysis of the experimental results can simply be extended. The examples in (62) all show that pronouns that are hanging topics are able to be switched, which is expected as they are categorized as strong pronouns. Therefore, although experimental results for this given sub-type were not obtained in the current study, there is other evidence that supports the notion that all strong pronouns can be switched.

As for the difference in prosodically-stressed pronouns, at this point I am uncertain what makes English pronouns slightly less acceptable in such a context. The relationship

between prosody and code-switching is something that needs to be explored more in detail. Recall that the prominent approaches to code-switching discussed earlier all view restrictions on intra-sentential code-switching as purely syntactic in nature. There is a line of research that focuses on the importance of prosodic factors in bilingual discourse. For instance, it is possible that the formation of Intonation Units is reducing the ratings for English pronouns in such a construction (cf. Shenk, 2006; Durán Urrea, 2009). Also, the stimuli of the current study only include two English pronouns (*he* and *she*) in one specific sentence type (embedded contrastive focus). Perhaps other English pronouns can be switched more easily when prosodically stressed. The prosodic effects on code-switching need to be investigated more, but this is beyond the scope of the current investigation. Concerning the research questions, though, it is important to point out that these pronouns received higher ratings than their non-prosodically-stressed counterparts, thus still favoring the analysis by Cardinaletti and Starke (1999).

6.3 Further Discussion of Pronoun Theory

So far we have discussed the pronoun theories by Cardinaletti and Starke (1999) and Déchaine and Wiltschko (2002) as they are proposed. Both typologies were investigated as their respective authors originally lay them out. In this section, I expand on pronoun theory by discussing how the various conflicting aspects of the proposals could potentially be resolved taking the code-switching results into consideration. Based on the data, there are two primary issues that need be worked out with respect to Déchaine and Wiltschko's (2002) proposal: (i) the categorization of English first- and second person pronouns and (ii) the variable nature of pro-ϕPs. The first concern can be resolved in a straightforward manner; however, the second entails various problems beyond the scope of this investigation.

Recall that one of the major differences between the two pronoun theories is how to categorize first- and second-pronouns in English. Contrary to what Déchaine and Wiltschko (2002) argue, English pro-DPs (i.e., first- and second-person pronouns) are not always DP-like. I argue against this both semantically and syntactically. First, consider the sentences in (97).

(97) a. I am the only one around here who can raise **my** child.
= 'No one else around here can take care of his or her own children.'

b. Only you eat what **you** cook.
= 'Nobody else eats the food he or she cooks.'

(modified from ex. 1-2, Kratzer, 2009)

Semantically the first-person pronoun *my* can function as a bound variable (97a), as can the second-person pronoun *you* (97b). This contradicts the idea that these English pronouns only function as R-expressions as is the case with lexical DPs.

Syntactically, the authors argue that first- and second-person pronouns in English are pro-DPs based on structures like *we linguists* and *us linguists*, stating that the pronoun is acting as a determiner in such cases. However, the third-person construction *them linguists* is attested in some dialects of English. Furthermore, they do not account for the impossibility of singular first- and second-person pronouns in such constructions, such as * *I linguist* or * *you linguist*.

Given this semantic and syntactic evidence, it can now be argued that like third-person pronouns, first- and second-person pronouns in English exhibit behavior that is sometimes DP-like and sometimes not, thus qualifying them under Déchaine and Wiltschko's (2002) criteria as pro-ϕPs. This re-categorization alleviates one of the central divisions between the two proposals, as now person is no longer a defining characteristic. Recall the sentences in (49-50), repeated here.

(49) a. * **Yo** *talk too loudly*.
1SG
'I talk too loudly.'

b. * ***I*** hablo demasiado alto.
talk too high
'I talk too loudly.'

(50) a. * **Tú** *write very quickly*.
2SG
'You write very quickly.'

b. * ***You*** escribes muy rápido.
write very quickly
'You write very quickly.'

Here we have sentences that include the first- and second-person pronouns code-switched with a finite verb. Recall that using Cardinaletti and Starke's (1999) proposal, all of the sentences in (49-50) were predicted to be unacceptable as they are weak pronouns, which are not expected to behave DP-like. Using Déchaine and Wiltschko's (2002) original proposal, different predictions were made depending on whether these pronouns were English (DP-like) or Spanish (not DP-like). By re-categorizing the English pronouns, there are no longer conflicting predictions based on language. If all pronouns in (49-50) are categorized as pro-ϕP, they would be predicted to not be acceptable when code-switched, which aligns with the experimental code-switching results.

Despite the re-categorization of English first- and second-person pronouns, it is still puzzling why pro-ϕPs are not always unacceptable. Using Déchaine and Wiltschko's (2002) theory, one would not straightforwardly expect that pro-ϕPs, although typically unacceptable, are able to be switched when coordinated, modified, prosodically stressed or in a peripheral position. Recall that the authors state that pro-ϕPs only sometimes exhibit DP-like behavior. It was previously mentioned that perhaps the variation in code-switching acceptability could be argued as a continuation of that variable property. Pro-ϕPs, occupying a middle ground between DP and NP, can sometimes be switched and sometimes not. Recall the sentences in (46) and (51-55), repeated here.

(46) a. * **Él** *sleeps during the day*.
3SG.MASC
'He sleeps during the day.'

b. * ***He*** duerme durante el día.
sleeps during the day
'He sleeps during the day.'

(51) a. **Él** y Alberto *sleep during the day*.
3SG.MASC and
'He and Alberto sleep during the day.'

b. ***He*** *and Alex* duermen durante el día.
sleep during the day
'He and Alex sleep during the day.'

(52) a. **Él** con el pelo negro *sleeps during the day.*
3SG.MASC with the hair black
'Him with the black hair sleeps during the day.'

b. ***Him*** *with the black hair* duerme durante el día.
sleeps during the day
'Him with the black hair sleeps during the day.'

(53) a. Juanita dijo que **él**, *he sleeps during the day.*
said that 3SG.MASC
'Juanita said that him, he sleeps during the day.'

b. *Jennifer said that* ***him***, duerme durante el día.
sleeps during the day
'Jennifer said that him, he sleeps during the day.'

(54) a. *Evan said it's* **él** que duerme durante el día.
3SG.MASC that sleeps during the day
'Evan said it's him that sleeps during the day.'

b. Eduardo dijo que es ***him*** *that sleeps during the day*.
said that is
'Eduardo said it's him that sleeps during the day.'

(55) a. Ella duerme durante la noche, pero **ÉL** *sleeps during the day*.
3SG.FEM sleeps during the night but 3SG.MASC
'She sleeps at night, but HE sleeps during the day.'

b. ? *She sleeps at night, but* ***HE*** duerme durante el día.
sleeps during the day
'She sleeps at night, but HE sleeps during the day.'

All of the pronouns in these sentences would still be categorized as pro-ϕP based on Déchaine and Wiltschko's (2002) criteria. As the authors state, such pronouns exhibit behavior that is both DP-like and NP-like. The authors already provide examples of how pro-ϕPs can be syntactically DP-like in that they can occupy argument positions, but also NP-like in that they can occupy predicate positions. Given the code-switching results, this

could be partially extended to the different constructions tested. Pro-ϕPs also exhibit DP-like behavior in coordination, modification, prosodic stress and peripheral positions (51-55). However, this would still not account for the sentences in (46). These pro-ϕPs are exhibiting neither DP-like nor NP-like behavior, as both structures are commonly switched. Even more troubling, though, is the fact that how this variable behavior results from the ϕP structure is not explicitly laid out in the proposal. The authors do not argue that pro-ϕPs have a full DP structure when they are exhibiting DP-like qualities. Crucially then, a code-switching account that adopts Déchaine and Wiltschko's (2002) proposal would have to now argue that the ϕP is a switchable projection when it is behaving DP-like, but it is not switchable otherwise. The specifics of how this would work are beyond the scope of the current investigation.

It has been shown that with certain accommodations, Déchaine and Wiltschko's (2002) proposal can be made to better coincide with the code-switching results. The re-categorization of English first- and second-person pronouns removes the distinction among pronouns based on person, which was not borne out in the data. Furthermore, the variable acceptability of pronouns in Spanish/English code-switching could be attributed to the variable behavior of pro-ϕPs in general. However, adopting such an analysis would have certain repercussions that would have to be spelled out in more detail.

6.4 Accounting for Pronouns in Code-switching via Phase Theory

In addition to the central goal of this investigation, which investigated the two opposing pronoun typologies and added pronoun theory, our understanding of code-switching can also be deepened. Specifically, a categorical distinction that predicts the acceptability of code-switched pronouns has been discovered. Aside from descriptively

accounting for this difference, here I discuss the possibility of adopting a Phase Theory approach to code-switching that could explain the distinction in more detail.

Recall that none of the prominent approaches to code-switching discussed has been able to fully account for all of the pronoun behavior in code-switching. Based on the current findings, we can now descriptively account for the restrictions on switching pronouns. There is a distinction between strong pronouns versus deficient pronouns (both weak and clitic) as defined by Cardinaletti and Starke (1999). Specifically, strong pronouns are able to be code-switched, whereas weak and clitic pronouns are not. This analysis sheds light on a topic that has not been sufficiently addressed in previous analyses of code-switching.

Being able to descriptively account for this distinction is merely the first step. The question now becomes: How can one account for this distinction between pronouns in the acceptability of code-switched sentences? The acceptability of strong pronouns is straightforward. As has already been mentioned several times, lexical DPs have since the time of Timm (1975) been understood to be acceptable in code-switching. Therefore, the same analysis that is made for lexical DPs that derives grammatical code-switched sentences can be applied to strong pronouns. Although this holds regardless of the framework one adopts, I suggest that we should consider this acceptability in terms of Phase Theory.

I follow a Phase Theory approach to code-switching along the lines of González-Vilbazo and López (2012). *Phases* are syntactic domains (Chomsky, 2000 et seq.) that divide sentences into units. Traditionally there are two phases proposed, the CP phase and the *little v* Phrase (vP) phase. Phase Theory dictates that all syntactic operations must occur within the domain of a given phase. The only way that an element can move out of a given phase is if it is located at the left edge. This aspect of Phase Theory, however, is not directly relevant to pronouns.

More pertinent to the switching of pronouns is the effect of phase heads. The head of a phase has been argued to determine the grammatical features of a phase (Marantz, 1997). This has been shown to be important to code-switching. For instance, González-Vilbazo and López (2012) argue that the head of the vP phase determines the word order, prosody and information structure of a code-switched sentence. Consider the Spanish/German code-switching sentences in (98) with the Spanish light verb *hacer* 'to do'.

(98) a. Juan ha [$_{vP}$ hecho [$_{VP}$ *verkaufen die Bücher*]].
has done sell the books
'Juan has sold the books.'

b. * Juan ha [$_{vP}$ hecho [$_{VP}$ *die Bücher verkaufen*]].
has done the books sell
'Juan has sold the books.'

(modified from ex. 15, González-Vilbazo and López, 2012)

Here the examples include the same sentence but with opposing VP word orders. The sentence in (98a) includes the Spanish word order of Verb-Object, whereas the sentence in (98b) has the German word order of Object-Verb. Interestingly, although the lexical items within the VP are all German, the acceptable word order is that of Spanish. The authors argue that this is because of the head of the vP phase, which in this case is Spanish, as it is participle form of the light verb *hacer* 'to do'. Based on the language of the head, for the phase to be acceptable the word order must be spelled out as Spanish-like (i.e., Verb-Object).

For pronouns, we can also look at the importance of the phase head in determining how code-switched elements are spelt out in the derivation. However, we need to consider an additional phase—the DP. Some have argued that like the CP and the vP, the DP is also a phase (Adger, 2007). If we adopt this analysis, we have the beginning stages of an account for the acceptability of strong pronouns and the unacceptability of weak and clitic pronouns.

Recall that strong pronouns include a full DP projection, which means include a DP phase. The grammatical properties of the interior of the DP structure will be determined the

D head. Specifically, this phase head will determine the PF properties of its complement (González-Vilbazo, 2014). Assuming that pronouns are just the phonetic realization of a certain set of features, the language of D would then dictate the specific pronoun that is phonetically realized. For strong pronouns this can either be Spanish or English, which can then be switched or not.

Recall that weak and clitic pronouns have no such DP projection. Lacking this projection, there would be no DP phase for these pronouns. Therefore, the PF properties of both weak and clitic pronouns would be dictated by the next available phase—the vP. Consequently, the v head determines how weak or clitic pronouns must be phonetically realized. This then predicts the unacceptability of a switch between a weak or clitic pronoun with a finite verb, since the v head is in a language opposite the language of the weak or clitic pronoun.

The full specifics of how to account for the pronoun data using a Phase Theory approach to CS is beyond the scope of the current investigation.[15] However, the preliminary details laid out provide a glimpse as to how such an account would work given the distinction between pronoun types.

6.5 Future Research

The current investigation provides insight into the behavior of pronouns in Spanish/English code-switching. Specifically, it was able to provide experimental evidence in favor of an analysis of pronouns along the line of Cardinaletti and Starke (1999). Given the results as well as various factors that were set aside, there are a few different paths that could prove beneficial for future research.

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[15] For a more detailed look at how phonology is determined by the phase head in code-switching, see González-Vilbazo (2014).

Recall that we have already discussed the possible influence of prosody on code-switching. One clear path for future research would be to investigate this in more detail. First, more investigation is needed into why there is an asymmetry between Spanish and English prosodically-stressed pronouns. Second, recall that Cardinaletti and Starke's (1999) proposal did not have a strong motivation connecting the prosodic properties to a DP structure. Future investigation could more closely establish this connection.

Additionally, the current investigation only tested pronouns in Spanish/English code-switching. The results make clear predictions for how to account for pronoun data in all code-switching; namely, that the distinction between strong and deficient pronouns holds for other language pairs. Particularly interesting languages to be tested would be those directly discussed in the two proposals, including French, Italian, Japanese and the Salish languages.

6.6 Conclusion

This study has provided experimental evidence in support of the typology of pronouns proposed by Cardinaletti and Starke (1999). The theory correlates with the behavior of pronouns in Spanish/English code-switching. By mirroring the acceptability of a lexical DP and a finite verb, corroborating evidence has been found that pronouns that are coordinated, modified, prosodically stressed or cleft are strong pronouns that project a full DP as the authors propose. Similarly, by projecting only phrases below the DP, unaltered, phonologically-reduced and clitic pronouns are found to be unacceptable when code-switched with a finite verb. In addition to providing evidence in support of one theory, the primary stages of a unified pronoun theory were discussed. Such a theory could account for the entirety of both the monolingual and code-switching data. Additionally, a descriptive account of when pronouns can be switched was provided. It was suggested that this

distinction between strong pronouns and weak or clitic pronouns might be further explored with a Phase Theory approach to code-switching.

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8 APPENDICES

8.1 Appendix A

Stimuli for Experiment 1: Pro-DPs and pro-ϕPs in Spanish/English code-switching

Code-switching Stimuli

(1) Yo talk too loudly.
(2) I hablo demasiado alto.
(3) Nosotros work very hard.
(4) We trabajamos muy duro.
(5) Tú write very quickly.
(6) You escribes muy rápido.
(7) Él sleeps during the day.
(8) He duerme durante el día.
(9) Ella studies at the library.
(10) She estudia en la biblioteca.
(11) Ellos read every day.
(12) They leen todos los días.
(13) Yo travel around the world.
(14) I viajo por el mundo.
(15) Nosotros run every morning.
(16) We corremos cada mañana.
(17) Tú talk too loudly.
(18) You hablas demasiado alto.
(19) Él works very hard.
(20) He trabaja muy duro.
(21) Ella writes very quickly.
(22) She escribe muy rápido.
(23) Ellos sleep during the day.
(24) They duermen durante el día.
(25) Ese hombre studies at the library.
(26) That guy estudia en la biblioteca.
(27) Esos hombres read every day.
(28) Those guys leen todos los días.
(29) Esa mujer travels around the world.
(30) That woman viaja por el mundo.
(31) Esas mujeres run every morning.
(32) Those women corren cada mañana.
(33) Ese señor talks too loudly.
(34) That gentleman habla demasiado alto.
(35) Esos señores work very hard.
(36) Those gentlemen trabajan muy duro.
(37) Esa señora writes very quickly.
(38) That lady escribe muy rápido.
(39) Esas señoras sleep during the day.

(40) Those ladies duermen durante el día.
(41) Ese chico studies at the library.
(42) That boy estudia en la biblioteca.
(43) Esos chicos read every day.
(44) Those boys leen todos los días.
(45) Esa chica travels around the world.
(46) That girl viaja por el mundo.
(47) Esas chicas run every morning.
(48) Those girls corren cada mañana.
(49) Aaron calls mí todo el tiempo.
(50) Antonio llama a me all the time.
(51) Amy accompanies nosotros al cine.
(52) Alejandra acompaña a us to the movies.
(53) Bethany visits ti cada fin de semana.
(54) Beatriz visita a you every weekend.
(55) Bradley invites él a todas las fiestas.
(56) Bernardo invita a him to every party.
(57) Christopher hears ella todas las noches.
(58) Carlos oye a her every night.
(59) Charlotte sees ellos cada semana.
(60) Cecilia ve a them every week.
(61) Daisy hugs mí con cariño.
(62) Daniela abraza a me affectionately.
(63) Dylan greets nosotros cada mañana.
(64) Diego saluda a us every night.
(65) Emily calls ti todo el tiempo.
(66) Elodia llama a you all the time.
(67) Elliot accompanies él al cine.
(68) Emilio acompaña a him to the movies.
(69) Frank visits ella cada fin de semana.
(70) Félix visita a her every weekend.
(71) Fiona invites ellos a todas las fiestas.
(72) Francisca invita a them to every party.
(73) Grace hears ese hombre todas las noches.
(74) Guadalupe oye a that guy every night.
(75) George sees esos hombres cada semana.
(76) Gabriel ve a those guys every week.
(77) Henry hugs esa mujer con cariño.
(78) Héctor abraza a that woman affectionately.
(79) Hannah greets esas mujeres cada mañana.
(80) Hilda saluda a those women every morning.
(81) Isaac calls ese señor todo el tiempo.
(82) Ignacio llama a that gentleman all the time.
(83) Ingrid accompanies esos señores al cine.
(84) Inez acompaña a those gentlemen to the movies.
(85) Jasmine visits esa señora cada fin de semana.
(86) Juanita visita a that lady every weekend.
(87) James invites esas señoras a todas las fiestas.
(88) Javier invita a those ladies to every party.
(89) Logan hears ese chico todas las noches.

(90) Luis oye a that boy every night.
(91) Lauren sees esos chicos cada semana.
(92) Leticia ve a those boys every week.
(93) Molly hugs esa chica con cariño.
(94) Maricruz abraza a that girl affectionately.
(95) Matthew greets esas chicas cada mañana.
(96) Miguel saluda a those girls every morning.
(97) Nathan me calls todo el tiempo.
(98) Nicole nos accompanies al cine.
(99) Olivia te visits cada fin de semana.
(100) Oliver lo invites a todas las fiestas.
(101) Patrick la hears todas las noches.
(102) Phoebe los sees cada semana.
(103) Rebecca me hugs de vez en cuando.
(104) Ryan nos greets cada mañana.
(105) Samantha te calls todo el tiempo.
(106) Scott lo accompanies al cine.
(107) Timothy la visits cada fin de semana.
(108) Tiffany los invites a todas las fiestas.

Monolingual English Stimuli

(1) I talk too loudly.
(2) We work very hard.
(3) You write very quickly.
(4) He sleeps during the day.
(5) She studies at the library.
(6) They read every day.
(7) I travel around the world.
(8) We run every morning.
(9) You talk too loudly.
(10) He works very hard.
(11) She writes very quickly.
(12) They sleep during the day.
(13) That guy studies at the library.
(14) Those guys read every day.
(15) That woman travels around the world.
(16) Those women run every morning.
(17) That gentleman talks too loudly.
(18) Those gentlemen work very hard.
(19) That lady writes very quickly.
(20) Those ladies sleep during the day.
(21) That boy studies at the library.
(22) Those boys read every day.
(23) That girl travels around the world.
(24) Those girls run every morning.
(25) Aaron calls me all the time.
(26) Amy accompanies us to the movies.
(27) Bethany visits you every weekend.
(28) Bradley invites him to every party.

(29) Christopher hears her every night.
(30) Charlotte sees them every week.
(31) Daisy hugs me affectionately.
(32) Dylan greets us every morning.
(33) Emily calls you all the time.
(34) Elliot accompanies him to the movies.
(35) Frank visits her every weekend.
(36) Fiona invites them to every party.
(37) Grace hears that guy every night.
(38) George sees those guys every week.
(39) Henry hugs that woman affectionately.
(40) Hannah greets those women every morning.
(41) Isaac calls that guy all the time.
(42) Ingrid accompanies those guys to the movies.
(43) Jasmine visits that woman every weekend.
(44) James invites those women to every party.
(45) Logan hears that guy every night.
(46) Lauren sees those guys every week.
(47) Molly hugs that woman affectionately.
(48) Matthew greets those women every morning.

Monolingual Spanish Stimuli

(1) Yo hablo demasiado alto.
(2) Nosotros trabajamos muy duro.
(3) Tú escribes muy rápido.
(4) Él duerme durante el día.
(5) Ella estudia en la biblioteca.
(6) Ellos leen todos los días.
(7) Yo viajo por el mundo.
(8) Nosotros corremos cada mañana.
(9) Tú hablas demasiado alto.
(10) Él trabaja muy duro.
(11) Ella escribe muy rápido.
(12) Ellos duermen durante el día.
(13) Ese hombre estudia en la biblioteca.
(14) Esos hombres leen todos los días.
(15) Esa mujer viaja por el mundo.
(16) Esas mujeres corren cada mañana.
(17) Ese señor habla demasiado alto.
(18) Esos señores trabajan muy duro.
(19) Esa señora escribe muy rápido.
(20) Esas señoras duermen durante el día.
(21) Ese chico estudia en la biblioteca.
(22) Esos chicos leen todos los días.
(23) Esa chica viaja por el mundo.
(24) Esas chicas corren cada mañana.
(25) Antonio llama a mí todo el tiempo.
(26) Antonio me llama a mí todo el tiempo.
(27) Alejandra acompaña a nosotros al cince.

(28) Alejandra nos acompaña a nosotros al cince.
(29) Beatriz te visita a ti cada fin de semana.
(30) Beatriz visita a ti cada fin de semana.
(31) Bernardo invita a él a todas las fiestas.
(32) Bernardo lo invita a él a todas las fiestas.
(33) Carlos la oye a ella todas las noches.
(34) Carlos oye a ella todas las noches.
(35) Cecilia los ve a ellos cada semana.
(36) Cecilia ve a ellos cada semana.
(37) Daniela abraza a mí con cariño.
(38) Daniela me abraza a mí con cariño.
(39) Diego nos saluda a nosotros cada mañana.
(40) Diego saluda a nosotros cada mañana.
(41) Elodia llama a ti todo el tiempo.
(42) Elodia te llama a ti todo el tiempo.
(43) Emilio acompaña a él al cince.
(44) Emilio lo acompaña a él al cince.
(45) Félix la visita a ella cada fin de semana.
(46) Félix visita a ella cada fin de semana.
(47) Francisca invita a ellos a todas las fiestas.
(48) Francisca los invita a ellos a todas las fiestas.
(49) Guadalupe oye a ese hombre todas las noches.
(50) Gabriel ve a esos hombres cada semana.
(51) Héctor abraza a esa mujer con cariño.
(52) Hilda saluda a esas mujeres cada mañana.
(53) Ignacio llama a ese hombre todo el tiempo.
(54) Inez acompaña a esos hombres al cince.
(55) Juanita visita a esa mujer cada fin de semana.
(56) Javier invita a esas mujeres a todas las fiestas.
(57) Luis oye a ese hombre todas las noches.
(58) Leticia ve a esos hombres cada semana.
(59) Maricruz abraza a esa mujer con cariño.
(60) Miguel saluda a esas mujeres cada mañana.
(61) Néstor me llama todo el tiempo.
(62) Natalia nos acompaña al cine.
(63) Olivia te visita cada fin de semana.
(64) Óscar lo invita a todas las fiestas.
(65) Pablo la oye todas las noches.
(66) Pilar los ve cada semana.
(67) Raquel me abraza de vez en cuando.
(68) Rafael nos saluda cada mañana.
(69) Soledad te llama todo el tiempo.
(70) Santiago lo acompaña al cine.
(71) Tomás la visita cada fin de semana.
(72) Teresa los invita a todas las fiestas.

8.2 Appendix B

Stimuli for Experiment 2: Strong and weak pronouns in Spanish/English code-switching

Code-switching Stimuli

(1) Él sleeps during the day.
(2) He duerme durante el día.
(3) Ella studies at the library.
(4) She estudia en la biblioteca.
(5) Él works very hard.
(6) He trabaja muy duro.
(7) Ella writes very quickly.
(8) She escribe muy rápido.
(9) Ese hombre talks too loudly.
(10) That guy habla demasiado alto.
(11) Esa mujer travels around the world.
(12) That woman viaja por el mundo.
(13) Ese chico reads every day.
(14) That boy lee todos los días.
(15) Esa chica runs every morning.
(16) That girl corre cada mañana.
(17) Ella duerme durante la noche, pero ÉL sleeps during the day.
(18) She sleeps at night, but HE duerme durante el día.
(19) Él estudia en casa, pero ELLA studies at the library.
(20) He studies at home, but SHE estudia en la biblioteca.
(21) Ella es perezosa, pero ÉL works very hard.
(22) She is lazy, but HE trabaja muy duro.
(23) Él escribe muy lento, pero ELLA writes very quickly.
(24) He writes very slowly, but SHE escribe muy rápido.
(25) Esta mujer habla muy bajo, pero ESE HOMBRE talks too loudly.
(26) This woman talks very quietly, but THAT GUY habla demasiado alto.
(27) Este hombre nunca sale del país, pero ESA MUJER travels around the world.
(28) This guy never leaves the country, but THAT WOMAN viaja por el mundo.
(29) Esta chica nunca lee, pero ESE CHICO reads every day.
(30) This girl never reads, but THAT BOY lee todos los días.
(31) Este chico nunca corre, pero ESA CHICA runs every morning.
(32) This boy never runs, but THAT GIRL corre cada mañana.
(33) Él y Alberto sleep during the day.
(34) He and Alex duermen durante el día.
(35) Ella y Beatriz study at the library.
(36) She and Bonnie estudian en la biblioteca.
(37) Él y Carlos work very hard.
(38) He and Charlie trabajan muy duro.
(39) Ella y Diana write very quickly.
(40) She and Daphne escriben muy rápido.
(41) Ese hombre y Alberto talk too loudly.
(42) That guy and Alex hablan demasiado alto.
(43) Esa mujer y Beatriz travel around the world.
(44) That woman and Bonnie viajan por el mundo.

(45) Ese chico y Carlos read every day.
(46) That boy and Charlie leen todos los días.
(47) Esa chica y Diana run every morning.
(48) That girl and Daphne corren cada mañana.
(49) Él con el pelo negro sleeps during the day.
(50) Him with the black hair duerme durante el día.
(51) Ella con el pelo rubio studies at the library.
(52) Her with the blonde hair estudia en la biblioteca.
(53) Él con los ojos azules works very hard.
(54) Him with the blue eyes trabaja muy duro.
(55) Ella con los ojos marrones writes very quickly.
(56) Her with the brown eyes escribe muy rápido.
(57) Ese hombre con el pelo negro talks too loudly.
(58) That guy with the black hair habla demasiado alto.
(59) Esa mujer con el pelo rubio travels around the world.
(60) That woman with the blonde hair viaja por el mundo.
(61) Ese chico con los ojos azules reads every day.
(62) That boy with the blue eyes lee todos los días.
(63) Esa chica con los ojos marrones runs every morning.
(64) That girl with the brown eyes corre cada mañana.
(65) Juanita dijo que él, he sleeps during the day.
(66) Jennifer said that him, duerme durante el día.
(67) Luis dijo que ella, she studies at the library.
(68) Leonard said that her, estudia en la biblioteca.
(69) Manuela dijo que él, he works very hard.
(70) Melissa said that him, trabaja muy duro.
(71) Nicolás dijo que ella, she writes very quickly.
(72) Nathaniel said that her, escribe muy rápido.
(73) Juanita dijo que ese hombre, he talks too loudly.
(74) Jennifer said that that guy, habla demasiado alto.
(75) Luis dijo que esa mujer, she travels around the world.
(76) Leonard said that that woman, viaja por el mundo.
(77) Manuela dijo que ese chico, he reads every day.
(78) Melissa said that that boy, lee todos los días.
(79) Nicolás dijo que esa chica, she runs every morning.
(80) Nathaniel said that that girl, corre cada mañana.
(81) Eduardo dijo que es him that sleeps during the day.
(82) Evan said it's él que duerme durante el día.
(83) Francisca dijo que es her that studies at the library.
(84) Franny said it's ella que estudia en la biblioteca.
(85) Guillermo dijo que es him that works very hard.
(86) Greg said it's él que trabaja muy duro.
(87) Isabel dijo que es her that writes very quickly.
(88) Ingrid said it's ella que escribe muy rápido.
(89) Eduardo dijo que es that guy that talks too loudly.
(90) Evan said it's ese hombre que habla demasiado alto.
(91) Francisca dijo que es that woman that travels around the world.
(92) Franny said it's esa mujer que viaja por el mundo.
(93) Germán dijo que es that boy that reads every day.
(94) Greg said it's ese chico que lee todos los días.

(95) Isabel dijo que es that girl that runs every morning.
(96) Ingrid said it's ese chica que corre cada mañana.
(97) Víctor llama 'im all the time.
(98) Viviana llama 'er all the time.
(99) Teresa abraza 'im all the time.
(100) Tomás abraza 'er all the time.

Monolingual English Stimuli

(1) He sleeps during the day.
(2) She studies at the library.
(3) He works very hard.
(4) She writes very quickly.
(5) That guy talks too loudly.
(6) That woman travels around the world.
(7) That boy reads every day.
(8) That girl runs every morning.
(9) She sleeps at night, but HE sleeps during the day.
(10) He studies at home, but SHE studies at the library.
(11) She is lazy, but HE works very hard.
(12) He writes very slowly, but SHE writes very quickly.
(13) This woman talks very quietly, but THAT GUY talks too loudly.
(14) This guy never leaves the country, but THAT WOMAN travels around the world.
(15) This girl never reads, but THAT BOY reads every day.
(16) This boy never runs, but THAT GIRL runs every morning.
(17) He and Alex sleep during the day.
(18) She and Bonnie study at the library.
(19) He and Charlie work very hard.
(20) She and Daphne write very quickly.
(21) That guy and Alex talk too loudly.
(22) That woman and Bonnie travel around the world.
(23) That boy and Charlie read every day.
(24) That girl and Daphne run every morning.
(25) Him with the black hair sleeps during the day.
(26) Her with the blonde hair studies at the library.
(27) Him with the blue eyes works very hard.
(28) Her with the brown eyes writes very quickly.
(29) That guy with the black hair talks too loudly.
(30) That woman with the blonde hair travels around the world.
(31) That boy with the blue eyes reads every day.
(32) That girl with the brown eyes runs every morning.
(33) Jennifer said that him, he sleeps during the day.
(34) Leonard said that her, he studies at the library.
(35) Melissa said that him, he works very hard.
(36) Nathaniel said that her, she writes very quickly.
(37) Jennifer said that that guy, he talks too loudly.
(38) Leonard said that that woman, she travels around the world.
(39) Melissa said that that boy, he reads every day.
(40) Nathaniel said that that girl, she runs every morning.
(41) Evan said it's him that sleeps during the day.

(42) Franny said it's her that studies at the library.
(43) Greg said it's him that works very hard.
(44) Ingrid said it's her that writes very quickly.
(45) Evan said it's that guy that talks too loudly.
(46) Franny said it's that woman that travels around the world.
(47) Greg said it's that boy that reads every day.
(48) Helen said it's that girl that runs every morning.
(49) Vince calls 'im all the time.
(50) Vanessa calls 'er all the time.
(51) Tiffany hugs him all the time.
(52) Timothy hugs 'er all the time.

Monolingual Spanish Stimuli

(1) Él duerme durante el día.
(2) Ella estudia en la biblioteca.
(3) Él trabaja muy duro.
(4) Ella escribe muy rápido.
(5) Ese hombre habla demasiado alto.
(6) Esa mujer viaja por el mundo.
(7) Ese chico lee todos los días.
(8) Esa chica corre cada mañana.
(9) Ella duerme durante la noche, pero ÉL duerme durante el día.
(10) Él estudia en casa, pero ELLA estudia en la biblioteca.
(11) Ella es perezosa, pero ÉL trabaja muy duro.
(12) Él escribe muy lento, pero ELLA escribe muy rápido.
(13) Esta mujer habla muy bajo, pero ESE HOMBRE habla demasiado alto.
(14) Este hombre nunca sale del país, pero ESA MUJER viaja por el mundo.
(15) Esta chica nunca lee, pero ESE CHICO lee todos los días.
(16) Este chico nunca corre, pero ESA CHICA corre cada mañana.
(17) Él y Alberto duermen durante el día.
(18) Ella y Beatriz estudian en la biblioteca.
(19) Él y Carlos trabajan muy duro.
(20) Ella y Diana escriben muy rápido.
(21) Ese hombre y Alberto hablan demasiado alto.
(22) Esa mujer y Beatriz viajan por el mundo.
(23) Ese chico y Carlos leen todos los días.
(24) Esa chica y Diana corren cada mañana.
(25) Él con el pelo negro duerme durante el día.
(26) Ella con el pelo rubio estudia en la biblioteca.
(27) Él con los ojos azules trabaja muy duro.
(28) Ella con los ojos marrones escribe muy rápido.
(29) Ese hombre con el pelo negro habla demasiado alto.
(30) Esa mujer con el pelo rubio viaja por el mundo.
(31) Ese chico con los ojos azules lee todos los días.
(32) Esa chica con los ojos marrones corre cada mañana.
(33) Juanita dijo que él, duerme durante el día.
(34) Luis dijo que ella, estudia en la biblioteca.
(35) Manuela dijo que él, trabaja muy duro.
(36) Nicolás dijo que ella, escribe muy rápido.

(37) Juanita dijo que ese hombre, habla demasiado alto.
(38) Luis dijo que esa mujer, viaja por el mundo.
(39) Manuela dijo que ese chico, lee todos los días.
(40) Nicolás dijo que esa chica, corre cada mañana.
(41) Eduardo dijo que es él que duerme durante el día.
(42) Francisca dijo que es ella que estudia en la biblioteca.
(43) Guillermo dijo que es él que trabaja muy duro.
(44) Isabel dijo que es ella que escribe muy rápido.
(45) Eduardo dijo que es ese hombre que habla demasiado alto.
(46) Francisca dijo que es esa mujer que viaja por el mundo.
(47) Germán dijo que es ese chico que lee todos los días.
(48) Herminia dijo que es esa chica que corre cada mañana.

VITA

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EDUCATION

B.A., Spanish / Communication Arts — 2006
University of Wisconsin-Madison
Study abroad: Buenos Aires, Argentina — 2006

M.A., Hispanic Linguistics — 2010
University of Illinois at Chicago (UIC)

Ph.D., Hispanic Linguistics — 2014
University of Illinois at Chicago (UIC)

RESEARCH

Dissertation – Pronoun Categorization: Evidence from Spanish/English Code-switching
Committee: Kay González-Vilbazo (chair; UIC), Luis López (UIC), Richard Cameron (UIC), Jessica Williams (UIC), Marcel den Dikken (City University of New York Graduate Center)

Ph.D. Qualifying Research Paper – Pronouns in Spanish/English Code-switching
Advisor: Kay González-Vilbazo

M.A. Qualifying Research Paper – Exceptional hiatuses in Spanish: An Extension of Cabré & Prieto (2006)
Advisor: Rafael Núñez-Cedeño

UIC Bilingualism Research Laboratory
- Director of Marketing & Communication — 2010 – 2011, 2012 – 2013
- Director of Literature & Information Management — 2011 – 2012
- Graduate Student Director — 2013 – 2014

PUBLICATIONS

González-Vilbazo, K., L. Bartlett, S. Downey, S. Ebert, J. Heil, B. Koronkiewicz, & S. E. Ramos (2012). Methodological considerations in code-switching research. *Studies in Hispanic and Lusophone Linguistics* 6 (1), 118-138.

González-Vilbazo, K., & B. Koronkiewicz. (submitted). Tú y yo can code-switch but nosotros cannot. *Journal Name.*

WORK IN PREPARATION

Koronkiewicz, B., & S. Ebert (in progress). Modality in code-switching research: Aural versus written stimuli. *Manuscript in preparation.*

Ebert, S., J. Heil, B. Koronkiewicz, S. E. Ramos, D. Vergara-González, & L. López (in progress). Processing in early bilinguals: Evidence from relative clause attachment. *Manuscript in preparation.*

PRESENTATIONS & POSTERS

Botero-Moriarty, A., Ebert, S., Heil, J. and Koronkiewicz, B. (2009, December). *Investigating the reactivity of think-alouds in studies of attention: A Replication of Leow, et al. (2008).* Paper presented at the UIC Cognition of Second Language Acquisition Symposium, Chicago, IL.

Koronkiewicz, B. (2010, March). *Exceptional hiatuses in Spanish: An Extension of Cabré & Prieto (2006).* Paper presented at the UIC Talks in Linguistics, Chicago, IL.

Koronkiewicz, B. (2010, April). *Reference and proper names: A Look at Longobardi's theory of N-movement.* Paper presented at the UIC In/Between Conference, Chicago, IL.

Koronkiewicz, B. (2011, April). *Pronouns in English/Spanish code-switching.* Paper presented at the UIC Bilingualism Forum, Chicago, IL.

Koronkiewicz, B., and González-Vilbazo, K. (2011, July). *Pronouns as D in English/Spanish code-switching.* Paper presented at the International Symposium on Bilingualism 8, Oslo, Norway.

González-Vilbazo, K., Bartlett, L., Downey, S., Ebert, S., Heil, J., Hoot, B., Koronkiewicz, B., and Ramos, S. E. (2011, October). *Methodological considerations in code-switching research*. Paper presented at the Hispanic Linguistics Symposium (HLS), Athens, GA.

González-Vilbazo, K., Bartlett, L., Downey, S., Ebert, S., Heil, J., Hoot, B., Koronkiewicz, B. and Ramos, S. E. (2012, February). *Theory and experiment: Toward best practices in code-switching research.* Poster presented at Linguistic Evidence, Tübingen, Germany.

González-Vilbazo, K., Bartlett, L., Downey, S., Ebert, E., Heil, J., Hoot, B., Koronkiewicz, B., and Ramos. (2012, March). *Methods in code-switching research.* Paper presented at the UIC In/Between Conference, Chicago, IL.

Alvarado, C., Koronkiewicz, B., and González-Vilbazo, K. (2012, May). *Lexical items and code-switching.* Poster presented at the UIC Student Research Forum, Chicago, IL.

Koronkiewicz, B. (2012, October). *Me, myself y yo: Pronoun theories and code-switching.* Paper presented at the UIC Bilingualism Forum, Chicago, IL.

Ebert, S., Heil, J., Koronkiewicz, B., Ramos, S. E., Vergara-González, D., and López, L. (2013, March). *A Look into the early bilingual's processor: Evidence from relative clause attachment.* Poster presented at the 11th International Symposium of Psycholinguistics, Tenerife, Spain.

Moreno, A., Koronkiewicz, B., and González-Vilbazo, K. (2013, April). *Pronouns as non-DP elements: Evidence from Spanish/English code-switching.* Poster presented at the UIC Student Research Forum, Chicago, IL.

Koronkiewicz, B., and González-Vilbazo, K. *Pronouns in code-switching.* (2013, September). Paper presented at Multilingualism – The Key Debates, Leeuwarden, Netherlands.

González-Vilbazo, K., Bartlett, L., Downey, S., Ebert, E., Heil, J., Hoot, B., Koronkiewicz, B., and Ramos, S.E. (2013, September). *Methods in code-switching research.* Paper presented at Multilingualism – The Key Debates, Leeuwarden, Netherlands.

Ebert, S., Heil, J., Koronkiewicz, B., Ramos, S. E., Vergara-González, D., and López, L. (2013, September). *Processing in early bilinguals: Evidence from relative clause attachment.* Paper presented at Multilingualism – The Key Debates, Leeuwarden, Netherlands.

Koronkiewicz, B., and González-Vilbazo, K. (2013, October). *Categorizing Spanish pronouns: Evidence from code-switching.* Poster presented at the Hispanic Linguistics Symposium, Ottawa, Canada.

Koronkiewicz, B., and Ebert, S. (2014, October). *Methods in code-switching research: When does modality matter?* Paper to be presented at the UIC Bilingualism Forum, Chicago, IL.

TEACHING

Teaching Assistant, UIC 2008 – 2014
- Spanish 101 – 104: Spanish Basic Language Program courses
- Spanish 202: Spanish Grammar in Practice
- Spanish 206: Introduction to Hispanic Linguistics

Basic Language Program Coordinator, UIC 2011 – 2013
- Spanish 101: Oversaw 12 different instructors and 31 sections
- Spanish 103: Oversaw 16 different instructors and 37 sections
- Wrote and revised syllabi, exams, and quizzes
- Helped organize annual orientations and trained new instructors
- Directed, aided, and evaluated other instructors

Instructor, DePaul University 2013 – 2014
- Spanish 101 – 103: First-year college Spanish courses

HONORS & AWARDS

Teaching Awards
- Excellence in Basic Language Program Teaching 2009, 2010

Research Awards
- UIC Provost's Award for Graduate Research 2011

Travel Awards

- Graduate Student Council Travel Award	2011, 2012, 2013
- LAS Ph.D. Student Travel Award	2011, 2012, 2013
- School of LCSL Travel Award	2011, 2012
- UIC Student Presenter Award	2011, 2012

SERVICE

UIC Bilingualism Forum Assistant Organizer	2009
Spanish Basic Language Program Orientation Presenter	2009, 2010
UIC Talks in Linguistics Assistant Organizer	2009 – 2013
UIC Bilingualism Forum Head Organizer	2011
AP Spanish Language Exam Reader	2014

LANGUAGES

English – *Native speaker*
Spanish – *Near-native proficiency*
Portuguese – *Intermediate proficiency*
Italian – *Reading proficiency*