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*UN PENCIL OR UNA PENCIL?*

THE IMPORTANCE OF SPANISH GENDER IN SWITCHED DPS

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*The work presented in this MA thesis is, to the best of my knowledge and belief, original and my own work, except as acknowledged in the text. The work in this thesis has not been submitted, either in whole or in part, for a degree at this or any other university.*

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## **Abstract**

*This MA dissertation explores experimental data involving Spanish-English switched DPs (Spanish Determiner + English Nouns, such as in “la<sub>the</sub> house”) from sequential and simultaneous English-Spanish bilinguals with different age ranges. The purpose is two-fold: (i) to explore whether the different gender properties of each language (English has no grammatical gender, while Spanish does) affect the selection of the gender of the Spanish Determiner when judging and producing each structure; and which strategy (analogical criterion as in “la<sub>fem</sub> house<sub>fem</sub>”, analogical criterion helped by canonical markers as –o and –a, or masculine as the default gender as in “el<sub>masc default</sub> house<sub>Spanish fem</sub>”) is used; and (ii) to determine whether these properties and strategies are produced and judged in the same way by the different participant groups. The study shows that Spanish gender properties have an impact on this selection and that the strategy used depends on the participant’s strong or dominant language. Thus, L1 Spanish participants opt for the analogical criterion due to the influence of their L1; L1 English speakers are helped by canonical markers; and heritage children as well as L1 English speakers favor the masculine as the default option. These results point to the different representation of grammatical gender in the mind of English-Spanish bilingual participants.*

**Keywords:** *Code-switching, English, Spanish, DP, gender features, L1, L2, heritage*

## 1. Introduction

Over the past three decades, there has been an increasing interest in the research of bilingual phenomena. In particular, studies have dealt with code-switching, a type of linguistic strategy used to communicate in a multilingual society (Moyer 1993, 68), and the possible existence of specific grammatical rules which govern this phenomenon. Although along the years many authors have dealt with the specific constraints which could rule code-switching, nowadays there is a consensus in that code-switching should only be constrained by the rules of the grammars of the languages involved (MacSwan 2000, 43).

With this conception in mind, scholars such as Cantone and Müller (2008), Liceras et al. (2008, in press) and Fernández Fuertes et al. (2011) have dealt with code-switching within the Determiner Phrase (henceforth, DP<sup>1</sup>) where the languages involved have different gender properties such as German and Italian or English and Spanish. They have used similar research methodologies in their analysis and they all have considered bilingual speakers with different profiles (mainly bilingual children) as well as linguistic data, both simultaneous as well as experimental. However, when using experimental data, in the case of Liceras et al. (in press) and Fernández Fuertes et al. (2011), they have dealt with how these bilinguals perceive the switched DPs but not with how they produce them in experimental situations. Besides, the simultaneous bilinguals<sup>2</sup> they have analyzed were all children, so no study has been done so far on how these gender properties have evolved in the mind of the bilingual along the years (i.e. all the way to adulthood) and how the gender features are relevant for the selection of the Spanish grammatical gender along this period.

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<sup>1</sup> A list of the acronyms used along this dissertation is included in the appendix.

<sup>2</sup> In this paper, the term *simultaneous bilinguals* refers to those bilingual speakers who have acquired two languages from birth and in a natural context, that is, they have two L1s (first languages); and *sequential bilinguals* to the individuals who acquire first their L1 and later on they learn an L2 (second language) in an institutional context.

Therefore, the present study investigates how simultaneous and sequential bilinguals with different ages deal with switched DPs. In particular, the focus of this research is on how these bilingual speakers perceive and produce the dual gender properties of the switched DPs where Spanish provides the functional category, i.e. the Determiner (Det), as in (1) and (2).

(1) *La chair / La girl* (Liceras et al. 2008, 828)

[fem Spanish Det + English N]

[The chair / The girl]

(2) *El pencil / El boy* (Liceras et al. 2008, 828)

[masc Spanish Det + English N]

[The pencil / The boy]

In order to carry out this analysis, experimental data have been elicited from participants with different profiles: two groups of simultaneous bilingual speakers (children and adults) and two groups of sequential bilingual speakers (L1 Spanish-L2 English and L1 English-L2 Spanish).

Thus, this dissertation is organized in 6 sections. In section 2, an account of the previous research done on code-switching and, more specifically, on the gender properties of code-switched DPs is provided. Given that Spanish grammatical gender is the linguistic property under consideration in this dissertation, section 2 also includes a section where the gender properties of Spanish are described. Taken this previous research as a point of departure, section 3 deals with the prediction of several hypotheses that pertain to grammatical gender in code-switched DPs. Section 4 offers an account on the experimental methodology developed to seek confirmation for the hypotheses predicted, and so the different profiles of the participants are introduced and the techniques used to collect the data are described. Section 5 presents an account of the data classification criteria as well as an analysis of the results obtained. This is followed by section 6 where there is a

discussion of the results bearing in mind the different theories previously discussed as well as the hypotheses predicted in order to arrive to the conclusion that appears in section 7. A final section with the works cited is included at the end.

## 2. Theoretical background

This section offers a review of previous works on code-switching in general and on code-switching within the DP in particular. More specifically, it deals with the role of gender in switched DPs where the languages included do not have the same gender properties as it occurs with English and Spanish, but in order to understand this fact, an explanation of the grammatical properties of Spanish gender is offered too. Therefore, this section starts with an overview of the structure under consideration (i.e. code-switching) and the linguistic property under analysis (i.e. gender in Spanish first, and gender in switched DPs afterwards).

### 2.1 Code-switching, a bilingual phenomenon

Code-switching is a phenomenon which arises in communities where languages are in contact. According to Cantone and Müller (2008), we can define code-switching as “an ability of the bilingual speaker to use both languages within a discourse, or within an utterance according to grammatical and socio-linguistic constraints” (811). Examples of this phenomenon appear in (3), (4) and (5).

(3) *Mi novia* fights all the time (van Gelderen and MacSwan 2008, 774)

[My girlfriend fights all the time]

(4) Ana quiere *jump*-ar (Liceras et al. 2008, 832)

[Ana wants to jump]

(5) *J'ai joué avec il-ku:ra* (MacSwan 2009, 317)

[I played with the ball]



All these examples encode code-switching at different grammatical points.

Structure (3) consists of a Spanish-English switch, where the subject is a lexical DP in Spanish and the verb and its adjunct are in English. In (4), there is also a Spanish-English switch, but this time, the switch is word-internal in the infinitive verb, where the root is in English (*jump*) and the Spanish infinitive marker (*-ar*) is added. The last example, (5), illustrates the switch between French and Arabic within a Prepositional Phrase, since *avec* is a French preposition and *il-ku:ra* is an Arabic DP.

Although nowadays code-switching has been widely researched and considered as a common speech style among bilinguals, it was not until 1980 when its linguistic aspects started being studied. Poplack (1980) was the first author who presented an analysis on code-switching in an article whose title mixes both English and Spanish: *Sometimes I'll start a sentence in Spanish y TERMINO EN ESPAÑOL: toward a typology of code-switching*. By studying a Puerto Rican community in the United States, she found out that code-switching was a “sensitive indicator of bilingual ability” (Poplack 1980, 616) in opposition to Pedraza (1978) (quoted in Poplack 1980, 583) who believed that speakers code-switched due to the lack of command in one of their two languages. Poplack (1980) also studied the constraints which could regulate this phenomenon to a point that she suggested the possibility of a *third grammar*, a grammar only for code-switching but which consisted on the “overlapping sectors of the grammars of L1 and L2” (615).

More recently, MacSwan (2000, 2005, 2009) has criticized the existence of these specific code-switching rules which have been developed not only by Poplack (1980) but also by other authors (e.g. Sankoff and Poplack 1981, Di Sciullo, Muysken and Singh 1986, Myers-Scotton 1993, Belazi et al. 1994). By following Chomsky's (1995, 2000) Minimalist Program, MacSwan (2000) defends that “nothing constrains code-switching apart from the requirements of the mixed grammars” (43), and he proposes a model for the

bilingual mind where there exist two lexicons (one per language) and a computational system with the same derivational processes (SELECT, MERGE and MOVE) as that of the monolingual mind. By proposing this configuration of the bilingual mind together with the conviction of the non-existence of a third grammar, he shed some light on the possibility of code-switching within the DP, which is the structure researched in this study, and which will be shown in sections 2.3 and 2.4.

## 2.2 Grammatical properties of Spanish gender

Before giving an account on the structure studied, i.e. code-switching within the DP, and on the gender selected when Spanish provides the Det, it is pivotal to deal first with the grammatical, semantic and morphological aspects of Spanish gender.

In this study there are two languages under consideration (i.e. Spanish and English), but only the former has grammatical gender encoded in Dets and Ns. Spanish has two gender values (i.e. feminine and masculine), and it is, nonetheless, “an arbitrary phenomenon” (Roca 1989, 1). In this language, it is not possible to establish a conventional classification of the characteristics which are strictly masculine or strictly feminine, grammatically speaking. Although a semantic opposition of quasi-homophonous pairs can be done, such as the one in (6) where there is an opposition between the canonical ending for masculine nouns (–o) and the canonical ending for feminine nouns (–a), this is not always the pattern used.

(6) Herman-o Spanish masculine [brother] / Herman-a Spanish feminine [sister]

Sometimes, as Roca (1989, 7) illustrates, there are cases where the ending is different for the masculine form, that is, it finishes in a vowel different from –o, as in (7a), or in a consonant, as in (7b). The same occurs with feminine forms, since they do not only end in –a but in other vowels, even in –o, such as in (8a), or in a consonant, as in (8b).

Morphological markers other than –o for masculine and –a for feminine are considered as the non-canonical endings.

- (7) a. El monje (Roca 1989, 7)  
[The monk]
- b. El autor (Roca 1989, 7)  
[The author]
- (8) a. La mano (Roca 1989, 7)  
[The hand]
- b. La pared (Roca 1989, 7)  
[The wall]

Besides, Roca (1989, 13) also discusses the default status of the masculine gender and supports this with the nominalization of verbal infinitives, like in (9), or the compound forms even if the N is feminine, as in (10).

- (9) Es un<sub>masc</sub> decir (Roca 1989, 13)  
[It is a figure of speech]
- (10) El<sub>masc</sub> abrelatas (latas<sub>fem</sub>) (Roca 1989, 13)  
[The tin opener] [tins]

Gender is not only intrinsic to the nouns, as seen in the examples above, but, as part of a DP, gender agreement between the Det and the N within the DP is also established through an operation of concord (Valenzuela 2012, 483), as it will be described in section 2.4.

The complexity of the grammatical gender system in Spanish is, therefore, clear in that not only purely grammatical properties (i.e. masculine and feminine) but also semantic properties (i.e. male and female) and morphological properties (i.e. –o, –a and other morphological markers) interact.

### 2.3 Code-switching within the DP: the language that contributes the Det category

Bearing in mind the grammatical properties of Spanish gender, this section focuses on the structure under consideration in this study: code-switching within the DP. In spite of the two possible combinations regarding English-Spanish switched DPs (i.e. English Det + Spanish N and Spanish Det + English N), in this section, the possibilities will be narrowed to the switched DPs where Spanish provides the functional category (i.e. the Det), and several studies analyzing this structure are discussed below (e.g. Liceras et al 2008, in press).

Assuming the minimalist conception that code-switching implies as few rules as each language involved permits, as it has been explained in section 2.1, it is possible to find instances such as (11) and (12) in the literature on the production of code-switched structures.

(11) a. *La* Spanish [the] house

b. *El* Spanish [the] pencil

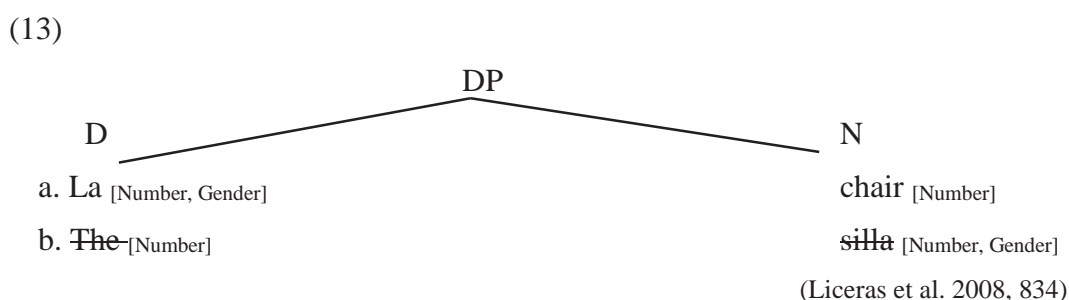
(12) a. The *casa* Spanish [house]

b. The *lápiz* Spanish [pencil]

Examples in (11) and (12) illustrate code-switching within the DP, between functional categories (i.e. determiners) and lexical categories (i.e. nouns). This has been the line of research of scholars such as Liceras et al. (2008) who claim that a switch between these two categories is plausible and “widely attested in the literature” (830). This view is also supported by Cantone and Müller (2008) who predict, following the minimalist line assumed by MacSwan (2000), that “as long as the language-specific features are respected in the course of the derivation, mixing should be allowed” (812).

That is, if the features of each language are respected, the switching between them would be possible.

In examples (11) and (12), the languages involved are English and Spanish, and the difference between them is that in (11) the functional category is provided by Spanish, whereas in (12) it is provided by English. Licerias et al. (2008, in press) pay attention to this possible double combination but predict that it is more plausible, and also supported by the data in the literature (e.g. Moyer 1993, Franceschina 2001), to find DPs where the functional category is in Spanish. In order to explain this, they propose the Grammatical Features Spell-Out Hypothesis (GFSH) which states that the bilingual speaker's "code-switching preferences are guided by features that have a special status in the computational component (i.e. highly grammaticalized)" (Licerias et al. in press, 7). In order to understand this, it is necessary to first go back to MacSwan's bilingual model in which features are highly relevant. These features are classified into interpretable (valued) (as present in the lexical categories) and uninterpretable (unvalued) (as present in the functional categories), and the latter have to be checked and deleted along the derivation. This is illustrated in (13).



What Licerias et al. (2008) demonstrate is that the features of the Det are uninterpretable and they have to be valued along the derivation via AGREE with the corresponding ones in N. That is, in (13a) the features of *la* ([Number, Gender]) are unvalued and have to be valued with those of the English N *chair*. However, no such

valuation is possible for the gender feature because English Ns have no such feature. As a result, in (13a) the gender feature in the Spanish Det is left unvalued. In (13b) no feature valuation takes place in the case of gender as the English Det has no such features to value. What spontaneous data from bilinguals code-switchers show is that (13a) is favored over (13b). And this is so, according to the GFSH, because the bilingual speaker would favor code-switched structures whose functional categories are most grammaticalized, that is, the Spanish Det (13a versus 13b), as it includes both gender and number features; that is, as it is the category whose features have more relevance in the syntactic processes that follow (e.g. concord, as discussed in 2.4 below).

However, in a subsequent study, Licerias et al. (in press) exhibit that the GFSH receives confirmation in the case of spontaneous production, but not so in the case of experimental production. In fact, data reveal from acceptability judgments do not show a significant preference for the Spanish Det + English N structures over the English Det + Spanish N structures overall. They believe that this can be due to the type of task and to the fact that processing “the English Det does not have an extra cost” (9), and this supposes an economical operation. However, the grammatical gender configuration in the Spanish Det still plays a crucial role in experimental in the case of L1 Spanish speakers, as it will be discussed next.

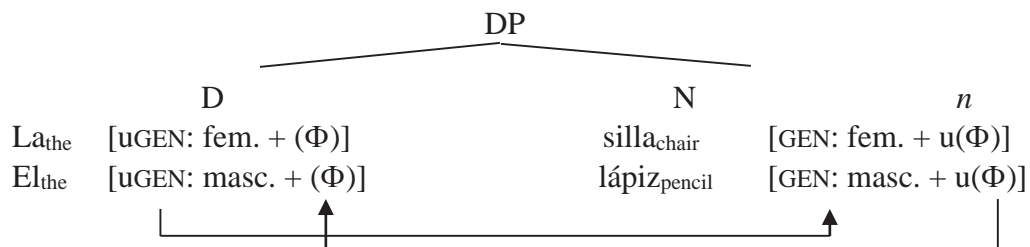
## **2.4 Code-switched DPs and gender**

Once the GFSH has narrowed the possibilities of combinations of functional-lexical switched DPs and has proposed as the most favored type the DP in which Spanish provides the functional category (i.e. Spanish Det + English N), a closer look at the gender specifications of Det and N is required, since Spanish has dual properties regarding gender (i.e. masculine and feminine), as it has been described in section 2.2. Thus, this section deals with the gender features of non-code-switched DPs first in order to understand how

this system works in English-Spanish switched DPs where Spanish provides the Det. Also, an explanation of the two gender strategies (i.e. analogical criterion and default masculine) is provided when dealing with the Spanish Det + English N DPs. Finally, two studies on code-switched DPs and gender are discussed (Liceras et al. in press, and Cantone and Müller, 2008) in order to show how bilinguals select the gender of the Det in switched DPs where the languages involved have different gender properties.

Concerning the gender features of the components of the DP, Liceras et al. (2008) have taken a step further in the minimalist perspective proposed by MacSwan (2000) and have attempted to prove their GFSH by focusing on the double gender features present in the functional and lexical components of the Spanish DP: Gender feature (GEN) and Gender Agreement feature ( $\Phi$ ). These are also interpretable and uninterpretable, so they have to be valued during the derivation. According to these authors, the uninterpretable GEN feature in Spanish is found in the Det which is feminine in *la* and masculine in *el*, as they appear in (14). Thus, this feature has to be valued and deleted when matched with the corresponding interpretable GEN feature found in the N (*silla*—feminine; *lápiz*—masculine). The same occurs in the case of the  $\Phi$  feature, which also has two values: uninterpretable feature in the N which needs to be valued with the interpretable one in the Det.

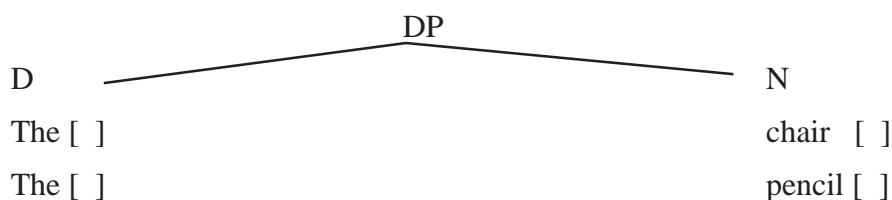
(14)



(Liceras et al. in press, 8)

In the case of English DPs, Gender and Gender Agreement do not have to be valued and deleted since neither the English Det nor the English N carry any of these gender features, as Licerias et al. (2008) show and is reflected in (15).

(15)



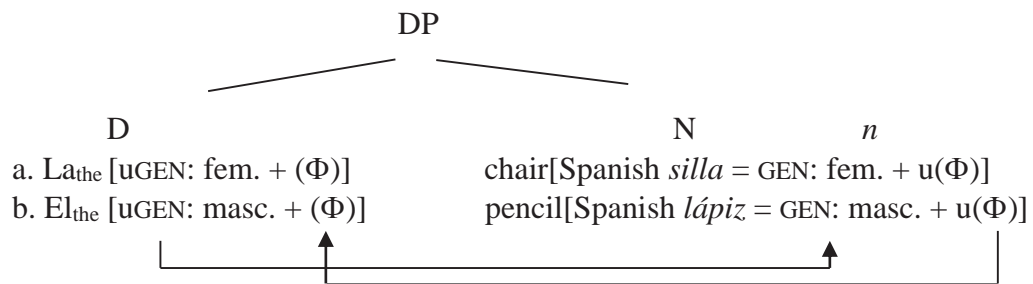
(Licerias et al. 2008, 836)

Bearing in mind the different gender features of these two languages, as in (14) and (15), in a subsequent research, Licerias et al. (in press) deal with Spanish-English switched DPs where Spanish provides the functional category as illustrated in (11) above. These authors discuss which gender (masculine or feminine) would be chosen, since the English N has no gender features. They investigate two strategies in relation to gender agreement in Spanish Det + English N DPs: the analogical criterion and the masculine as a default gender. And they put forward the Gender Double-Feature Valuation Mechanism to explain how gender agreement takes place in Det-N code-switching.

On the one hand, and again dealing with the two gender features presented above (example 14), these authors explain that the analogical criterion consists on “the valuation of the  $\Phi$  feature through the gender specification of the *translation equivalent*” (10). In this case, the Spanish Det shares its features and imposes the inherent  $\Phi$  feature on the English noun, as it is shown in (16) and explained in more detail next.



(16)



(Liceras et al. in press, 10)

On the other hand, another option would be what Roca (1989) called “the default status of the masculine” (13). This occurs when the Spanish Det carries the gender feature set as masculine but not necessarily indicating masculine as opposed to feminine. In this case the default masculine Det does not need to share its features with the lexical element and, therefore, it is used with any Spanish N despite its inherent GENDER value (Liceras et al. in press, 10). This is what example (17a) shows in opposition to (17b). In the former, the option chosen is the masculine by default: since *chair* has no gender values in English although it does have them in Spanish (*silla*) (i.e. feminine), the Spanish Det is in default masculine gender, and so the gender is not specified, it is under-specified. In (17b), however, the analogical criterion, as seen in (16), applies.

(17) a. *El*<sub>masc default</sub> **chair**<sub>Spanish fem [silla]</sub>

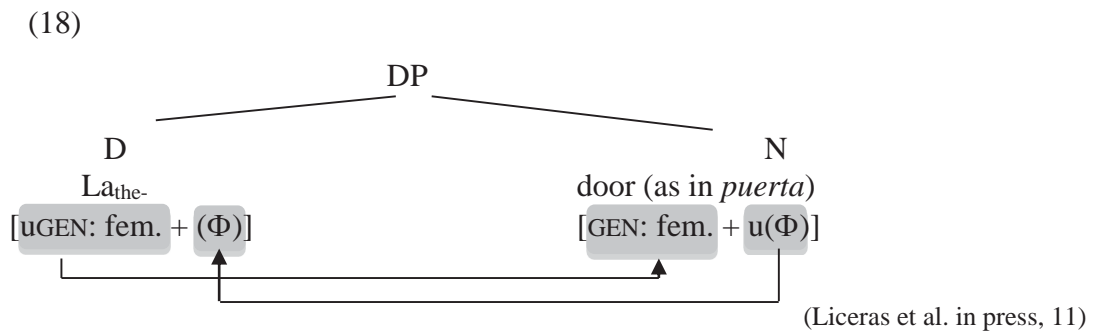
[The chair]

b. *La*<sub>fem</sub> **chair**<sub>Spanish fem [silla]</sub>

Although both possibilities (i.e. the analogical criterion and the default masculine) are supported in the literature, Liceras et al. (in press, 11) defend that the activation of the translation equivalent (example 16), that is, the analogical criterion, involves that “the gender valuation is forced upon the switch” and, if so, then (17a) would result in ungrammaticality as there is a feature mismatch between the gender

features of the Spanish Det (masculine) and those of the translation equivalent of the English N (feminine).

The reason for this ungrammaticality would be the Gender Double-Feature Valuation Mechanism, since it is carried over into the switched DPs, as illustrated in (18).



As they explain, the Spanish Det has the uninterpretable GENDER feature and the interpretable  $\Phi$  feature, whereas the Spanish translation equivalent of the English N *door* (*puerta*) bears the interpretable GENDER feature and the uninterpretable  $\Phi$  feature. On the one hand, the uninterpretable GENDER feature of the Spanish Det has to be valued by the interpretable GENDER feature that the English N (*door*) has obtained from its Spanish translation equivalent (*puerta*). On the other hand, the same occurs with the uninterpretable  $\Phi$  feature of the English N (*door*) inherited from its Spanish translation equivalent, since it is valued by the interpretable  $\Phi$  feature born by the Spanish Det. Besides, as the authors state, this agreement mechanism makes the structure not to crash because both Det and N have feminine values (Liceras et al. in press, 11).

Bearing in mind the Grammatical Features Spell-Out Hypothesis (GFSH) and the Gender Double-Feature Valuation Mechanism, Liceras et al. (in press) analyze child and adult simultaneous bilinguals' spontaneous data as well as sequential bilinguals'

experimental data. These authors focus on different types of switches (ie. Det-N, copula verb-subject complement and subject-verb structures). Since the present study deals with Det-N switches, that is, concord structures, in what follows only the results from the first type of utterances will be presented.

Regarding spontaneous production, data from children and adults confirm the GFSH since they show a preference in producing Spanish Det + English N structures. The results from the spontaneous production of the bilingual children are shown in Table 1 where out of a total of 109 cases, only 5 were English Det + Spanish N switches.

**Table 1.** Bilingual children: Spanish-English switched DPs in spontaneous data

	Manuela [Deuchar CHILDES]	Mario [Fantini 1985]	Leo [FerFuLice CHILDES]	Simon [FerFuLice CHILDES]	5 children [Lindholm & Padilla 1978]
	Sp / Eng	Sp / Eng	Sp / Eng	Sp / Eng	Sp / Eng
Def Art 'the'	1 —	18 —	1 —	3 —	7 2
Ind Art 'a/n'	4 —	16 —	3 —	1 —	5 1
Dem. 'this'	— 2	2 —	— —	— —	6 —
Indef. 'another'	11 —	1 —	17 —	— —	— —
Poss. 'my'	— —	6 —	1 —	1 —	— —
Total	16 / 2	43 / —	22 / —	5 / —	18 / 3

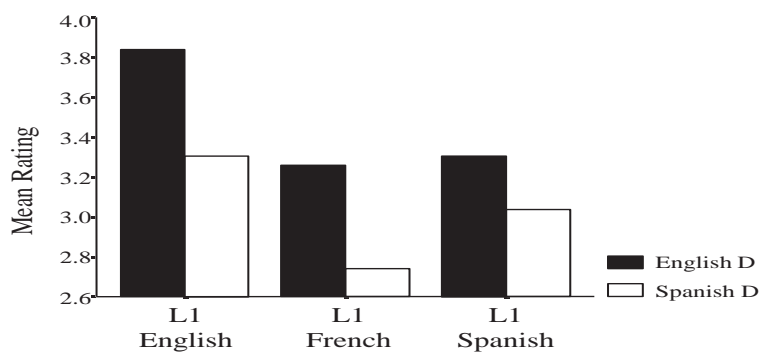
(Liceras et al. in press, 16)

Concerning the choice of gender, the results vary: the bilingual children favor the production of either the masculine Spanish Det default option or the analogical criterion. The scene for the bilingual adults is complex. As Liceras et al. (in press) have taken data from a variety of corpora, several possibilities are presented.

On the one hand, the bilingual adults living in the U.S. show two choices: a group which produced switched DPs where neither the phonology nor the displaced Spanish word predicted the gender; and a group which presented a 78% of feminine words as masculine, i.e. preference for the masculine as default option. On the other hand, the simultaneous bilinguals from Gibraltar (Moyer 1993) favor the analogical criterion, since

they produced 130 out of 206 Spanish Det + English N utterances where the gender of the Det matched the gender of the Spanish translation equivalent.

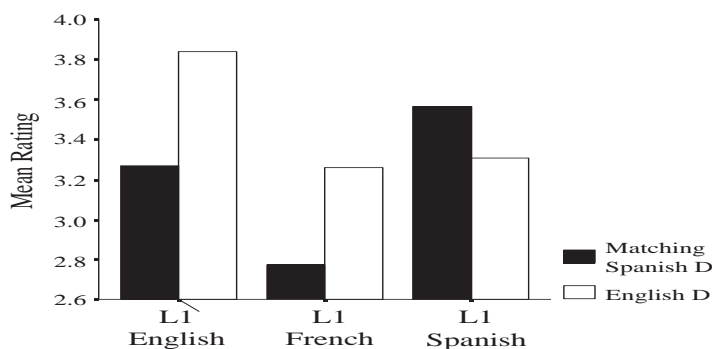
Regarding experimental data, the results show a completely different picture. In this case, data from sequential bilinguals with different profiles (L1 Spanish-L2 English, L1 English-L2 Spanish and L1 French-L2 Spanish studying in Canada) are used. These experimental data result from a task where participants had to judge several gender matching and gender non-matching Spanish Det + English N structures, i.e. (17b) versus (17a). In Figure 1, Licerias et al. (in press) exhibit the preferences of these sequential bilinguals.



**Figure 1.** Ratings for English Det + Spanish N and Spanish Det + English N by sequential bilinguals

(Licerias et al. in press, 18)

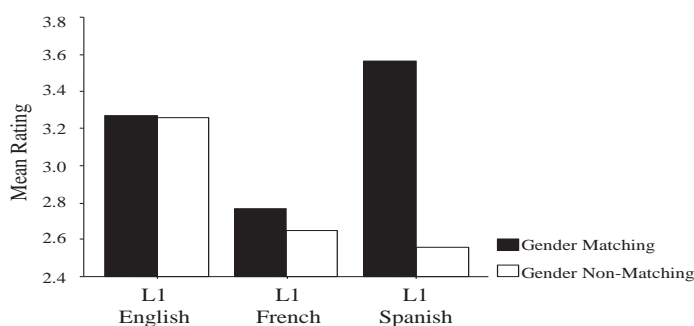
The results displayed confirm, firstly, that there is a tendency to favor switched DPs where English provides the Det, such as in (12), as Licerias et al. (in press) stated, but they believe that this is due to the nature of the task. Secondly, when comparing the ratings from the English Det and those from the matching Spanish Det + English N DPs, as in Figure 2, they found out that the L1 Spanish participants favor the switches where the Spanish Det matches the Spanish translation equivalent of the English N over the switched DPs where English provides the Det, i.e. they prefer (11) over (12).



**Figure 2.** Ratings for English Det and gender matching Spanish Det switched DPs

(Liceras et al. in press, 19)

Besides, when comparing the matching switched DPs to the non-matching switched DPs, as it is shown in Figure 3, they found that the L1 Spanish-L2 English adults (living in Canada and Spain) rated gender-matching concord structures higher than the non-matching ones. That is, they show a preference for the analogical criterion.



**Figure 3.** Ratings for gender matching and gender non-matching Spanish Det + English N.

(Liceras et al. in press, 27)

In opposition, sequential bilingual adults whose L2 is Spanish present a tendency for the default masculine although they also show a level of sensitive for the analogical criterion.

Thus, Liceras et al. (in press) conclude that “the Grammatical Features Spell-Out Hypothesis has a role in production (as shown in the spontaneous data) but not in processing (as per the acceptability judgments)” (21). Besides, they confirm that L1 Spanish bilinguals as well as L1 Spanish-L2 English bilinguals go for the analogical

criterion in concord structures, whereas sequential bilinguals whose L2 is Spanish present a tendency for the masculine as the default option although they also show some degree of sensitivity to the analogical criterion (28), with regards to the experimental data.

Also interested in this phenomenon, Cantone and Müller (2008) focus on a language pair with different gender grammatical properties: German and Italian. Although in both languages the Det carries a gender feature, German has a three-class gender system (masculine, feminine and neuter) whereas Italian has a dual gender system (masculine and feminine) like Spanish. These authors analyze spontaneous data from Italian-German bilingual children and they predict that “in mixed DPs the gender of the noun would also be switched into the other language, i.e the article will carry gender features of the mixed noun” (812) and this is illustrated in (19) and (20).

(19) Ho mangiato una<sub>Italian fem</sub> mela<sub>Italian fem</sub> non-switched DP

(20) Ho mangiato un<sub>Italian masc</sub> *apfel*<sub>German masc</sub> switched DP  
[I ate an apple]

(Cantone and Müller 2008, 812)

The N *apple* is masculine in German (*apfel*) but feminine in Italian (*mela*), and, as it is seen in examples (19) and (20), the Det changes its gender when the N switches: in the non-code-switched DP in (19) the Italian Det and the Italian N are feminine, whereas in the code-switched DP in (20) both Italian Det and German N are masculine showing the change of gender of the Italian Det when the N switches into German, going from feminine (*una mela*) as in (19) into masculine (*un*) as in (20).

In the case of code-switched DPs and with regards to gender agreement between Det and N, Cantone and Müller (2008, 819) propose three possible categories: (a) that the switched N has the same gender in the other language, as in (21a); (b) that the switched N and its equivalent have different genders but the gender of the switched N is encoded in the

Det, which has been illustrated in (19) and also in (21b); and (c) that they do not have the same gender and the Det does not encode the gender of the switched N but the gender of its translation equivalent, represented in (21c).

- (21) a. una<sup>Italian fem</sup> *biene*<sup>German fem</sup>  
[a bee]
- b. *eine*<sup>German fem</sup> *pentola*<sup>Italian fem</sup>  
[a pot- In German: ein<sup>masc</sup> topf<sup>masc</sup>]
- c. una<sup>Italian fem</sup> *smetterling*<sup>German masc</sup>  
[a butterfly- In Italian: una<sup>fem</sup> farfalla<sup>fem</sup> ]
- (Cantone and Müller 2008, 819-820)

Example (21c) shows how the speaker produces a code-switched DP where the Det, provided by Italian, does not switch into masculine although the German N is masculine. Rather the Det remains feminine as the Italian translation equivalent of *smetterling* is feminine. In these cases there is, therefore, a gender mismatch between Det and the switched N because gender agreement is, in fact, done between Det and the translation equivalent of the switched N. The results obtained appear in Table 2.

**Table 2.** Code-switched DPs and gender agreement

Child	Same gender (Category a)	Different gender		Other gender errors
		Gender of switched N (b)	Gender of equivalent N (c)	
Carlotta, Italian context	23 (57.5)	16 (40)	0	1 (2.5)
Carlotta, German cont.	32 (80)	7 (17.5)	0	1 (2.5)
Lukas, Italian cont.	121 (68.5)	49 (28)	6 (3)	1 (.5)
Lukas, German cont.	0 (0)	0 (0)	0 (0)	0 (0)
Jan, Italian cont.	40 (66)	24 (33)	4 (5.5)	4 (5.5)
Jan, German cont.	9 (69)	1 (8)	1 (8)	2 (15)
Aurelio, Italian cont.	89 (73)	20 (16)	11 (9)	2 (2)
Aurelio, German cont.	5 (29)	8 (47)	2 (12)	2 (12)
<b>Total</b>	<b>319 (66)</b>	<b>125 (26)</b>	<b>24 (5)</b>	<b>13 (3)</b>

(Cantone and Müller 2008, 821)

What the results exhibit is that, in most of the switched DPs analyzed (66%), the realized noun and its equivalent have the same gender (as in example 21a above) whereas the percentage for option (c), what we would consider as the Det matching the equivalent translation of the realized N, that is, example (21c), is significantly lower, just a 5% of the

total switched DPs. The authors believe that the results support MacSwan's model, since, "given that gender is an inherent feature of Ns, SELECTing a noun from the Italian lexicon in an otherwise German DP should have the consequence that the Det agrees with the gender of the selected noun, and not with the gender of the translation equivalent" (821).

To conclude the preceding sections, a description of the development of code-switching as a bilingual phenomenon has been offered in section 2.1. Afterwards, due to its dual gender properties, a depiction of the Spanish gender system has been introduced (section 2.2.) in order to understand the possible gender combinations in English-Spanish switched DPs when Spanish provides the functional category (i.e. the Det). This has been followed by the focus of this study: code-switching within the DP and the languages contributing the Det category (section 2.3.), as well as the gender features in code-switched DPs when the languages implied have different gender properties (section 2.4).

### **3. Hypotheses**

Taking the review presented above on code-switching, on gender and on the gender of code-switched DPs as a point of departure, the following three hypotheses are proposed. These deal with the three issues we are concerned with in this dissertation (as discussed in section 2): the analogical criterion, the role played by morphology (i.e. canonical versus non-canonical markers) and the masculine as a default option.

Bearing in mind that the focus of this study is on the gender of the Det when Spanish provides this functional category, and due to the duality of the gender features in Spanish (masculine and feminine), it is firstly argued that the analogical criterion (section 2.4) will have a different incidence in the different groups of speakers and that this would depend on the status of Spanish as L1 or L2. In particular, L1 Spanish bilingual speakers would favor the analogical criterion, as in (22), when selecting the Spanish Det due to the influence of the gender properties of their L1: that is, they would impose the gender



features born by the Spanish N into the English N. The two groups of simultaneous bilinguals, both adults and children, would also show a sensitivity for the analogical criterion since Spanish is one of their L1s. As opposed to these groups with Spanish as the/an L1, the L1 English speakers would show the least sensitivity to the analogical criterion, since their L1 does not present gender features so they would not impose gender on the English N neither when processing nor when producing a Spanish Det-English N switch.

- (22) *El*<sub>masc</sub> plane Spanish masc [avión]  
[The plane]

Secondly, and related to the first hypothesis, canonicity will play an important role when selecting the gender of the Spanish Det (section 2.2). As shown in example (23), Spanish presents morphological markers for masculine and feminine forms which are considered canonical (–o for masculine and –a for feminine) as it is the case of example (23a), and non-canonical markers for masculine forms (consonants or a vowel different from –o), as shown in (23b), and non-canonical markers for feminine forms (consonants or a vowel different from –a).

- (23) a. *El*<sub>masc</sub> sky Spanish masc canonical-marker [ciel-o]  
[The sky]
- b. *El*<sub>masc</sub> clock Spanish masc non-canonical marker [relo-ɲ]  
[The clock]

With this idea in mind, it is argued that this morphological strategy will not affect the L1 Spanish speakers, since they are able to differentiate between masculine and feminine nouns regardless of their morphological marking. Yet, this will be an effective strategy for the L1 English speakers, since the morphological markers –o and –a may guide them into the selection of one gender over the other. Therefore, the Ns with a canonical

ending would be less problematic when applying the analogical criterion than Ns with a non-canonical ending, i.e. (23a) versus (23b).

Finally, this study attempts to show that especially the L1 English bilinguals, and due to the influence from English and its lack of gender features carried by the lexical category of the mixed DP (i.e. the English N), will prefer the unspecified Spanish gender, that is, the masculine as the default option in the case of the Det, as in (24).

(24) *El*<sub>masc default</sub> house *Spanish feminine* [casa]  
[The house]

The simultaneous bilingual children and adults would not present a clear cut tendency for this choice whereas the L1 Spanish speakers will not favor the masculine as the unspecified gender, since they will follow the analogical criterion (hypothesis 1 above).

#### 4. Method

In order to test the three hypotheses previously stated, this section provides a detailed account of the methodology followed and, more specifically, of the participants tested as well as of the procedure used to collect the data.

##### 4.1 Participants

The participants in this research have been divided into four groups according to their L1s and their ages, as presented in Table 3.

**Table 3.** Profile of the participants

Group	L1	Age range	Number of participants
Heritage Children	English-Spanish	6-8	8
Spanish L1 Children	Spanish	10-12	8
Heritage Adults	English-Spanish	15-25	5
English L1 Adults	English	22-29	6

These participants have been tested by the UVALAL (University of Valladolid Language Acquisition Lab) from 2010 until 2015<sup>3</sup>. Together with the experimental tasks, all the participants were given a language background questionnaire and a written consent form which had to be signed by them, or by their parents if they were under 18. In order to preserve their anonymity, they were all given a code. Each group is described in detail in the following sections.

#### 4.1.1 English Heritage<sup>4</sup> Children

The English Heritage children group consists of 8 simultaneous bilinguals who have acquired both Spanish and English from birth and in a natural context since one of their parents is an L1 English speaker and the other is an L1 Spanish speaker. They all live in Spain, so Spanish is the dominant language in their everyday lives. All of them attend an immersion school in Valladolid where the lessons are mainly taught in English. Therefore, English is part of both their family and institutional context. Their age range goes from 6 to 8 years old.

#### 4.1.2 L1 Spanish Children

The L1 Spanish children group consists of 8 children who are between 10 and 12 years old. They were born in monolingual families so their L1 is Spanish, but they have started learning English in an English immersion school in Valladolid, as the English heritage children. Thus they have developed English as their second language in an institutional setting. Differently from the first group, these L1 Spanish children receive a

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<sup>3</sup>From 2013 to 2015, I have been granted two research scholarships with the UVALAL (one from the Ministry of Education and the other from the *Consejo Social* of the University of Valladolid). During these years I have participated in the processes of data collection and data transcription.

<sup>4</sup>The term *heritage* speaker refers to the individual who acquires two languages simultaneously, but one of the L1s (i.e. the heritage language) is acquired in a restricted context. In this case, the heritage language is English since they are living (or have been living most of their lives) in Spain, thus, English is restricted to a family context.

lower amount of English input, since they do not use English at home and since they have not been exposed to the language from birth.

#### 4.1.3 English Heritage Adults

The English Heritage adult group consists of 5 participants. They are between 15 and 25 years old. As participants from group 1, they have acquired both English and Spanish from birth, but they have not attended an English immersion school. Although all of them have grown up in Spain, one of the participants has been living in the U.K. during the last 3 years and another participant has been living in the U.S. for the last 10 months. Thus, when they did the experimental tasks, three of them were living in Spain while the other two were living in the U.K and in the U.S., meaning that the former group use both Spanish and English in a family context and the dominant language is Spanish, but the dominant language for the latter group during the last period and when testing is English.

#### 4.1.4 L1 English Adults

The L1 English adult group consists of 6 participants who are between 22 and 29 years old. This is the group composed by people whose L1 is English and they have started learning Spanish as their L2 later in life, most of them in their adulthood. It is possible to divide this group into those who were living in Spain at the moment they took the tests and use it on a daily basis (two of them), and those who were not living in Spain when they did the tests but who use Spanish in an institutional context, at university or in their jobs, (the other four). Although their levels of Spanish vary, due to the current input and usage of the language, they all performed successfully in those tasks which were not very demanding in terms of proficiency in either language.

## 4.2 Data Elicitation Procedure

The data collected belong to a major coordinated project between the UVALAL and the LARLAB (Language Acquisition Research Laboratory) from the University of Ottawa (Canada), so all participants had to pass three tests designed by Liceras and Fernández Fuertes (2010-2013): two Acceptability Judgment Tasks and a Production Task. However, as the purpose of this research is to see how Spanish gender is perceived and produced in switched DPs, only two of the three tasks are used: the Acceptability Judgment Task for concord structures and the Production Task. Both of them are described in detail in 4.2.1 and 4.2.2.

### 4.2.1 Acceptability Judgment Task

The Acceptability Judgment Task (henceforth, AJT) focuses on concord structures, that is, code-switching between the Det and the N. The aim of this task is to examine how these bilingual speakers perceive diverse sentences with switched DPs. They were presented a short dialogue, as in (25), and they had to evaluate the answer circling one value represented by means of four different emoticon faces. The target DP (in bold type in the answer in (25)) always appeared at the end of the sentence. In the evaluation of the answer, the four emoticon faces represented the scale on which they had to rate each answer and which goes from 1 to 4 where 1 means “it sounds very bad” and 4 means “it sounds very good”, 2 and 3 being intermediate values.

(25) Q: ¿Dónde está el gato?

[Where is the cat?]

A: El gato está junto a **la**<sub>fem</sub> *house* <sub>SP fem</sub>

[The cat is near **the house**]

Concerning the organization of the task, the participants were shown 38 items in total. Firstly, they were presented 8 practice items where code-switching appeared in other

grammatical points but within the DP. The aim of these 8 items was to check if they understood the rationale of task but their answers in the practice items have not been taken into account in the results. Afterwards, they had to judge 30 items which can be divided into three subgroups. The first group was composed by 12 Spanish Det + English N structures, and as it is the target of the present research, a description of the different combinations is provided below. The second group included 12 English Det + Spanish N structures, as in (26), which are considered as distractors since my focus is on the gender properties of the Spanish Det; as well as 3 structures which involved code-switching in other grammatical points different from the DPs, as in (27), where the switching point is between the DP subject and the verbal phrase. The third group of experimental structures was composed of 3 fillers, that is, 3 structures in which no code-switching appeared, as in (28). An overview of the different structures making up the task is presented in Table 4.

- (26) I prefer the *vestido*<sub>masc</sub> English Det + Spanish N  
 [I prefer the dress]
- (27) *El mono* has a banana Spanish S + English VP.  
 [The monkey has a banana]
- (28) This is a pirate bike

**Table 4.** Acceptability judgment task

# Practice Items	# Experimental Items				# Distractors	#Fillers	Total items
	MM	MF	FF	FM			
8	3	3	3	3	5	3	38

Regarding the group of experimental items, which is the target of the present research, there are four possible combinations depending on the gender of the Spanish Det (masculine or feminine) and the gender of the Spanish translation equivalent of the English N (masculine or feminine). Thus, there are two subgroups: a group of structures where the

analogical criterion is used and another group in which structures do not abide by the analogical criterion. The 6 structures which follow the analogical criterion (henceforth [+AC]), where the gender of the Spanish Det matches the gender of the Spanish translation equivalent of the English noun, are of two types: 3 masculine Det + masculine N (MM) structures, as in (29), and 3 feminine Det + feminine N (FF) structures, as in (30). The 6 structures which do not follow the analogical criterion (henceforth, [-AC]), which means that the Spanish Det does not match with the Spanish translation equivalent of the English N, involve 3 masculine Det + feminine N structures (MF), as in (31), and 3 feminine Det + masculine N structures (FM), as in (32).

- |      |  |      |
|------|--|------|
| (29) | El niño está en <b>el</b> <sub>masc</sub> <i>plane</i> <small>Spanish masc</small>         | (MM) |
|      | [The child is in the plane]  |      |
| (30) | El gato está junto a <b>la</b> <sub>fem</sub> <i>house</i> <small>Spanish fem</small>      | (FF) |
|      | [The cat is near the house]  |      |
| (31) | El pájaro está en <b>el</b> <sub>masc</sub> <i>hands</i> <small>Spanish fem</small>        | (MF) |
|      | [The bird is on the hand]  |      |
| (32) | El niño está jugando con <b>la</b> <sub>fem</sub> <i>clock</i> <small>Spanish masc</small> | (FM) |
|      | [The child is playing with the clock]  |      |

#### 4.2.2 Production Task

The Production Task (henceforth, PRT) focuses on how these bilinguals produce code-switching within the DP, where Spanish provides the Det that needs to be marked for gender and the N is presented in English. The participants were shown 40 sentences with a blank and they had to fill in 20 of them with a Spanish Det (concord structures) and the other 20 with a Spanish Adj (agreement structures). As the target of my analysis is the gender of the Spanish Det, I have considered the agreement structures as distractors, since

they involve code-switching in a grammatical point different from the DP, i.e. between the DP subject and the copula verb followed by an AdjP, as in (30) and (31).

(33) The castle *es negro* Adj masc  
[The castle is black]

(34) This apple *es roja* Adj fem  
[The apple is red]

The other 20 structures are the experimental sentences and the ones taken into account for the present analysis. These were presented with a blank in the Det position and the participants had to fill it in with a Det in Spanish. Thus, they had to decide whether the Det was masculine or feminine with regards to the English N that followed. These 20 sentences are grouped into two categories: in 10 of them, the expected response if the analogical criterion applies, is a masculine Det, as in (35) and (37), whereas in the other 10, the expected response is a feminine Det, as in (36) and (38). Besides, another distinction can be done regarding the ending of the Spanish translation equivalent of the English N: the canonical marker (i.e. –o for masculine and –a for feminine) and the non-canonical marker. On the one hand, the canonical marker appears in those Spanish translation equivalents ending in –o when the N is masculine, as in (35), presented here as DMO (Det masculine canonical marker), and in –a when the N is feminine, as in (36), presented here as DFO (Det feminine canonical marker). On the other hand, the non-canonical marker appears in the Spanish equivalent translation which ends in a vowel different from –o in the case of masculine Ns, and different from –a in the case of feminine Ns, or in a consonant in both cases, as in (37) and (38). They are presented as DMX (Det masculine non-canonical marker) and DFX (Det feminine non-canonical marker). An overview of the number of items per category type in the PRT is presented in Table 5.



- (35) Elisa quiere **el *dress***<sub>Spanish vestido masc</sub> DMO  
 [Elisa wants the dress]
- (36) Les gusta **la *rain***<sub>Spanish lluvia fem</sub> DFO  
 [She likes the rain]
- (37) Vamos a comprar **el *clock***<sub>Spanish reloj masc</sub> DMX  
 [We are going to buy the clock]
- (38) Hemos abierto **la *nut***<sub>Spanish nuez fem</sub> DFX  
 [We have opened the nut]

**Table 5.** Production Task

# Experimental items				# Distractors	# Total items
DMO	DFO	DMX	DMO		
5	5	5	5	20	40

## 5. Results

The experimental data collected from the four groups of participants have been classified according to the three hypotheses proposed: the analogical criterion ([+/- AC]), the canonical or the non-canonical ending of the Spanish translation equivalent ([+/- canonical]), and the default masculine. This has been so in the results from the two experimental tasks (i.e. the AJT and the PRT), whose results are going to be compared, where possible, along the following three sections. Also, the results are presented per participant group in order to see how they perceive and produce the grammatical properties of Spanish grammatical gender in code-switched DPs.

### 5.1 The analogical criterion

One of the strategies when producing or judging Spanish Dets in switched DPs is the analogical criterion (section 2.4), as it has been shown in example (11), repeated here as (39).

(39) a. *La* Spanish fem house [Spanish fem-casa]

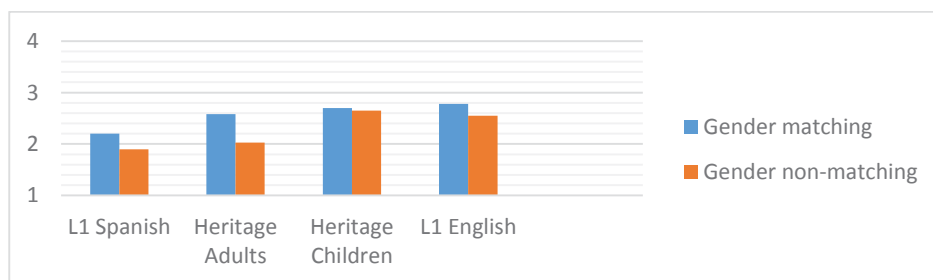
[The house]

b. *El* Spanish masc pencil [Spanish masc-lápiz]

[The pencil]

Thus, this section presents the results from both the AJT and the PRT regarding how these bilinguals have perceived and produced the Spanish Det in terms of its gender specifications with regards to the analogical criterion. These results are displayed in Figure 4 and Figure 5.

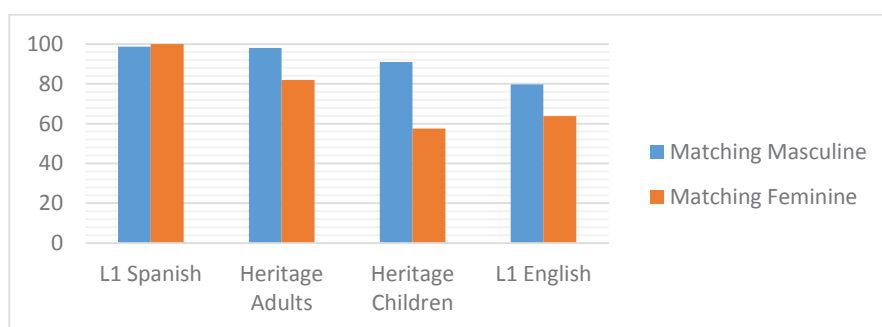
Figure 4 presents the mean ratings for gender matching and gender non-matching between Spanish Dets and English Ns for each group. Overall, the mean values are between 1,9 and 2,78, which means that none of the groups gave the highest value to the structures abiding by the analogical criterion, not even the L1 Spanish group. The latter was expected to show a clear-cut preference for the gender matching structures and no preference for the gender non-matching options. However, the heritage adults, who might be more influenced by English than the L1 Spanish, present the widest difference between the [+AC] structures (2,58) and the [-AC] structures (2,03) (i.e. they favor the structures where the gender of the Spanish Det matches the gender of the Spanish translation equivalent of the English N), whereas L1 Spanish group did not even rate the [+AC] sequences above the average value (2,5).



**Figure 4.** Mean ratings of gender matching ([+AC]) and gender non-matching ([-AC]) in the AJT

Regarding the heritage children, they show sensitivity to both options (2,7 for the gender matching sequences and 2,65 for the gender non-matching sequences), whereas the last group, the L1 English speakers, has surprisingly rated higher the gender matching structures than the gender non-matching ones (2,78 for the [+AC] structures and 2,55 for the [-AC] ones).

Figure 5 shows the PRT results. In the case of production results are more related to the expected scenario. It is important to mention that, as it has been explained in 4.2.2, all participants had to fill in a blank with a Spanish Det which could be gender matching (i.e. the expected response following the AC), or gender non-matching (i.e. the non-expected response according to the AC). These results have been transcribed according to the expected responses of each group.



**Figure 5.** Mean ratings of gender matching ([+AC]) and gender non-matching ([-AC]) in the PRT

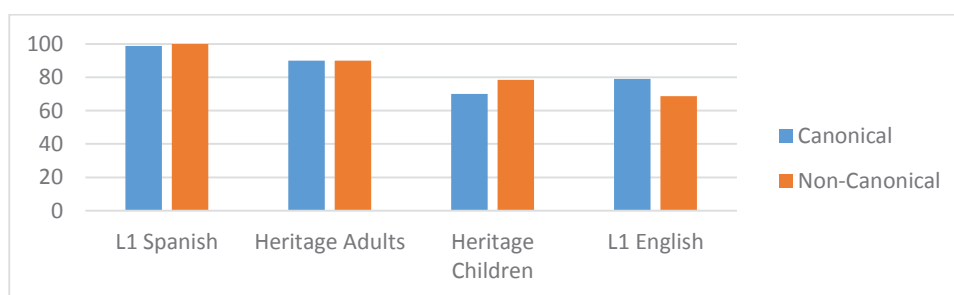
As in Figure 5, the L1 Spanish group has produced gender matching Spanish Dets in almost all sequences (except for one masculine sequence in which one participant used an adjective (*morado*) instead of the masculine Spanish Det), thus showing sensitivity to the analogical criterion. Close to this group is the heritage adult group who produced almost the highest percentages in the two types of masculine sequences (98%). Contrarily, the heritage children's results show sensitivity for the analogical criterion in the case of the masculine sequences (91%), but not in the case of the feminine ones (57,5%), whereas the L1 English speakers acted as expected since they have produced the lowest percentage of

masculine Spanish Dets (79,5%) in comparison with the rest of the groups, although they have produced more feminine Spanish Dets than the heritage children (63,8%) but still a lower percentage compared to the L1 Spanish and the adult heritage groups.

When establishing a comparison across tasks in the case of the analogical criterion, we can conclude that the performance of each group varies from one task to the other. As an example, in the AJT, the L1 Spanish group does not seem to have the expected sensitivity for the gender matching switched DPs, whereas in the PRT almost all their Dets were [+AC]. Thus, it seems that the different nature of each task affects the results and that the processing and the production of Spanish gender features is different in the case of these groups of speakers.

## 5.2 Canonical versus non-canonical morphological markers

In line with the analogical criterion strategy, another aspect under consideration in this study is to see if the canonical and non-canonical markers of the Spanish translation equivalent of the English N affect the selection of the gender of the Spanish Det in switched DPs. In this case, only results from the PRT have been taken into account as this variable was not present in the AJT. These are presented in Figure 6.



**Figure 6.** Mean ratings of canonical and non-canonical markers in the PRT

As expected, and already described in the preceding section, the L1 Spanish group had no doubt when producing the gender matching Spanish Dets and they did not show

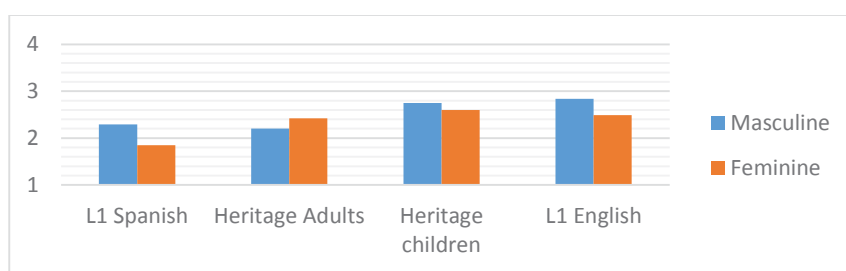
preference for neither the canonical markers nor the non-canonical ones. This also occurs in the case of the heritage adults, since the percentage for both cases is the same, i.e. 90%.

The scene is different for both heritage children and L1 English speakers. The former tended to produce more gender matching Dets in the cases where the Spanish translation equivalent of the English N has a non-canonical marker, such as in (23b). Finally, canonical markers seem to be meaningful for L1 English speakers, since they produced 78,95% of gender matching cases when the Spanish translation of the English N has a canonical marker, as in (23a).

Thus, canonical markers seem to be relevant when selecting the gender of the Spanish Det only for the L1 English participants, whereas the rest of the groups do not appear to be affected by them, not even the heritage children.

### 5.3 The default masculine

The last property under consideration in this study is the use of the masculine gender as the unspecified gender, as shown in example (24). This strategy is seen in both AJT and PRT results, as it is displayed in Figures 7, 8 and 9.

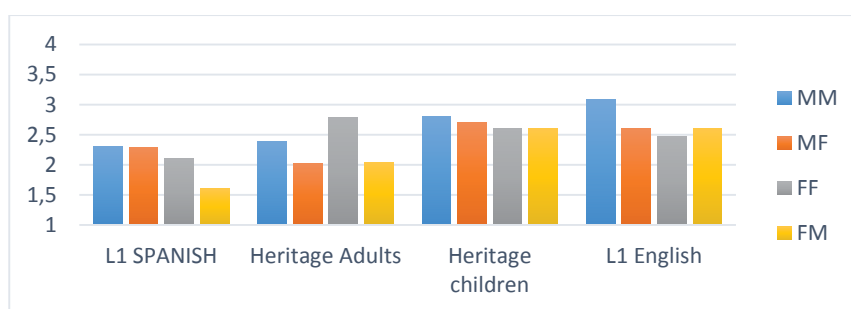


**Figure 7.** Mean ratings of masculine (MM and MF) and feminine (FF and FM) preferences in the AJT

Figure 7 presents the overall values given to masculine DPs and feminine DPs in the AJT. Both gender matching (i.e. MM and FF) and gender non-matching (i.e. MF and FM) structures are included (see examples 29, 30, 31 and 32 above). Except for the heritage adults, all the groups rated the masculine DPs higher than the feminine ones. It is

surprising in the case of the L1 Spanish since the difference between the masculine values and the feminine ones is meaningful (2,29 over 1,85) and it is indeed the widest contrast. The L1 English speakers acted as expected since they rated the masculine forms higher than the feminine ones, possibly due to the influence of their ungendered L1 and using the Spanish masculine Det as an actual default form. In the case of the heritage groups, they seem to have sensitivity for both gender forms, not preferring one over the other, since their mean values are close to each other (2,2 and 2,42 for the adults; 2,75 and 2,6 for the children).

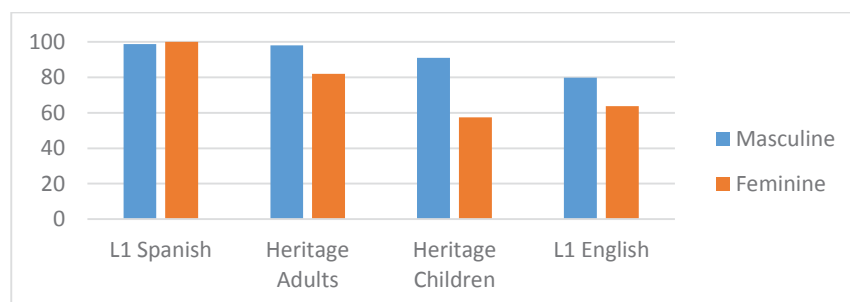
A more detailed representation of each group's performance in the AJT is shown in Figure 8, where the four gender settings are presented separately.



**Figure 8.** Overall performance of each group in the AJT

As illustrated before, the L1 English speakers preferred the masculine gender, especially in the case of the gender matching Spanish Dets (3,08). Next in this preference are the heritage children who also seem to be influenced by English, so they gave a higher value to masculine DPs. On the contrary, the heritage adult group does not show a preference for the masculine forms, instead, they favored the feminine matching DPs (FF), thus, not being influenced by one of their L1s, English. Again, the L1 Spanish group shows surprising results, since they have rated higher those structures where the Det was masculine over the structures bearing the analogical criterion when feminine (FF).

However, this group does not seem to tolerate the non-matching forms when the Det is feminine (FM), and this is why they show the widest contrast in Figure 7.



**Figure 9.** Mean ratings of masculine and feminine matching Spanish Dets in the PRT

Figure 9 presents the PRT results. In this case, the L1 Spanish group acted as expected, that is, producing almost the same percentage in both masculine and feminine DPs. On the contrary, the rest of the groups favored the masculine forms over the feminine ones, which means that they produced more masculine Dets than feminine Dets when it was expected if the analogical criterion is followed. The widest contrast between these two values is presented in the case of the heritage children, since they produced almost 100% of the expected masculine Dets but only 57,5% of the expected feminine Dets. This means that these participants produced masculine Dets when they had to use the feminine ones, since the Spanish translation equivalent of the English N was feminine.

Therefore, what this performance reflects is that the masculine is favored by most of the participants, meaning that the masculine may be used when they do not want to specify gender.

When establishing a comparison across tasks in the case of the default masculine Spanish Det, the results reveal that they all showed a preference for masculine Dets in the AJT which is supported by the PRT results. The only exception is the case of the heritage adults who seem to favor feminine Dets when judging but who prefer to produce masculine Dets, as it is seen in Figures 7, 8 and 9.

## 6. Discussion

The analysis of the data obtained from the four groups of participants allows us to confirm or reject the hypotheses proposed in section 3.

First of all, it was predicted that out of the four bilingual groups, the L1 Spanish speakers would favor the analogical criterion due to the influence they had from the gender properties of their L1. Thus, they would favor structures like (22). The results from the AJT shown in Figure 4 confirm this hypothesis, since together with the heritage adult group, the L1 Spanish speakers are the ones who show the highest rate of preference for the analogical criterion. This is clearly reaffirmed by the results from the PRT displayed in Figure 5, since the L1 Spanish group produced almost a 100% of expected responses (i.e. gender matching Spanish Dets), followed, again, by the heritage adult group. Thus, the latter seems to have reached the same sensitivity to the gender properties of one of their L1s as the L1 Spanish speakers, and they do not show influence from English in this respect.

These results are in line with the conclusions reached by Liceras et al. (in press) and Fernández Fuertes et al. (2011). The former's experimental data show that the sequential bilinguals whose L1 is Spanish have a tendency to use the analogical criterion whereas the rest of the groups (with Spanish as their L2) do not show this sensitivity. Besides, Fernández Fuertes et al. (2011) also argue that this strong preference for matching DPs by the L1 Spanish speakers reflects that "they are more sensitive to the Gender Double-Feature Valuation Mechanism" (10).

It is also possible to compare the results from these studies with the ones obtained by Cantone and Müller (2008). However, it has to be taken into account that their data are spontaneous rather than experimental. These authors conclude that the structures abiding by the analogical criterion are the least produced by their Italian-German bilingual



children. It is surprising how different the results from these studies are, but this is due to the nature of the data (spontaneous versus experimental) as well as to the gender properties of the languages involved (two languages with gender properties such as Italian and German in switched DPs in the case of Cantone and Müller (2008); one ungendered language, English, and a language with gender properties such as Spanish in Spanish-English switched DPs in the case of Licerias et al. (in press) and Fernández Fuertes et al. (2011)).

Regarding the second hypothesis which focuses on the relevance of the canonical markers of the Spanish translation equivalent of the English N in the choice of the gender of the Spanish Det, it was predicted that out of the four groups, the L1 English speakers would be more sensitive to these markers. This hypothesis is confirmed by the results from the PRT as illustrated in Figure 6. The L1 English bilinguals produced more expected responses (gender matching) when the Spanish translation equivalent had a canonical marker, whereas the rest of the groups did not seem to be affected by this strategy.

Finally, it has been argued that, due to the lack of gender features in English, the L1 English speakers would prefer the masculine as the default option, since by doing this, they would not have to specify any gender for the Spanish Det. The results from the AJT are not clear enough to confirm this hypothesis, since not only this group but also the L1 Spanish speakers and the heritage children judged the masculine switched DPs with the highest rates. However, the results from the PRT present a different picture, since all the participants with English as their L1 (the two heritage groups and the L1 English speakers) tended to produce more masculine than feminine Spanish Dets when the expected response was a feminine Det. Although it was expected that the L1 English speakers opted for the masculine as the default option, it seems that the heritage children are more sensitive to this strategy, since they have produced the lowest number of expected feminine Spanish

Dets (just a 57,5%) as it is displayed in Figure 9. Thus, both groups appeared to be influenced by English when selecting the Spanish Det, since they preferred not to specify its gender. This is in line with their results regarding the analogical criterion hypothesis since both groups presented a high degree of acceptance of gender non-matching structures.

These results are in line with Fernández Fuertes et al. (2011), who argued that simultaneous bilingual children, in comparison with L1 Spanish children, showed a higher acceptance of concord CS structures and a higher preference for default option in the AJT.

Besides, the results from this study regarding the masculine as the default option can be compared to the ones obtained by Liceras et al. (in press). These authors conclude that all the participants whose L2 is Spanish opted for the masculine gender in the experimental data. This is also the preference for the simultaneous bilingual adults living in the U.S., but not in the case of the simultaneous adults living in Gibraltar, who favored the analogical criterion strategy. Yet, these simultaneous bilinguals' results come from the analysis of spontaneous data, showing that the different nature of the task affects the results.

## **7. Conclusion**

This study has been concerned with a bilingual phenomenon arising in situations where languages are in contact, that is, code-switching. Special attention has been paid to intrasentential code-switching, in particular, to switched DPs where the Det has been provided by Spanish and the N was in English. Being the switched DP the focus of this study, the aim has been to examine how sequential and simultaneous bilinguals with different linguistic profiles select the gender of the Spanish Det, as one of their languages has no gender properties, i.e. English. In order to offer an account of this issue, experimental data have been collected through two tests, one focusing on how the gender

properties of switched DPs are perceived, i.e. an Acceptability Judgment Task, and another one dealing with how these bilinguals produce the gender specifications of the Spanish Dets in the case of switched DPs where English provides the nominal category, i.e. a Production Task. Previous studies have already researched on this topic (e.g. Cantone and Müller 2008, Liceras et al. 2008 and in press, Fernández Fuertes et al. 2011) and even some of them have even used the AJT with the same type of participants (e.g. Liceras et al. 2008 and in press, Fernández Fuertes 2011). However, none of these studies have compared across different experimental tasks (production comparison with judgment), in order to observe how the different nature of each task affects the selection of these grammatical properties. Also, none of these studies have compared across these four participant groups involving a different status of the gendered language (L1 monolingual Spanish, L1 bilingual Spanish and L2 Spanish).

The analysis of the experimental data obtained has provided confirmation for the three hypotheses proposed. Firstly, it has been proven that the L1 Spanish speakers are the most sensitive to the analogical criterion due to the influence of the gender properties of their L1 and this is in line with the Gender Double-Feature Valuation Mechanism (Liceras et al. in press). This means that they impose gender on the English N so that they can operate gender agreement between the Spanish Det and the English N. Secondly, it has been shown that the L1 English group is the most affected by the canonical markers of the Spanish translation equivalents of the English N. This means that they use these morphological markers as cues to select the corresponding gender of the Spanish Det. Finally, it has been demonstrated that the three groups with English as their L1 (heritage adults, heritage children and L1 English) tend to opt for the masculine as the default option in production, especially, the heritage children and the L1 English speakers. This means

that the operation of gender agreement is not affecting their selection of the Spanish Det in terms of its gender properties.

These results regarding the nature of grammatical gender allow us to conclude that gender features are relevant for judging and producing switched DPs. However, further research should be done with data from more participants and from different groups of participants in order to obtain information about the status of gender and gender agreement in the grammar of English-Spanish bilinguals.

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## **Appendix 1: List of acronyms used**

Φ= AGREEMENT feature

AC= Analogical Criterion

Det= Determiner

DP= Determiner Phrase

Fem= Feminine

GEN= GENDER Feature

GFSH= Grammatical-Features Spell-Out Hypothesis

L1= First Language

L2= Second Language

Masc= Masculine

N= Noun

u= uninterpretable feature