Spanish as a heritage language in the Netherlands: A cognitive linguistic exploration

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Spanish as a heritage language in the Netherlands: A cognitive linguistic exploration

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A la mar fui por naranjas
Cosa que la mar no tiene
Metí la mano en el agua
Las esperanzas mantienen

To the sea I went for oranges
Which the sea does not have
I put my hand in the water
For hope keeps afloat
(from a Chilean folk song)

Sometimes we find ourselves embarked on difficult missions, such as looking for oranges in the sea, or writing a dissertation in linguistics. And just like in the above verse, we must rely on belief and perseverance. Fortunately, I had the ongoing pleasure of seeing others sailing along with my vessel, closer or more distant, for larger or smaller stretches of the journey. In the following, I'd like to express my gratitude to many, many persons who accompanied me in my process in some meaningful way.

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Chapter 1 Introduction

The people in this book speak two languages, one of them is the language of the home and the family, the other one is the language of most other contexts throughout their lives, including school, work, and social life. One way to refer to these people would be simply as *bilinguals*. However, this study is about only one of their languages, namely the one of the home and the family: Spanish. We will see that the Spanish these bilinguals speak has special structural characteristics, reflecting at the same time continuity with the Spanish in their homeland Chile, as well as subtle influences from Dutch - the language they use outside the home - and unique internal innovations which reflect neither continuity nor influence from Dutch. The terms which you will find most often throughout this book are *heritage language* – referring to that particular home language - and *heritage speaker* – referring to the bilingual in his or her quality of 'speaker of the heritage language'. These notions, as well as some other fundamental notions in this book, are delimited more precisely in section 1.1.

Being embedded in the field of *heritage language research*, this work is at the intersection of different linguistic disciplines. It draws on the perspectives of language acquisition as well as language contact, psycholinguistics as well as sociolinguistics, synchronic as well as diachronic studies. Section 1.2 discusses why it is relevant for linguists to study structural aspects of heritage languages and what the sorts of questions of interest are, and provides an overview of important findings, insights and open questions up to now from such research, especially on Spanish.

This book also reflects an undertaking springing from particular views of language as a cognitive system, personal intuitions as a heritage speaker, and an interest to describe, understand and explain. Section 1.3 provides the concrete points of departure for this undertaking. It formulates the central aims of the present thesis, introduces the cognitive linguistic approach taken and the key assumptions connected with it, and gives a global outline of the book.

1.1 Delimiting the object of study

1.1.1 Heritage languages and heritage speakers

The term heritage language was first used in studies from North America (Cummins, 2005; Kagan & Dillon, 2003). There are other terms used by linguists to cover more or less the same concept, such as *minority language* (e.g. Extra & Gorter, 2001), *community language* (e.g. Clyne, 1991), or *immigrant language* (e.g. Clyne, 2003), but

for this book the term *heritage language* was chosen, mainly because I consider it particularly accurate for the perspective taken in this study. The term *minority language* puts emphasis on the political, demographic and/or socioeconomic status of the language, which are not central factors in this study. *Community language* suggests a high degree of group coherence, but it is perfectly possible that a speaker of a heritage language has very loose or no ties with other heritage speakers (cf. Lynch, 2013). As we will see, this is the case to a large extent with the individuals in the present study. The term *immigrant language* is too narrow: in the research field of heritage languages, also indigenous languages are included (see e.g. Luning & Yamauchi, 2007), and I believe that they do not differ fundamentally as to the type of linguistic factors and processes which are of central interest to the study of heritage languages.

Following Benmamoun et al. (2013a, p. 261), my use of the terms *heritage language* and *heritage speaker* is 'concerned with the psycholinguistic characterization of heritage speakers themselves, rather than the sociolinguistic status of the heritage language.' The types of factors and processes which are most explicitly formulated as central to this psycholinguistic characterization, and hence to the field of heritage language research, are those which can be categorized under the general header of *incompleteness*. Essentially, it is assumed that much of the linguistic profile of heritage speakers is the result of a relatively low exposure to the heritage language, which leads to aspects being either incompletely acquired, or lost (attrited) after having been acquired. Another set of phenomena in heritage languages has to do with the exposure to the other language, i.e. phenomena of *cross-linguistic influence* (CLI). It has not been explicitly formulated as central to the research agenda of heritage languages, but it is undoubtedly a central issue to the broader fields of language contact and bilingualism.

Since incompleteness and CLI are also characteristic of other populations, such as second language learners, it is necessary to define the heritage speaker more precisely. Perhaps the definition which is most practical for linguists, and therefore the most widely cited, is the one by Valdés (2000). She refers specifically to the U.S. context and, being concerned with a pedagogical perspective, she speaks of a student who:

> *'...is **raised in a home** where a non-English language is spoken, who **speaks or merely understands** the heritage language, and who **is to some degree bilingual** in English and the heritage language' (Valdés, 2000, p. 1).*

We can easily zoom out to a broader perspective and apply this definition to heritage speakers in general - not only those enrolling in language classes in the U.S. There are a few fundamental aspects to this definition, marked in bold above. The first concerns the fact that the heritage language is acquired in a naturalistic manner, in early childhood, which sets heritage speakers' profiles apart from those of second language learners, and groups them together with those of monolingual first language learners.

The second crucial aspect of the definition highlights the fact that there can be great differences in proficiency within a heritage language group. Valdés' definition includes

those who merely understand the heritage language.[i] For doing linguistic research, however, and thus also for the present study, we necessarily have to narrow down our definition to those with some oral proficiency, however little, in the heritage language acquired in childhood (cf. Benmamoun et al., 2013a). This definition leaves, however, room for a reality well known to researchers of heritage speakers: The great inter-individual variation in proficiency. Such variation can be traced back to variation in the history and amount of exposure. Someone who was exposed to the heritage language by two parents can, all things being equal, be expected to attain a higher proficiency than someone raised by parents who spoke two different languages. Someone who immigrated to the Netherlands at age 5 will have had a greater period of exclusive exposure to the heritage language, and thus can be expected to attain a higher level than someone born in the Netherlands, whose exposure to the heritage language will be much more limited (but see Kupisch, 2013 for counterexamples).

The third crucial aspect of the definition concerns something heritage speakers have in common with second language learners: their command of two languages. However, an important difference with L2-bilinguals is that heritage speakers by definition undergo a process whereby, over the course of their childhood development, their first language (i.e. the heritage language) gradually becomes their weaker language and their second language (i.e. the language used outside the home) becomes the dominant one. This is not a defining characteristic of L2-speakers.

In sum, within the present thesis *heritage speakers* are defined as persons who are exposed to a heritage language in a naturalistic way from birth, are simultaneously or subsequently exposed intensively to another language in childhood, and can have varying degrees of proficiency in the heritage language.

As a sidenote I mention that the term *transitional bilingual*, perhaps best known from the work of Lipski (e.g. 1999), seems to depart from a similar psycholinguistic characterization. Additionally, the term *transitional* makes reference to the fact that this type of bilingual finds itself in a situation of language shift, i.e. the outside language increasingly becomes the preferred and dominant language over generations, and/or across the lifespan of the individual. This is typically also the case with heritage speakers, and also with those in the present book. Nevertheless, the term *heritage* is preferred because it connects to an active and growing research field which makes use of this term, and because it combines better with *speaker* as well as *language* – to speak of *Spanish as a transitional language* does not make much sense.

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[i] Fishman's (2006) broad definition even includes all persons with an ethnic, cultural, or other connection to the heritage language, regardless of whether they actually acquired any proficiency in it.

Although the protagonists of this thesis are heritage speakers as defined above, they are not the only speakers of the heritage language. Heritage speakers interact in significant ways with individuals whose profiles are somewhat different from the one defined above, and who are also part of the present investigation. Apart from that, heritage speakers can be subdivided into different types. Let us therefore discuss the ecology of *heritage language speakers* in the next section.

1.1.2 Heritage speakers and other speakers of the heritage language

A common way to approach the different kinds of users of a heritage language in a migration context is to categorize them into generations. The first generation acquired the language in childhood in the homeland, that is, as a monolingual first language learner, before they migrated to another area, where they acquired the majority language as a second language. A first generation speaker can become dominant in this second language, using the first language less and less, which can ultimately lead to attrition: reduced proficiency in the first language. However, their proficiency is usually much less reduced than that of the second generation, and more often than not, their first language remains the dominant one.

The first generation plays an important role as the provider of the primary input to the second generation, and often they are also the only persons with whom second generation heritage speakers interact in the heritage language. In many cases, especially in the Netherlands, rather than speaking of a speech community of heritage speakers of language X in the Netherlands, it is more adequate to consider each heritage home a speech community in itself.

While the first generation are of course *heritage language speakers*, we can only start to apply the term *heritage speaker* from the second generation onward. The second generation has a far more complex profile than the first. It is not enough to say that a person who is born in the country of immigration is of the second generation, because that would exclude heritage speakers who are born in the homeland but arrived early. A definition based on the 'onset of bilingualism' (OB) – i.e. the moment at which socialization in the majority language starts – works better for linguistic purposes. A second generation bilingual would be someone who has had an OB in the critical or sensitive period for language acquisition (Johnson & Newport, 1989; Long, 2013). The beginning and end of this period are heavily debated, but the most common proposals are either a period from 0 to 5 or 6 years of age, or 0 to around 12 years of age (Long,

2013)[i]. With this in mind, most would agree on calling a person with an OB between 0 and 6 a second generation bilingual, while many, but not all, would apply this label also to persons with an OB between 6 and 12.

Within the general profile of second generation bilinguals, an important subdivision can be observed between *simultaneous* and *sequential* bilinguals. This division is closely linked to the family composition: simultaneous bilinguals typically have one parent who speaks the heritage language and one who speaks the majority language and are thus bilingual from birth, while sequential bilinguals typically grow up the first period of their life with both parents who speak the heritage language, and are only immersed in the majority language when they start to regularly attend kindergarten, preschool or elementary school. Scholars differ as to the exact OB necessary to call someone a simultaneous or sequential bilingual. For instance, De Houwer (1996) sets the age of 3 as the limit: an OB before is simultaneous-, after is sequential bilingualism. Silva-Corvalán (2012) applies a stricter definition for simultaneous bilinguals, namely that they have an OB before 6 months of age, and further divides sequential bilingualism into *successive bilingualism* (OB between 6 months and 3 years of age) and *bilingual second language acquisition* (BSLA; OB after 3 years of age).

With onsets of bilingualism later than early childhood it can become difficult to decide whether we are speaking of first or second generation, simply because there's no consensus as to when the sensitive period ends. Backus (1996), in his study of the code-switching practices of Turkish heritage speakers in the Netherlands, applies a label of *intermediate* generation to those who came to the Netherlands between 5 and 12 years of age and finds them to be different in behavior from his first (OB 12+) and second generation (OB 0-5). For instance, the use of Dutch and Turkish seems to amount to an equal share in their bilingual speech, while the first generation speaks mainly Turkish with occasional insertions of Dutch, and the second generation clearly prefers Dutch with occasional switches to Turkish. The present study excludes precisely the OB age range 5-12, in order to obtain a clearer division between 'typical' first and second generation. But even those who arrive in or around puberty often display sociolinguistic traits which set them apart from the first and second generation, as can be read in Chapter 2. Whereas for the first generation Spanish is simply the language which they feel most comfortable with, and for the second generation Dutch - they use Spanish generally to communicate with the older generations - for the in-between generation Spanish and Dutch can both be comfortable (or uncomfortable), so that their choices

[i] Long (2013) proposes a period with a *peak* sensitivity for language acquisition from 0 to around 6 years, and an *offset* period of still high but gradually decreasing sensitivity between 6 and 12.

regarding language practices and social networks are often strongly connected with the identity they cultivate. However, as to their linguistic performance in Spanish, the in-between generation pattern well with the first generation, and were therefore included in the latter for the linguistic studies (Chapter 3-5).

The third generation would be those with an OB in the sensitive period, with parents belonging to the second generation - i.e. also with an OB in the sensitive period. In the present study no third generation was included, for several reasons. First of all, the design of this study permitted only the inclusion of adult speakers, and the third generation of the community under study is not yet adult. More importantly, it seems hard to find second generation speakers who transmit their heritage language to their children. The community under study thus seems to follow the typical pattern of shift across the generations, resulting in low or no command and use of the heritage language beyond the second generation (cf. Appel & Muysken, 1987).

A final set of basic notions which the reader of this book should be acquainted with, concerns the sorts of languages to be contrasted with the heritage language. This will be discussed in the following section.

1.1.3 Heritage languages and other languages

When studying linguistic characteristics of heritage speakers, an important question (see e.g. Aalberse & Muysken, 2011) is: what do we compare them to? Most heritage research is interested in comparison with speakers in the homeland, who have had no contact with the 'other language' or undergone attrition, and therefore uses these as the so-called *baseline* (BL). The selection of these speakers is not unproblematic, because one has to take into account the social and geographical origins of the migrated population (Polinsky and Kagan 2007) and the fact that other forms of bilingualism may complicate the linguistic profiles in the homeland. In this study, however, selecting the homeland control group was not that problematic: the speakers were all strictly monolingual in the same variety of Spanish (Chilean) and from the same geographical areas and social strata as the participants in the Netherlands.

Another problem with establishing the baseline is that, as pointed out above, the true providers of the input to the second generation are the first generation, and it would thus also be justified to use them as a baseline. The present study includes both first generation immigrants (G1), as well as monolingual speakers from the homeland (G0). We will see that on some linguistic traits it turns out that they are indistinguishable (such as gender, Chapter 4), justifying a collapsed G0-G1 baseline, versus a heritage group consisting of only G2. In other cases, the distinction between G0 and G1 is maintained in the data. Note that I do not use the term *native speakers* for either group, because that would imply that heritage speakers are not native speakers, which I do not agree with, since the heritage language is a first language – a special one, but still (cf. Rothman & Treffers-Daller, 2014).

Finally, to study the Spanish of heritage speakers we must take into account that they are intensive users of another language - in this case: Dutch. Whereas for the 'other

language' a variety of terms can be and has been used, with varying connotations and emphases (e.g. *majority language, dominant language, second language, primary language*), I will most often refer to this language with the term which turns out to be applicable most neutrally throughout this book: the *contact language.*

1.2 Heritage language research

Investigating heritage speakers can, in my view, inform several important issues in linguistics. Section 1.2.1 briefly discusses some of these issues, including language acquisition, input vs. intake, the critical period hypothesis, attrition, the nature of linguistic competence, cross-linguistic influence, bilingualism, contact linguistics and historical linguistics. For lack of space I put aside a variety of applied fields not addressed directly in the present study, such as language policy and education. After this, a brief overview will follow of the vast literature on Spanish as a heritage language in the U.S. and the rest of the world (section 1.2.2), and a comprehensive overview of work in the Netherlands (section 1.2.3). Finally, some open questions and research problems will be discussed, as far as they are of relevance to the present study (section 1.2.4).

1.2.1 Why study heritage speakers

O'Grady et al. (2011, p. 224) have characterized heritage language acquisition as an 'experiment in nature', by which they mean 'a naturally occurring event that sheds light on the effect of factors that, for ethical or practical reasons, could not be controlled in a laboratory setting'. I subscribe to their way of underlining the relevance of studying heritage speakers for linguistics. One of the most important aspects in studying heritage speakers is that it can shed light on the crucial roles of *input* ('what is available to be learned'; Robinson et al., 2012, p. 248) and *intake* ('what is cognitively registered through learners' perceptions and further processing'; Robinson et al., 2012, p. 248) in language acquisition, and thus connect to such a fundamental linguistic question as the existence of a sensitive period for language acquisition (Johnson & Newport, 1989; Long, 2013). Heritage speakers learn their language as a mother tongue, a first language, and they are endowed with the same brains as any other infant acquiring a first language. They are, like any other child, in their critical period, i.e. possess a high capacity for *intake*. However, apart from the fact that there is a competing language at play with possible interfering effects – an aspect which will be addressed below - the difference with monolingual child learners is that heritage speakers receive less *input* in that first language, and/or their input stops or drops drastically from the moment they start socialization in the majority language (in kindergarten, preschool, school, etc.) That is the experiment: with the capacity of intake more or less controlled, we can study more cleanly the role of input for attainment.

The incompleteness exhibited by heritage speakers should not only be traced back to incomplete acquisition, but can logically also be the consequence of attrition. While

attrition has long been studied mainly in persons who switched to exclusive use of a second language as adults, and consequently saw their first language attrited, the heritage speaker offers opportunities of studying *early* attrition and permits interesting questions about attrition in relation to age and input. For instance one may investigate whether there is also a critical period for attrition: thresholds beyond which the language system or aspects thereof are resistant to attrition (cf. Bylund, 2009b; C. Flores, 2010; Montrul, 2008; M. Schmid, 2014).

Heritage speakers thus offer a special window to fundamental theoretical questions about what it means to have 'native competence' and how it develops. Benmamoun et al. (2013b) formulate such a question, namely 'how long does it take for a native language to be acquired and solidified so that it does not regress with fluctuations in input?' (p. 185). A strong version of nativism would assume that humans are born with innate structures and principles, which only need to be triggered by a minimal amount of input, so that abstract representations are filled in with language specific lexicon and structural parameters are set. A less strong version of nativism would say that the triggering of innate knowledge occurs upon reaching a certain *threshold* of input. In both versions, the result would be that individuals differ rather categorically: a feature, or even an entire language system, can be 'acquired' or not. Non-nativist positions, on the other hand, would assume that competence emerges much more gradually out of the interaction between the input and the mind that processes it. The state of the system at one moment would hardly be distinct from the next moment, and there would be no sudden switches or parameter settings. As we will see, the evidence from heritage research gives much support to the latter type of explanation: one of the most notable characteristics of heritage speakers is their inter-individual variation.

Heritage speakers are bilinguals, and so of interest to the fields of bilingualism and language contact. Contrary to typical second language learners, whose bilingualism is usually confined within the walls of the language classroom, heritage speakers are naturalistic and (often) intensive bilinguals, and therefore a potentially intensive source of insight into the workings of cross-linguistic influence. Furthermore, dominant language transfer into the heritage language can be seen as a special study object, since the direction is not from an L1 to an L2, but from an L2 to an L1 (or, in the case of simultaneous bilingual heritage speakers, between two L1s).

Studying the language use of heritage speakers on a comprehensive scale and in a naturalistic setting, which the present book does, can contribute to the understanding of the interaction between factors, such as the abovementioned input, intake and attrition in the heritage language, as well as the input from the contact language. It can also illuminate the interaction between linguistic and sociolinguistic factors and ultimately, between synchronic and diachronic processes. The synchronic study of the subtle mechanisms underlying the sometimes radical changes observed on the long run allows to fine-tune hypotheses on historical language contact which are formulated a posteriori (cf. Muysken, 2010; Silva-Corvalán, 1994a). In other words, to look at the language use

of heritage speakers is to witness the budding stages of contact-induced language change.

1.2.2 Spanish as a heritage language in the world

The present section aims to present a concise overview of the research literature on Spanish as a heritage language, with an emphasis on grammatical aspects. Appendix I gives a schematic overview in the form of an annotated bibliography.

The linguistic literature on Spanish as a heritage language is dominated by research from the United States of America. With almost 50 million heritage speakers of Spanish, this country today has the second largest Spanish speaking population in the world (after Mexico). In some parts of the U.S. the coexistence of Spanish and English has a long history, such as in New Mexico (see Lipski, 2008). Such places, with several generations of bilinguals, lend opportunity to large scale research into many dimensions of bilingualism.

Groundbreaking in the study of Spanish as a heritage language was an extensive research project in New York in 1968, where already by that time the presence of (Puerto Rican) Spanish was massive. The project, titled *Bilingualism in the Barrio* and led by the famous sociolinguist Joshua Fishman, published a wealth of studies (Fishman et al., 1968). There was some attention to linguistic aspects, but the emphasis was on sociolinguistic, social, psychological and educational aspects of bilingualism. Throughout the following decades this emphasis appears predominant in the research of Spanish-English bilingualism in the U.S.

A second important milestone is the book *Language contact and change: Spanish in Los Angeles* by Carmen Silva-Corvalán (1994a), setting the trend for the research of structural aspects of heritage Spanish for years to come. This work took a comprehensive approach of the language system of different generations, with a fieldwork-sociolinguistic method – i.e. conducting personal interviews with bilinguals and analyzing frequencies of forms and functions in the recorded speech as well as speaker variables. The author's interest was much towards questions within the field of contact linguistics, such as the extent to which a grammar is permeable to influence from a different grammatical system and the relation between synchronic and diachronic contact-induced change. Many findings and observations in her book set the agenda for further research and continue to be often cited.

For the recent situation, one can broadly distinguish two subfields, which approach the structural aspects of bilingual Spanish from different angles and with different methods. The first one could be termed broadly as 'sociolinguistic-variationist'. This type of research, which includes work by Ricardo Otheguy, Catherine Travis, Rena Torres-Cacoullos, and others, can be characterized as involving quantitative analysis of forms and functions in large bodies of (oral) speech elicited more or less 'in the wild' – meaning that we can count the previously mentioned work of Silva-Corvalán also within this field. The focus in this approach is on variation, and the linguistic, stylistic, and social factors that determine it.

Research questions in this field often involve an interest in whether and how the Spanish of bilinguals is subject to *convergence* towards English – i.e. gradually becomes structurally more similar to English. Researchers often take a cautious stand and point out that direct influence from English grammar should not be taken for granted, but that the mechanisms which lead to the apparent structural *convergence* are often much more subtle. For instance, an analysis by Flores & Toro (2000) shows that the dialectal origin of native Spanish speakers is a stronger predictor of pronoun expression than language contact with English. Other researchers support such findings with explanations in terms of priming mechanisms which accelerate language-internal processes. Torres-Cacoullos (2000), for instance, shows how the increased use of progressive constructions in the Spanish of New Mexico bilinguals can be related to similar tendencies towards extension in informal registers of monolingual Spanish varieties. Since heritage speakers make more use of these registers, they are more primed towards the extension of the progressive constructions, so that it is not English which influences it.

Some studies in the sociolinguistic-variationist tradition look at heritage Spanish without addressing the question of how it is shaped by 'bilingualism factors', such as simplification and convergence. Instead, they simply study the structures in bilingual's speech entirely in their own right, like any sample from any variety (e.g. Flores-Ferran, 2007; Poplack et al., 1982; Travis, 2007).

The beginning of the 2000's saw the gradual establishment of a second, rather different 'school'. This approach, with at its forefront Silvina Montrul, has gained much influence not only in research into heritage Spanish but also within heritage language research in general. Contrary to the sociolinguistic-variationist field, and more similar to generative approaches in Second Language Acquisition, researchers in this tradition use mostly experimental methods such as grammaticality judgment tests, and build hypotheses on generative analyses of grammatical phenomena, under the assumption that abstract representations and parameter settings underlie what is found on the surface.

Central in this second, UG-oriented 'school' are the questions whether and how the grammatical competence of HS is an incomplete version of that of baseline speakers. The notion of incompleteness is inherited from the fields of FLA and SLA, but in the heritage field it acquires the dimension that it can be a consequence of *incomplete acquisition* and/or *attrition* in childhood. Researchers are interested in the notion of grammatical competence (rather than variation) and how this competence in HS relates to that of other populations – particularly because of the central assumption in this field that language learning is subject to a sensitive period effect (Johnson & Newport, 1989; Long, 2013). Studies in this field very often include comparison with monolingual native speakers and second language learners of Spanish in a classroom setting and correlation with age of onset.

Of course not all work can be easily classified into one of the above two 'schools'. The researcher Jacqueline Almeida Toribio, for instance, has an interest in code-switching and structural convergence, traditionally the terrain of variationist research,

but looks at it from the perspective of generative grammar. More recently, Ana de Prada Pérez (2013) launched the so-called Vulnerability Hypothesis, explicitly striving to bring insights from both schools more together.

Outside the U.S., research on Spanish as a heritage language is much scarcer. Spanish-English bilingualism is studied also in Canada (see an overview by Bonnici & Bayley, 2010), Australia (sociolinguistic studies by Clyne, 2003 and Clyne & Kipp, 1999) and the UK (Cazzoli-Goeta & Young-Scholten, 2011; Guijarro-Fuentes & Marinis, 2011). The study of heritage Spanish in contact with other languages is as yet in its infancy in European countries. In Germany, Schmitz and colleagues strive to counter the emphasis on incompleteness in the U.S. heritage literature (Katrin Schmitz, p.c.) and have published research on different generations of Spanish-German bilinguals (Di Venanzio et al., 2012; Schmitz, submitted). In Italy, there is sociolinguistic/ethnographic work on the language practices of Latin Americans in Milan (Bonomi, 2010; Calvi, 2011). Particularly original is the work of Bylund and colleagues in Sweden with heritage speakers of Chilean descent (a large immigrant group in that country). This work has shown how cross-linguistic influence can take place at the level of 'thinking for speaking'. That is, heritage speakers not only undergo subtle influences from the dominant language, but their non-linguistic perception and cognitive behavior also patterns in certain ways, in between those of monolinguals in Spanish and Swedish (Bylund & Jarvis, 2010; Bylund, 2009a, 2010).

In this section I have focused on studies about linguistic aspects in adult populations. There is, however, another vast literature on Spanish in bilingual first language acquisition (BFLA), both in the U.S. and outside. This field can of course much inform the study of adult heritage speakers, but for reasons of economy and because the present study is embedded in the above type of linguistic research, I believe reference to an overview of the Spanish BFLA field by Silva-Corvalán (2012) suffices here. Findings from BFLA research will occasionally be discussed and compared throughout this book.

Other studied dimensions of heritage speakers of Spanish which are not directly relevant to the present book are language education (see overview article Carreira, 2012), code-switching (see overview article Carvalho, 2012), phonology and phonetics (see for examples of studies Bullock, Toribio, Davis, & Botero, 2004; Poplack, 1978) the Spanish of minority language speakers in Spanish speaking countries (e.g. Klee & Lynch, 2009; Silva-Corvalán, 1997) and sociolinguistic studies without interest in linguistic structure (e.g. issues related to identity, ideology; see e.g. the work of Ofelia García, Ana Celia Zentella).

1.2.3 Spanish as a heritage language in the Netherlands

The Dutch multilingual society provides excellent opportunities to study heritage languages. Spanish has a relatively large populations of heritage speakers in the Netherlands, but has nevertheless hardly been studied. The following paragraphs will give an overview of what is known about Spanish in the Netherlands

Regular contact between Spanish and Dutch probably dates back to the 16th century, when speakers of Spanish came to the Netherlands and Flanders in the context of political affairs and military campaigns, while the same period also saw the rise of Dutch-Spanish competition at sea. These initial contacts lead to occasional lexical borrowings: Dutch borrowed military terms such as *commando* 'command', *majoor* 'major' (Van der Sijs, 2010). Spanish ended up with such essential seafaring terms as *babor* and *estribor* 'port side' and 'starboard', derived from Dutch *bakboord* and *stuurboord* (Van der Sijs, 2010). It is not until the second half of the twentieth century, however, that we can witness intensive contact between Dutch and Spanish in the Netherlands, with the influx of large groups of Spanish speaking migrants: first the contracted workers from Spain in the sixties and seventies (Sierra Martínez & Kremers, 2001), then, in the seventies and eighties, political refugees from Latin America (Barajas, 2007), and finally, from around the nineties, more and more migrants especially from Colombia and the Dominican Republic (http://www.cbs.nl). The Chilean heritage speakers, whose Spanish is investigated in this book, belong to the second group.

According to the Dutch Central Bureau of Statistics (CBS) in 2014 the total number of residents in the Netherlands born in a country where the official language is Spanish is 62,895 and the total number of residents with at least one parent born in one of these countries is 43,094. These two groups are respectively the first and second generation of a community of 'potential speakers of Spanish as a heritage language', adding up to a total of 105,989. I call them 'potential speakers' because I find it probable that most persons within this group either use (first generation, second generation) or are at least exposed to (second generation) Spanish in the household setting on a regular basis. As can be seen in Table 1.1, roughly one third of the population from Spanish speaking countries is constituted by the group from Spain. Whereas a part of the Spanish immigrants have another language than Spanish as their mother tongue (mainly Galician, and to a lesser extent Basque, Catalan and Valencian [Sierra Martínez & Kremers, 2001]), this is probably much less the case with Latin American immigrants. It is safe to assume that by far the majority of Spanish speakers currently in the Netherlands have their origins in Latin America.

Table 1.1 Numbers of persons in 2014 in the Netherlands, born in Spanish speaking countries or born in the Netherlands with at least one parent born in a Spanish speaking country (www.cbs.nl).

	Total population	First generation (born abroad)	Second generation (born in the Netherlands)		
			Total	One parent born abroad	Both parents born abroad
Spain	38,955	22,767	16,188	12,339	3849
Colombia	14,759	8724	6035	4393	1642
Dom. Rep.	13,220	8399	4821	2085	2736
Peru	5830	3433	2397	2103	294
Venezuela	5721	3118	2603	2235	368
Chile	5426	2919	2507	1904	603
Mexico	5254	3535	1719	1571	148
Argentina	5028	2768	2260	1887	373
Ecuador	3028	1990	1038	797	241
Cuba	1999	1279	720	612	108
Uruguay	1117	593	524	429	95
Bolivia	1110	686	424	349	75
Costa Rica	899	567	332	272	60
Guatemala	790	466	324	292	32
Nicaragua	659	405	254	225	29
Honduras	624	354	270	235	35
El Salvador	602	335	267	196	71
Panama	461	269	192	161	31
Paraguay	318	171	147	116	31
Puerto Rico	189	117	72	55	17
TOTAL	105,989	62,895	43,094	32,256	10,838

Apart from migration history and demographic estimates, Sierra Martínez and Kremers (2001) provide some sociolinguistic information on the group from Spain, of which the majority are so called *gastarbeiders* (‘guest workers’) who immigrated to the Netherlands in the 1960’s and 1970’s, and their descendants. In short, they claim

(without referring to their sources) that the younger generations are shifting increasingly to Dutch, to the extent that the third generation hardly speaks Spanish (meaning use as well as proficiency).

The linguistic studies of Spanish in the Netherlands all involve the group from Spain. The only study which I was able to obtain a copy of is an MA thesis by Casanova Seuma (1986), but I have found reference to three more studies: Sierra Martínez (1991), Lahuerta (1984) and Haast and Van Haastrecht (1982).

Casanova Seuma (1986) studied a group of 11 school children born to Spanish parents in the region of Zaandam. She analyzed written compositions, oral interviews, oral monologues and recorded spontaneous speech. One of her important observations is that the children had a limited vocabulary and were only proficient in colloquial oral registers, which limited their performance on the various written tasks in the school setting. As to grammar, the author claimed that the areas showing most divergence from standard Spanish were (in order of decreasing magnitude) personal pronouns, prepositions, determiners and verbs. Casanova Seuma's (1986) results, together with those from earlier studies by Lahuerta (1984) and Haast and Van Haastrecht (1982), which she cites, point roughly toward similar phenomena of grammatical divergence reported on Spanish as a heritage language in other countries: The superfluous use of overt subject pronouns (e.g. Flores-Ferrán, 2007; Montrul, 1998; Otheguy et al., 2007; Otheguy, 2004; Silva-Corvalán, 1994; Travis & Cacoullos, 2012); The omission of verbal clitics (e.g. Montrul & Bowles, 2009; Montrul, 2004a; Silva-Corvalán, 1994; Chapter 5 of this book); Instability with regard to differential object marking (e.g. Montrul & Bowles, 2009; Montrul & Sánchez-Walker, 2013; Montrul, 2014; Chapter 3 of this book); Instability and loss of the subjunctive mode (e.g. Lynch, 1999; Montrul, 2007; Silva-Corvalán, 1994; Chapter 3 of this book); Mixing up of the copulas *ser* and *estar* (e.g. Silva-Corvalán & Montanari, 2008; Silva-Corvalán, 1986); Simplification of the tense-aspect system (e.g. Montrul, 2009; Silva-Corvalán, 1994).

1.2.4 Open questions and research problems

Two sorts of questions underlie much of the linguistic work on heritage Spanish, and heritage languages in general: *What* grammatical aspects are susceptive to divergence in heritage languages, and *why*? As to the first question, there are certain grammatical aspects which are recurrently claimed throughout the literature to be 'vulnerable' or 'unstable' in heritage speakers. To the list of divergent grammatical areas in heritage Spanish concluding the previous section we can add perhaps two which were not reported in contact with Dutch, but are recurrent in the rest of the literature: gender (Alarcón, 2011; Foote, 2010; Lipski, 1999; Martinez-Gibson, 2011; Montrul, Davidson, et al., 2013; Montrul, De la Fuente, et al., 2013; Montrul et al., 2008; Chapter 4 of this book) and progressive aspect (Bylund & Jarvis, 2010; Klein, 1980; Sánchez-Muñoz, 2004; Torres Cacoullos, 2000; Chapter 3 of this book). With respect to heritage languages in general, Benmamoun et al. (2013b), in an overview article of the field, summarize findings as follows: 'Phonology, in general, seems to be the best-preserved

area of heritage grammar, followed by syntax, while inflectional morphology, semantics, and the syntax-discourse interface are the most vulnerable.'[i]

The *why* of the seemingly mysterious collection of vulnerable and stable phenomena is subject to continuous debate. In the UG-oriented literature, much of the theorizing about this problem departs from the idea that there is a distinction within grammar between narrow or core syntax, and those parts of syntax which are regulated by pragmatic or semantic factors, and that the latter (the syntax interface domains) are much more vulnerable in acquisition and attrition settings than the former (core syntax). This idea is best known as the *Interface Hypothesis* (Sorace & Filiaci, 2006; Sorace, 2011), although there are many variations, refinements and similar proposals (e.g. Hulk & Müller, 2000; Sorace & Serratrice, 2009; Sorace, 2011). In the heritage setting, as Benmamoun et al. (2013b) argue, the hypothesis can account for the fact that syntactic phenomena such as knowledge of word order (e.g. Håkansson, 1995 for Swedish) and unaccuasitivity constraints (e.g. Montrul, 2005 for Spanish) are recurrently found to be stable, while phenomena such as knowledge of the constraints on pro-drop (e.g. Albirini et al., 2011 for Arabic; De Groot, 2005 for Hungarian; Polinksy, 1997 for Polish), are recurrently found to be susceptive to divergence. However, the line of thought springing from the Interface Hypothesis does not seem to explain why certain apparently 'core syntactic' domains of inflectional morphology such as gender agreement and case marking, are so often affected in heritage speakers (cf. Benmamoun et al., 2010).

Still within the formalist tradition, recently there have been two interesting alternative proposals to explain the patterns of divergence in heritage speakers. Polinsky (2012) puts forward the Indeterminacy Hypothesis, which states that it is indeterminacy of form-meaning mapping which makes a structure vulnerable: 'Linguistic elements that are associated with multiple contexts and contexts that allow multiple encodings are particularly difficult at all levels of representation.' (p. 16). A similar idea underlies De Prada Pérez' (2013) Vulnerability Hypothesis, which strives to bring together insights and methods from variationist and formalist approaches. Her hypothesis predicts that, independent of the area of the grammar in question, a structure which has a variable distribution is more complex and thus more vulnerable than a structure which has a categorical distribution.

Thus, formalist lines of explanation seem to converge with a central tenet in the variationist approach: vulnerability is dependent upon some form of optionality. Or, in other words, where there are different structural options for expressing more or less the

[i] However, evidence for phonology and phonetics as particularly affected can be found in Kupisch (2013), Nagy (2014).

same, there is room for divergence to be induced by contact. Silva-Corvalán's (1994a) broad investigation of Spanish as a heritage language provides perhaps the clearest demonstration of this principle. Her findings show that in all domains divergences are subtle rather than abrupt, gradient rather than categorical. Silva-Corvalán made an important contribution by characterizing contact-induced change or divergence from the synchronic perspective as primarily involving shifts in the optional, semantically-pragmatically regulated distribution of forms and functions already in the language, rather than introduction of new phenomena alien to the language. Following the cognitive linguistic approach which I will outline in the sections to come, my expectation is that the findings in the present study will be more in line with the gradient, optionality-related accounts than with formalist accounts which attempt to link vulnerability to certain well-delimited domains of grammar.

There are some important, perhaps even more basic problems and questions with respect to heritage language findings and interpretations, which the present study hopes to bring more to the fore. The first problem concerns variability. One of the most notable characteristics of heritage speakers, ubiquitous throughout the literature, is their inter-individual variability. On all sorts of linguistic traits, heritage speakers seem to be scattered along a scale from 'close proximity to homeland speakers' to 'far from the homeland speakers' (cf. Polinsky & Kagan, 2007). The fact that something can seem vulnerable in the case of one person, while not in the case of another, may seem problematic if the goal is to generalize. However, this points to the need for refining the way generalizations should be made. One of the empirical challenges lies in taking individual variability seriously and successfully relating it to individual profiles. This may lead to the insight that different vulnerabilities are correlated with different levels of exposure or onsets of bilingualism (cf. Benmamoun et al., 2013a). As we will see, the present thesis departs from the idea that the linguistic performance of the participants can and should be studied first and foremost in its relation to the momentary state of the individual system. This means that my analyses will pay attention to inter-, and even intra-individual variability.

A second question or set of questions concerns the *mechanisms inducing* vulnerabilities or divergences, particularly whether these are HL-*internal* or *external* (i.e. influence from the contact language; cf. Silva-Corvalán, 1994). As already indicated in section 1.2.2, some heritage language researchers seem to put emphasis on *incompleteness* as underlying divergence, while others consider *cross-linguistic influence* the most important mechanism, and again others seem to not distinguish clearly between the two. However, a one-sided emphasis or a lack of interest in distinguishing the mechanisms may obscure insight, since I strongly believe that what may be vulnerable to *incompleteness*, may not necessarily be to *cross-linguistic influence*, and vice versa, while yet other phenomena may be vulnerable to a combined influence from both. The present study builds on the assumption that studying divergence in heritage speakers would benefit from a clear distinction and delimitation of the possible mechanisms underlying them. Let us therefore discuss some important

aspects and problems concerning cross-linguistic influence and incompleteness, as well as what other mechanisms may play a role in causing divergence.

Cross-linguistic influence (CLI) is defined by Jarvis and Pavlenko (2007: 1) as 'the influence of a person's knowledge of one language on that person's knowledge or use of another language.' I choose this as a relatively neutral term and definition because it can cover most, if not all of the further taxonomies that have been devised of types of cross-linguistic influence. The most evident type of CLI to the observer is the insertion of phonetic strings from the contact language into utterances in the heritage language, best known as *code switching* and *lexical insertions.* Examples would be the insertion of the Dutch word for string in the sentence: *Se rompe un* snaar 'A string breaks' (Chapter 3, section 3.3.2). I will call this type of phenomena, following the framework of Matras and Sakel (2007), *matter replication.* The other possible type of CLI would be the use of Spanish forms according to Dutch meanings. An example is the sentence *Ahora pregunta ayuda al elefante* 'Now he asks the elephant for help', in which the word *preguntar* 'to ask' is extended in its meaning, from only 'ask questions' (as the original Spanish word) to 'request' (as the Dutch equivalent *vragen* 'to ask/request'; Chapter 3, section 3.3.3). I will label this *pattern replication* (Matras & Sakel, 2007). This type covers a range of terms used throughout the literature, including *calque, loan translation, indirect transfer, structural transfer,* and *structural convergence* (often also simply *transfer* and *convergence*).

Whereas *calque* and *loan translation* are generally used for describing relatively isolated instances of pattern replication, much research in the fields of contact linguistics and bilingualism is motivated by the search for pervasive grammatical influence from the contact language, particularly captured under the term *structural convergence* (indirect transfer and structural transfer seem to be used to refer both to more isolated and to more pervasive pattern replications). However, the nature of structural convergence is also heavily debated. Some view it as one end on a continuum of which calques form the other end (e.g. Doğruöz & Backus, 2008) – i.e., they posit a continuum of resemblances between two languages going from maximally specific or lexical to maximally schematic or grammatical. Others are of the opinion that the fact that a language converges, i.e. becomes structurally more like the contact language, is not necessarily a result of pattern replication from the contact language, but can also be the result of independent processes of internal development (e.g. Bullock & Toribio, 2004). These two positions illustrate different questions which play an important role in the present thesis: *In what way can structural/pervasive divergences be the result of pattern replication?,* and *How does pattern replication interact with HL-internal mechanisms?*

As a first step towards better understanding of these questions, I follow Winford (2003, p. 210) in acknowledging the importance of distinguishing between 'manifestations' and 'the psycholinguistic processes that bring them about.' This may lead to the realization that the same mechanism of cross-language activation may underlie all forms of pattern replication, from isolated calques to pervasive structural

convergence. It may also mean that in some cases the psycholinguistic process does not lead to an overt result or that it is overruled or enhanced by other processes.

Some of those 'other processes' pertain to the realm of *incompleteness*, the second major mechanism to discuss. Incompleteness, in my view, can be regarded in a similar vein, namely that it has as its *manifestation* phenomena such as *simplification* (Ferguson, 1982; Silva-Corvalán, 1994a; Winford, 2005), *regularization* (e.g. Benmamoun et al., 2010), *overgeneralization* (e.g. Montrul, 2008; Polinsky, 2008b; Silva-Corvalán, 1994a), *analysis* (i.e. tendency towards analytic structures; e.g. Boumans, 2006; Dorian, 1981) and other proposed phenomena which basically involve reductions in complexity of the heritage grammar. A first question which immediately comes to mind with respect to these 'reduced grammar' manifestations is whether they could also be the result of cross-linguistic influence mechanisms. The answer is a theoretical yes, and certainly if similar 'simple' structures can be pointed out in the contact language as the source of CLI. For instance, the superfluous use of subject pronouns by heritage speakers of Spanish in the U.S. may be seen as a reduction in complexity because a tendency to use pronouns 'by default' seems to overrule the complex set of discourse-pragmatic constraints regulating the choice between null and overt subjects in standard Spanish. At the same time, it may be seen as replicating the English tendency to use subject pronouns by default.

Nevertheless, the fact that some cases allow for more than one theoretical explanation, or a multiple causation scenario, does not undermine the general agreement that 'reduced grammar' manifestations can be the result of some 'incomplete' state of the heritage language itself, independent of the contact language. In fact, there is ample evidence of complexity-reducing phenomena in the same heritage language but in combination with different contact languages. For example, the earlier mentioned superfluous use of overt subject pronouns was found not only in Spanish-English but also in Spanish-Italian bilinguals (Sorace, 2011).

As discussed before, a speaker's system can be 'incomplete' because certain things were never learned – for which we find often the terms incomplete, partial or interrupted acquisition – or because they were learned, but consequently lost – for which we find the terms *attrition* and *individual language loss*. The present book does not attempt to unravel what aspects are caused by the first and what by the latter, because this is an unattainable goal with the present methodology. It would require a cross-sectional comparison of heritage speakers of different ages (see for examples Montrul & Sánchez-Walker, 2013; Polinsky, 2011), or even more ideally, longitudinal study of heritage language acquisition (see for examples Anderson, 1999; Merino, 1983; Silva-Corvalán, 2014). Instead, I assume that both attrition and incomplete acquisition can lead to basically the same 'incomplete' state of the system (see section 1.3.2), and that it is of interest to study this state.

The heritage literature leaves many open questions with respect to the characterization of this 'state of the system'. A first question concerns *to what extent it is a matter of competence or performance.* Although many are uncomfortable with the term incomplete (Pascual y Cabo & Rothman, 2012), those who use the word seem to do

so because of a purely formalist interest in explaining phenomena as *gaps* in competence/representation. O'Grady and colleagues, working in an emergentist paradigm, carefully avoid the word incomplete (e.g. O'Grady, Kwak, et al., 2011; O'Grady, Lee, et al., 2011), reflecting their emphasis on performance/processing. In their view, complexity-reducing manifestations are the result of the fact that 'the processor draws on limited working memory resources for its operation. This, in turn, creates strong propensities in favor of particular types of mappings' (O'Grady, Kwak, et al., 2011, p. 232) – i.e. the phenomena of 'reduced grammar' mentioned above. The question of competence vs. performance will also be addressed in this book (Chapter 4). An important key to this matter is to investigate the extent of intra-individual variability: If the same item is consistently divergent across the same individual, the divergence may need a definition in terms of competence/representation, but if divergence is variable across the same individual on different occasions, we must look in the direction of performance/processing.

Whether taking a competence or performance perspective, it may seem logical to assume that *incompleteness* is reflective of some stage in child language development which has been fossilized or fallen-back-into. However, Polinsky's (2006) study shows that the gender system of heritage speakers of Russian exhibits some interesting differences from child language. Russian child learners often combine neuter nouns ending in unstressed /o/ with feminine targets, or elision of the /o/ and consequently the combination with masculine targets. Heritage speakers, however, only exhibit the former strategy, namely simply *reanalysis* of these neuter nouns to feminine. This leads to the realization that divergences in heritage systems should not be simply or only viewed as *gaps*, but may also reflect a *different* structure of the system. Another important question then, with respect to the '(incomplete) state of the system' of heritage speakers is: *To what extent can incompleteness be characterized as qualitative or quantitative divergence from other populations?* Although child learners are not part of the present study, it does directly compare adult heritage speakers to first generation bilinguals and monolingual homeland speakers. It also compares simultaneous and successive bilingual heritage speakers.

Pires and Rothman (2009), observing that heritage speakers of Brazilian Portuguese lack knowledge of inflected infinitives while heritage speakers of European Portuguese showed full morpho-syntactic and semantic knowledge of this grammatical aspect, launched the notion of *Missing Input Competence Divergence*. They propose this as a subtype of incomplete acquisition which is a result of missing input – i.e. the inflected infinitive is not part of Brazilian Portuguese – and which stands in contrast to 'true incomplete acquisition' where the incompletely acquired properties are 'clearly available in HS input' (Pires & Rothman, 2009, p. 4). However, in my view, it would be better to classify this phenomenon not under the above outlined category of *incompleteness*, but under a third and final major category of mechanisms determining the shape of heritage languages: the properties of the *variety* transmitted. The Brazilian HSs' lack of knowledge of inflected infinitives does not follow from 'complexity-reducing' cognitive

processes, but from social factors: they simply reproduce the variety they are exposed to, and so in this respect are not less 'complete', or even divergent from baseline speakers.[i]

The *properties of the transmitted variety* can also be dynamic. It is a widespread assumption that language contact can accelerate or amplify the natural course of language change inherent to the variety. For instance, Silva-Corvalán (1986) found that the Spanish verb *estar* 'to be' is extending in frequency in the speech of Spanish-English bilinguals in Los Angeles, at the expense of *ser*, the other word for 'to be'. She points out that the extension of *estar* is part of a long diachronic process in Spanish, and argues that language contact has accelerated this. A trigger for dynamicity in the properties of the variety is, as I interpret it, that there be, apart from vertical transmission from older to younger generations, also horizontal propagation of forms through linguistic interaction with other community members. This dimension allows linguistic divergences from the baseline to conventionalize (become part of shared language conventions, see 1.3.2.4) and eventually continue an own course of development through processes of generalization and grammaticalization (cf. Silva-Corvalán, 2001).

In sum, I have categorized the mechanisms that arise from the literature as shaping the heritage language, into the three macro-factors represented in Figure 1.1. Cross-linguistic influence stands for all those types of mechanism which stem from activation of structures from the contact language, whether leading to insertion of phonetic matter or the more subtle forms of transfer grouped above under the category of pattern replication. Incompleteness mechanisms are those which lead to patterns of restructuring and generalization of aspects of the system which the speaker has been exposed to less than typical baseline speakers. The final category would include all phenomena which in fact stem from *completeness* (complete acquisition and non-attrition) of properties of a particular variety or register, whether this was brought about through exposure in a vertical (parent-child) or also in a horizontal manner (between members of a speech community).

[i] Provided these baseline speakers are *uneducated*, since the authors indicate that educated speakers of Brazilian Portuguese are often familiar with the inflected infinitive via exposure to certain registers or varieties via schooling and media. However, the phenomenon is non-productive in the colloquial dialect.

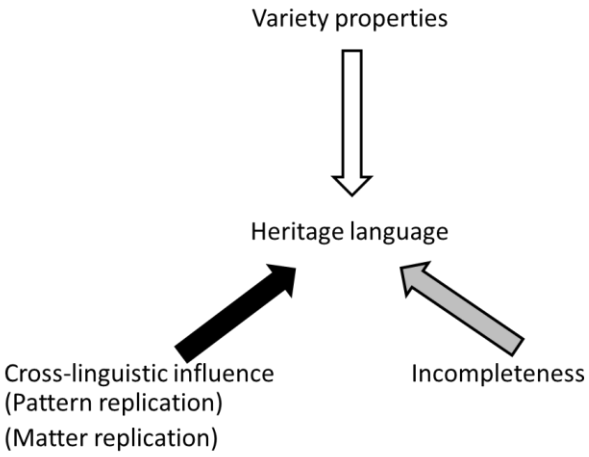

Figure 1.1 Macro-factors shaping the heritage language.

In my view, the three should be clearly separated as independently operative (sets of) mechanisms. However, they are in constant interaction, so that often linguistic divergences isolated by the observer should be analyzed in terms of multiple causation. Central in the work of Silva-Corvalán (1994, 2008) is the idea that the *properties* of the receiving system are crucial in determining which divergences (induced by *CLI* or *incompleteness*) may or may not get through. Others seem to regard the relation between *incompleteness* and *CLI* as particularly intimate, in the sense that CLI can be somehow motivated by a need to fill in 'gaps' left by incompleteness (cf. Montrul, 2004a, p. 138). Yet another example of factor interaction would be the idea that certain transmitted *variety properties* follow a course of diachronic development which is faster, slower, or different from the baseline, because of their embedding in individuals' systems which are altered through *incompleteness* and/or *CLI* mechanisms. For instance, the already ongoing extension of the usage of progressive constructions in baseline Spanish (Torres Cacoullos, 1999) may accelerate in bilingual varieties because, as some would see it, it is further pushed by pattern replication from English progressive constructions (e.g. Klein, 1980) or because these constructions are easier to use, and thus cognitively advantageous for an 'incomplete' system (this book, Chapter 3, section 3.3.7).

As will be discussed following the findings in Chapter 2, in the heritage speakers under study there is little dynamicity to be expected with respect to the factor *variety properties*. The focus of the present book is mainly on how language structure is shaped by *incompleteness* and *pattern replication* (a subcategory of *cross-linguistic influence*), especially in Chapter 4 and Chapter 5 respectively, which aim to contribute to insight into these mechanisms.

1.3 The present study: questions, assumptions and outline

1.3.1 Research questions

The present thesis is an explorative study of grammatical phenomena in a corpus of naturalistic spoken Spanish as a heritage language in the Netherlands, analyzed from a cognitive linguistic perspective. The guiding central questions are:

I. *What are the differences and commonalities between the language systems of individuals with different histories regarding language exposure, namely*
   a) *monolingual speakers in the homeland,*
   b) *late sequential bilinguals,*
   c) *early sequential bilinguals and*
   d) *simultaneous bilinguals?*

II. *How can structural divergences in the systems be interpreted, especially in terms of*
   a) *mechanisms internal to the heritage language system ('incompleteness') and*
   b) *mechanisms of cross-linguistic influence ('pattern replication')?*

The following sections will serve to clarify the questions and formulate some hypotheses and assumptions relative to these.

1.3.2 Theoretical framework and assumptions

For the present enterprise I depart from a set of assumptions about language which are in part common ground in linguistics, and in part pertain to a specific framework, namely cognitive linguistics.

Section 1.3.2.1 discusses the assumptions that are more common ground (I believe), namely about the relation between notions such as exposure, intake and linguistic divergence. It will lead to a specific prediction regarding question I.

In order to formulate hypotheses regarding the more theoretical question II, as well as to clarify what I mean by certain terms which are used in both question I and II, such as *system* and *divergence*, it is necessary to explain some of the cognitive linguistic views which I adapted and further developed for the present investigation. Sections 1.3.2.2, 1.3.2.3 and 1.3.2.4 provide a brief and global discussion of key aspects of my cognitive linguistic approach, and sections 1.3.2.5 and 1.3.2.6 are dedicated to the formulation of two concrete hypotheses to guide questions IIa and IIb.

1.3.2.1 Exposure and divergence

In the linguistic investigations in this book, the participating individuals are grouped into: a) A control group of adult *monolingual* speakers of Spanish in the homeland;

b) First generation immigrants in the Netherlands who acquired Dutch as a second language after the age of 12 and are therefore *late sequential bilinguals*; c) Adult heritage speakers who are *early sequential bilinguals* in Spanish and Dutch because they were raised in the Netherlands by two Spanish speaking parents or by a single parent, who was Spanish speaking; d) Adult heritage speakers who are *simultaneous bilinguals* in Spanish and Dutch because they were raised in the Netherlands by two parents, one of whom spoke Dutch and the other Spanish.

As I will explain in the following paragraphs, this grouping on the basis of onset of bilingualism (OB) captures a combination of the *amount* of exposure to these languages and the *age* at which it occurred, and thus differences in potential *input* as well as *intake* (see section 1.2.1). Crucially, these differences are hypothesized to predict differences in the amount of linguistic divergence to be expected in each group: Lower input and intake in Spanish, as well as higher input and intake in Dutch, predict more divergence in the resulting heritage language system.

The early sequential bilinguals, because they are raised by two parents or a single parent who speak only Spanish, go through a period of monolingual Spanish exposure from birth up to the moment that they start to regularly attend a social environment where Dutch is spoken, such as kindergarten or preschool. Although from then on they become ever more exposed to Dutch in all kinds of settings, they typically continue to be exposed exclusively to Spanish in the home setting. This adds up to a higher amount of Spanish *input* throughout childhood, compared to the simultaneous bilinguals. The simultaneous bilinguals, because of having one Spanish speaking and one Dutch speaking parent, are exposed to two languages from birth (actually even before birth, through what they pick up in the womb), so that from the beginning, the amount of heritage language input is only 'half' of that of the early sequential bilinguals in the home setting.

Conversely, the amount of input in Dutch is higher throughout childhood for the simultaneous bilinguals than for the early sequential bilinguals, which is expected to also contribute to more divergence in the former than in the latter group.

The differences in OB also mean that the potential *intake* in the two languages may differ. The simultaneous bilinguals are exposed to Dutch from an earlier age, and since earlier age is associated with higher language sensitivity (Johnson & Newport, 1989; Long, 2013), the potential intake (or, in cognitive linguistic terms, the ease of *entrenchment* - see below) of Dutch language forms may be expected to be higher and thus lead to more linguistic divergence than in the case of sequential bilinguals. As for Spanish, while both simultaneous and sequential bilinguals are exposed to this language from birth and throughout their sensitive period, sequential bilinguals can profit more from their high capacity for intake, because of the higher amount of Spanish exposure overall.

The 'late sequential bilingual' first generation immigrants have an onset of bilingualism when the sensitivity/capacity for intake of Dutch language forms has decreased considerably. This predicts that the impact of Dutch on their Spanish system

will be much weaker than in the case of the heritage speakers. They have been exposed maximally to Spanish throughout their sensitive period, which predicts their Spanish systems to be 'complete'. Finally, the long monolingual Spanish period ensured that the amount of Spanish input throughout life has been considerably higher than that of heritage speakers, while their amount of Dutch input has been lower.

The above leads to the following prediction with regard to question I:

Prediction about extent of divergence *(addressing research question I)*:

The extent of linguistic divergence will increase from a) the monolingual homeland speakers to b) the late sequential bilinguals to c) the early sequential bilinguals to d) the simultaneous bilinguals.

1.3.2.2 Cognitive linguistics

Cognitive linguistics is not a single theory of language, but rather a 'family of approaches' (Gries, 2008, p. 408) and a 'flexible framework' (Geeraerts & Cuyckens, 2007, p. 4). It links to and builds on many interrelated theories, approaches and research areas, including among others cognitive grammar (e.g. Langacker, 1987), constructionist theories of grammar (e.g., Croft, 2001; Fillmore, 1988; Goldberg, 2003), psycholinguistic models of language processing and representation (e.g., Bates & MacWhinney, 1989; De Bot, 1992; Levelt, 1989), usage-based approaches to language acquisition, variation and change (e.g., Bybee & Hopper, 2001; Bybee, 2004; Croft, 2000; Tomasello, 2003), emergentism (e.g., Hawkins, 2004; O'Grady, 2005) and dynamic systems approaches (e.g., Beckner et al., 2009; Van Geert & Verspoor, 2015). Although there are differences with respect to what these theories, approaches and areas focus on as well as obvious issues of debate, they can be said to have in common certain views, assumptions and commitments (Evans, Bergen, & Zinken, 2007, p. 3). One way to characterize the common cognitive linguistic approach is that 'the formal structures of language are studied not as if they were autonomous, but as reflections of general conceptual organization, categorization principles, processing mechanisms, and experiential and environmental influences' (Geeraerts & Cuyckens, 2007, p. 3).

An important advantage of taking this approach to the study of heritage speakers is that it does not strive to abstract away from the problem of variability, but embraces it. Variability is accepted as the obvious consequence of the fact that language is not a monolithic set of autonomous categories and rules, but a complex, adaptive system, continuously in flow. A cognitive linguistic approach takes interest in explaining the

extent to which the system is variable across time and across individuals and the factors that bring this variability about.

Precisely the 'cognitive' about cognitive linguistics is that such explanation should accord with what is known about the mind (cf. the 'Cognitive Commitment' discussed by Evans et al., 2007, p. 4). For instance, throughout this book I will often try to explain divergences in terms of *processing*[i], because in a cognitive linguistic view language consists of mental activity, i.e. processes, rather than static elements, structures and rules. This does not mean that in cognition there is only processing and no representation – there is, if we mean it to stand for something like 'memory traces'. However, any such representation is formed through processing, is accessed through processing, and can only become manifest to the observer through observing how it is processed (more on this in 1.3.2.4).

Throughout this book I will speak of *divergence* between linguistic performances of individuals, rather than words such as *change* or *innovation*, because divergence is neutral with respect to whether it is a momentary (processing) or a more permanent (representation, entrenched) phenomenon, and whether it is reflective of strictly individual behavior or more conventionalized, i.e. part of a 'variety'. When two groups or individuals do not diverge, I will call this simply *non-divergence*.

1.3.2.3 The language system according to cognitive linguists

In formulating the aims of this thesis I spoke of the heritage language *system*. This is in accordance with a cognitive linguistic view of language. What sort of system is language according to cognitive linguists? First of all, contrary to generative approaches, the classical sub-domains such as phonology, lexicon, grammar, pragmatics, etc. are not seen as separate modules of the mind ruled by their own, unique primitives and laws. Rather, they should be regarded as different levels of abstraction, different 'aspects of linguistic knowledge [which] emerge from a common set of human cognitive abilities upon which they draw.' (Evans et al., 2007: 3-4).

According to the *symbolic thesis*, the primitive of linguistic knowledge, at all levels, is a form-meaning pairing, whether highly concrete ('dog') or highly abstract

[i] In some works the word processing is used only when referring to language comprehension, and parsing when referring to language production. However, following the more common practice in psycholinguistic and cognitive linguistic literature, I only speak of processing, as a neutral term with respect to comprehension or production. It can mean both, although in the present book only production is relevant.

('NP')(Evans et al., 2007, p. 21). This pairing is called a *linguistic unit*[i], and it is not only an association between a form and a meaning, it is also associated to other linguistic units, leading to relations such as polysemy, hyponymy, grammatical paradigms, etc. Thus, the language system is in essence a dense network of *associations* – a view in accordance with cognitive science (cf. H.-J. Schmid, 2014).

Is there still such a thing as grammar? According to Geeraerts (2006, p. 15) 'we can think of a grammar as a schematic network with abstract patterns at the schematic level, and the lexicalized instantiations of those patterns (the words and strings of words that fill the patterns) at a more specific level.' This view of a continuum between grammar and lexicon is quite contrary to generative approaches, which see grammar and lexicon as two fundamental, separate modules of an entirely different nature, the former being a set of rules, and the latter a set of items upon which the rules act. In cognitive linguistics, words and grammatical phenomena are not different in nature, they are all linguistic units, but with different degrees of *schematicity*. The present exploration of the Spanish of heritage speakers will focus mainly on the more schematic levels of the system, i.e. the area traditionally referred to as grammar, but will occasionally pay attention to phenomena pertaining to other levels, including phenomena which other approaches would probably categorize as *lexical* – an example being the discussion of a particular verb-particle construction in Chapter 3, section 3.3.3.3.

1.3.2.4 Entrenchment

An important aspect of the cognitive linguistic approach, especially for the present study, is the so-called *usage-based thesis*, which holds that 'the mental grammar of the speaker (his or her knowledge of language) is formed by the abstraction of symbolic units from situated instances of language use.' (Evans et al., 2007, p. 21). The thesis actually entails that language knowledge is never stable, but continuously shaped by language use, even in the case of persons with 'native competence' – in fact the authors let the thesis follow immediately by the statement that 'there is no principled distinction between knowledge of language and language use (competence and performance, in generative terms), since knowledge of language is knowledge of how language is used.' (Evans et al., 2007, p. 21). But for the present purpose we can focus on the question what the thesis entails for language acquisition. That is: by which cognitive principles does the 'abstraction of symbolic units from situated instances of language use', necessary to acquire mental grammars, come about? A key part of the answer, and also a

[i] It also receives other denotations, depending on the branch or approach. For instance, construction grammar theories speak of constructions as the basic unit.

key concept to explaining mechanisms of divergence and variability in the heritage language under study, is *entrenchment.*

Entrenchment, in the definition of Hans-Jörg Schmid (2012, p. 119) refers to 'the degree to which the formation and activation of a cognitive unit is routinized and automated.' This definition was intended with a slightly broader cognitive application, hence the use of the word *cognitive unit* instead of linguistic unit, but we can as well mentally replace it with the latter for the present purpose. All linguistic knowledge is subject to the principle of entrenchment, and therefore there is a

> *'continuous scale of entrenchment in cognitive organization. Every use of a structure has a positive impact on its degree of entrenchment, whereas extended periods of disuse have a negative impact. With repeated use, a novel structure becomes progressively entrenched, to the point of becoming a unit; moreover, units are variably entrenched depending on the frequency of their occurrence.' (Langacker, 1987, p. 59, cited in H.-J. Schmid, 2012, p. 119)*

In other words, the more often we hear (and hear ourselves uttering) a word, grammatical structure or whatever linguistic unit, the more it will be entrenched, the more easily we will be able to reproduce and recognize it the next time. But conversely, not hearing or using a linguistic unit for a while inevitably leads to *decay*, i.e. it will become less easily accessible for production and recognition. This principle underlies, among others, the phenomenon of language attrition.

With this we have illustrated two major factors determining level of entrenchment: *frequency* (how often was the stimulus encountered) and *recency* (how recently was the stimulus encountered). A third important factor is *salience* – to what extent does the stimulus attract our attention. For instance, in the phrase *le mandé el libro a María* 'I sent the book to Maria', the first word is an unstressed, monosyllabic clitic, which is probably a lot less salient than the stressed polysyllabic proper name *María.* This may contribute to a low degree of entrenchment of clitics as part of dative constructions in the Spanish of heritage speakers (see Chapter 5). Frequency, recency and salience are not the only factors which scholars argue to be responsible for degree of entrenchment (H.-J. Schmid, 2012), but they are sufficient for the explanations throughout this book.

The notion of entrenchment is gradient, which means that in a cognitive linguistic view, a linguistic unit such as a grammatical schema can be more or less entrenched in a heritage speakers' system. This stands in contrast to the parametric view of language acquisition, often also applied to heritage research, in which grammatical rules are either 'acquired' or not, 'triggered' or not, present or absent. As indicated before, the cognitive linguistic approach has the advantage that it can capture the gradient, variable inter- and intra-individual nature of linguistic divergence in heritage speakers. This provides a whole different perspective to the notion of *incompleteness*, as we will see in chapters to come.

Entrenchment also subsumes processes related to 'the emergence and reorganization of variable schemas providing the means required for generative linguistic competence.' (H.-J. Schmid, 2014, p. 12). This means that the process of generalization necessary to bring about levels of schematicity is also driven by entrenchment. 'As soon as entrenched routines involve variable forms or contain variable slots, schematization comes into play.' (H.-J. Schmid, 2014, p. 12). Thus, for instance, if language learners repetitively hear strings like *Pedro está caminando* 'Pedro is walking', *María está hablando* 'Maria is talking', this not only contributes to the entrenchment of the separate lexical items, such as *Pedro, María, está, caminando* and *hablando,* but also to the entrenchment of a linguistic unit of a more schematic nature, something like *NP está V-ndo.* Exposure to more items and more variations of the construction, such as *Estaba cantando* 'I was singing', contributes to the entrenchment of an ever more generalized schema, with an ever more productive range of application and variation.

To understand how entrenchment is related to divergence, we must return to the part of the definition above which speaks of 'degrees of routinization and automatization'. Basically this means that higher entrenchment causes a linguistic unit to be accessed quicker, and thus a higher likelihood that this particular unit will be selected for utterance at the expense of a competing unit. For example, we may imagine a speaker who has not often heard the linguistic unit *el idioma* 'the.M language' and/or other schemas containing *idioma,* on the basis of which he could have generalized a schema which couples *idioma* to masculine gender. Perhaps he did hear things like *el idioma* sometimes, but at the moment he needs to speak of 'the language', the selection of the low-entrenched unit *el idioma* is overruled by the activation of a more highly entrenched competing unit, namely a schema which combines nouns ending in *–a* with feminine gender (see Chapter 4 for a more detailed cognitive linguistic account of gender agreement). The speaker thus speaks of *la idioma,* which is divergent with respect to the norms of Spanish.

Following H.-J. Schmid (2012) I use the term entrenchment in a strict sense, i.e. only when an individual's linguistic system is involved. Some may also speak of something being 'entrenched in a language', but for this use I will reserve the term *conventionalization* (H.-J. Schmid, 2012). That is, entrenchment pertains to the cognitive system in individual minds, whereas conventionalization pertains to language as a whole, as a system of interacting minds socially negotiating and establishing norms or conventions (cf. MacWhinney, 2014). Scholars studying contact-induced change have pointed out the importance of recognizing this individual and social dimension, distinguishing individual divergences such as 'nonce borrowing' (Weinreich, 1953), 'momentary copying' (Johanson, 2008) or 'innovation' (Croft, 2000) from the 'propagation' (Croft, 2000) of these divergences across a speech community (see also Backus, 2013; Onar-Valk, 2015). The present study focuses on the individual level, and so I will mainly make use of the notion of entrenchment.

The assumption underlying this study is that divergence in the Spanish of heritage speakers in the Netherlands is to an important extent a function of the entrenchment of

two language systems: Spanish and Dutch. That is, in my view low entrenchment of Spanish linguistic units is responsible for phenomena of *incompleteness*, while entrenchment of Dutch linguistic units is responsible for *pattern replication*. This boils down to a cognitive linguistic specification of the idea also to be found in other work on language contact, namely the opposition between *internally* and *externally* induced (or –motivated, e.g. Silva-Corvalán, 1994) phenomena. The following two sections will provide the basis for a cognitive linguistic interpretation of these two types of mechanism, namely incompleteness as an outcome of system-internal optimizations based on the entrenchment of HL-material, and pattern replication as an outcome of cross-language activations due to pressure from entrenchment of CL-material.

1.3.2.5 System-internal interdependence

An important assumption for my thesis is that divergence regarding any particular linguistic unit in an 'incomplete system', can only be fully understood when taking into account its interrelatedness with what goes on in the rest of the system. This idea is in line with the common premise of the cognitive linguistic approach mentioned earlier, that 'the formal structures of language are studied not as if they were autonomous' (Geeraerts & Cuyckens, 2007, p. 3), and it is fundamental to accounts of language as a complex adaptive system (Beckner et al., 2009; De Bot, Lowie, & Verspoor, 2007; Ellis, 2006).

Departing from this general assumption, I formulate the following specific assumption, especially relevant to addressing the characterization of 'incompleteness' mechanisms (research question IIa) in the present study:

> **System-internal Interdependence Hypothesis *(addressing research question IIa)*:**
> *The likelihood of divergence of a particular linguistic unit in an 'incomplete' system is not only a function of (i) how entrenched that particular unit is, but also of (ii) the availability of attentional resources, which is in turn a function of the entrenchment of other units in the language system which are being processed.*[i]

[i] In fact, low resources can also be caused by other factors, such as distraction, fatigue, old age, etc., but I believe that it is safe to assume that in the case of the present heritage speakers the contribution of such other factors to low resource availability is quite negligible in comparison to that of the entrenchment of other units in the language system which are being processed.

For example, if a speaker says *mandé el libro a María* 'I sent the book to Maria' instead of *le mandé el libro a María* 'I sent the book to Maria' – i.e. a clitic-less instead of a clitic doubling construction - this may be because the clitic doubled version is low entrenched, as argued before, but it may also be because the concurrent planning of the rest of the utterance consumes a high load of attentional resources because it involves low entrenched units – say, a difficult verb conjugation or rare idiomatic expression. Both factors can lead the processor to choose the path of least resistance, i.e. the selection of the cognitively 'lighter' construction. In fact, it should be made clear that it is not a matter of either one factor or the other, but *always* both: The selection of one unit or an alternative ('divergence') is the result of a trade-off between entrenchment levels of the particular unit in question and activated units 'elsewhere'.

My specific assumption is based on psycholinguistic work on automaticity in speech production and speech errors (Kormos, 2006; Levelt, 1989; Poulisse, 1999; Segalowitz, 2010), although necessarily a simplification for the present purposes. Basically I reduce the complex reality of processing to the two poles from the formulation above, which we can label shortly (i) *local entrenchment* (i.e. the particular unit which is observed to be divergent) and (ii) *entrenchment elsewhere*. Both concern the same principles: the lower the entrenchment, the less automatized the activation, and the more attentional resources are needed for processing. The point with *entrenchment elsewhere* is that it is not possible to know which linguistic units 'elsewhere' are exactly consuming the resources, unless of course one conducts an experiment specifically isolating and controlling the interfering material to be processed 'elsewhere'. Since I am interested in investigating the trade-off between (i) and (ii), I need ways of capturing (ii) optimally, without the (in the present methodology) impossible task of specifying every time exactly which linguistic unit 'elsewhere' is involved in the trade-off. The solution lies in the logical assumption that heritage speakers have to deal *more often* with low resource availability *overall* because they have a *low overall or 'global' degree of entrenchment of linguistic units in their system*. This means that we can validly capture the *entrenchment elsewhere* factor with measures of general proficiency in Spanish.

Rather than including separate proficiency tests in the methodology, I chose to extract global measures from the data itself: speech rate and filled pauses ('uh' and the like). Speech rate has been advocated as a particularly helpful measure of proficiency when investigating heritage speakers (Benmamoun et al., 2010; Polinsky & Kagan, 2007; Polinsky, 2008a). Rate of filled pauses, like speech rate, belongs to the realm of utterance fluency measures, which are ultimately reflections of *cognitive fluency* (Segalowitz, 2010). This notion is defined as follows: 'Cognitive fluency has to do with the speaker's ability to efficiently mobilize and integrate the underlying cognitive processes responsible for producing utterances with the characteristics that they have.' (Segalowitz, 2010, p. 48). As examples of the underlying processes to be mobilized, the author goes on to mention 'mechanisms for planning the utterance, for lexical search, for packaging the information into a grammatically appropriate form, for generating an articulatory script for speaking the utterance, etc.' (p. 48). Thus, the concept of cognitive

fluency seems to capture best the *low overall resource availability due to low overall degree of entrenchment of linguistic units in the system*. Section 3.3.6 in Chapter 3 is dedicated to the operationalization of the *fluency* measures.

Thus, the fluency framework of Segalowitz (2010) can very well accommodate the need to capture *overall resource availability due to overall degree of entrenchment of linguistic units in the system.* I find it more adequate to refer to this with the term *cognitive fluency* than with the alternative, logical sounding possibility *processing efficiency* (e.g. O'Grady, 2014). Using the latter in the context of this book would imply that heritage speakers dealing with low resource availability are or become less efficient, but the solutions their processor finds (e.g. dropping a clitic, generalizing a paradigm) are as efficient as can be under these circumstances. In fact, I believe the sole function of divergences is that they *optimize* processing efficiency in the given state of the system. This idea is what underlies my proposal at the end of this book to rephrase the uncomfortable term *incompleteness* into *system-internal optimization.*

1.3.2.6 Cross-language activation

In cognitive linguistics, meaning has a central status, and language structure cannot be studied independently from meaning (Evans et al., 2007, p. 21). In line with this position, I view cross-linguistic influence as driven by the way meaning is organized in the two languages. The following assumption will guide the investigation of 'pattern replication', i.e. the mechanism of interest in research question IIb:

Conceptual Activation Hypothesis *(addressing research question IIb)*:

> *In the case of pattern replication, what is cross-linguistically activated is the conceptual structure of a linguistic unit, i.e. the semantic content as well as combinatorial properties such as argument structure, and the more specific/meaningful (as opposed to schematic/abstract) this conceptual structure, the stronger the cross-language activation and consequently, the more likely that pattern replication will occur.*

In the case of the intensive bilinguals under study, the linguistic units of Dutch can be seen as highly entrenched routines of meaning-organization, which can influence the routines of meaning-organization in Spanish, i.e. the activation of words and constructions, through cross-language activation (cf. Bylund & Jarvis, 2010; Daller et al., 2010; Ellis, 2006). This would work roughly as follows. When a heritage speaker mentally prepares a Spanish word or construction for utterance, the final unit is selected out of a large network of interconnected, activated, competing linguistic units, including Dutch ones, which are co-activated because they carry highly similar meaning. This permits that, if the entrenchment of a Dutch linguistic unit associated with a certain meaning-intention is high enough, and if there is a suitable linguistic unit in Spanish to receive the conceptual content of the Dutch linguistic unit, there will be an outcome of pattern replication. For instance, the intention is to express the meaning GIVE BACK,

and there is both a highly entrenched Dutch routine which encodes the meaning components GIVE and BACK in two separate parts (*geven* 'give' and *terug* 'back'), and a linguistic unit (a schema *VERB + de vuelta* 'back') available in Spanish which can receive this separate encoding. This then leads to the utterance of the Spanish combination *dar + de vuelta,* even though it would not be the conventional option for a homeland speaker to express this particular meaning intention. More concrete examples will be discussed in chapters to come.

The hypothesis is inspired by diverse work in bilingualism and language contact. Von Stutterheim and Klein (1987) took a meaning-induced perspective of cross-linguistic influence in the interlanguage of second language learners, claiming that: 'the way in which the learner organizes his utterances is heavily influenced by the conceptual structure present and by the way in which this conceptual structure is encoded in the source language' (p. 196). A growing body of research has since then shown that *conceptual transfer,* i.e. the cross-linguistic activation of purely conceptual information (without necessarily even linguistic information) is a pervasive phenomenon (see for an overview of work Jarvis & Pavlenko, 2007; Jarvis, 2007) and that it can have linguistic divergences as a consequence (Jarvis & Pavlenko, 2007; Kellerman, 1995).

Another line of research in language contact emphasizes the *specificity* of CLI, i.e. the fact that apparent 'grammatical' or 'syntactic' effects are in fact tied to specific lexical contexts. This idea is central to the work of Silva-Corvalán (e.g. 1994a, 2008) as well as Backus (e.g. Backus, 2012; Doğruöz & Backus, 2008). A good illustration is a study by Doğruöz and Backus (2009), who categorized instances of *unconventional* Turkish from a large corpus of speech of heritage speakers in the Netherlands, and concluded that most of the unconventional language use found was 'maximally specific'. That is, unconventional forms were not generally used in all grammatical contexts, but were limited to certain lexical contexts, such as loan translations. For instance, Dutch Turks would translate 'take the train' literally into Turkish, where in the non-contact variety it would be 'get on the train'. The authors place the probability of transfer effects on a scale, from 'maximally specific' constructions (most prone to CLI) to 'maximally schematic' constructions (least prone to CLI).

The idea that elements with more specific meaning content are more prone to transfer than purely grammatical elements also fits well with work in psycholinguistics. The bilingual speech model of De Bot (1992, 2004), assumes a shared lexicon, i.e. a dense network of associations between the lexical items of both languages, whereas it assumes separate 'formulators' for each language, i.e. the grammatical encoding procedures are not shared. Although the model leaves open the possibility of interaction between the two formulators, and the evidence on structural priming suggests that such interaction does indeed occur (e.g. Hartsuiker & Pickering, 2008), MacWhinney (2005) proposes that: 'In the area of morphosyntax and sentence production, transfer is not as massive.' (p. 55).

1.3.3 Outline of the rest of the book

Before diving into the actual linguistic exploration of the speakers of Chilean descent in the Netherlands who were recruited, Chapter 2 investigates their sociolinguistic context through a combination of sources, namely literature, a web survey and personal interviews. The main aim is to examine the extent to which the Chileans of different generations in the Netherlands interconnect and interact in Spanish. This is important because it can set our expectations as to the type of linguistic processes at play. It can indicate to what extent linguistic findings should be explained on the basis of *pattern replication* and *incompleteness*, and whether the factor *variety properties* should take into account vertical (parent-child) transmission or also the additional dynamicity brought about by horizontal (peer to peer) propagation of variety properties.

Chapter 3 provides the details about the participants and the elicitation procedure that were the source of all the data throughout this book, and presents a broad exploration of linguistic divergence among the participants. The latter part builds up from qualitative analysis of lexical phenomena, in order to uncover possible influences of Dutch and different Spanish varieties, including Chilean, to quantitative analysis of grammatical topics, namely verbal mood, differential object marking and progressive constructions. It also includes the establishment and first application of the fluency measures. In this way, the chapter unpacks the methodological and analytical toolbox out of which some tools will be used in the rest of the book: combination of biographic data (participant groups), linguistic data and the fluency measures. Having thus identified global patterns of linguistic divergence and gained first insight into the mechanisms shaping the HL system, the next two chapters will study two linguistic areas in more detail.

Chapter 4 investigates the nature of incompleteness in a grammatical area with a very extensive yield of data points: grammatical gender. In an exhaustive analysis of all the gender agreement cases throughout the corpus, a complex statistical modelling technique including many linguistic factors is applied. An elaborate discussion of the findings highlights the processing-related, gradient inter- and intra-individual nature of gender incompleteness and paves the way for a cognitive linguistic approach to incompleteness in general.

Chapter 5 investigates dative constructions, which have been argued earlier to be prone to pattern replication in heritage speakers of Spanish. A series of visual stimuli descriptions from the elicitation procedure are analyzed for the use of dative constructions or alternative, non-dative constructions which align with Dutch encoding patterns. An elaborate analysis and psycholinguistic modeling in the discussion focuses on understanding the role of pattern replication and its interaction with incompleteness-related mechanisms.

Chapter 6 concludes with a summary and synthesis of the findings and interpretations throughout this thesis. In answer to the main research questions, an overall characterization is provided of the differences and commonalities between the language systems of the participating individuals, as well as the outlines for a cognitive linguistic approach to interpreting the mechanisms behind structural divergence,

including a concrete model of *system-internal optimization* to account for incompleteness phenomena.

Chapter 2 Sociolinguistic context
Delimiting the speech community

For the present study, Spanish speakers of Chilean origin were chosen. Although not a particularly large group, Chileans form the Latin American community with the longest history in the Netherlands. Thus the choice for this group offers a possibility to study several generations of heritage speakers. The fact that they came from a monolingual, monodialectal environment is a further advantage, in contrast to, for instance, the Spanish group, where the linguistic outcomes are complicated by the internal linguistic diversity.

The main question guiding this chapter is: *To what extent do people of Chilean heritage in the Netherlands interact with each other in Spanish?* The answer to this question is relevant for the choices throughout this book regarding methodology as well as interpretation. To the extent that one finds indications of the existence of a stable and coherent Spanish speaking speech community, one could opt for an investigation of linguistic variation and dynamics in this group, and the findings could be more readily interpreted as indicators of ongoing contact-induced language change in a bilingual variety of Spanish. To the extent that the observations lean towards the impression of a shifting, incoherent group of speakers, however, one could prefer to take a more psycholinguistic perspective, focusing on linguistic divergence in the bilinguals' speech primarily as an individual matter. The answer can also direct expectations regarding the linguistic processes at play in the Spanish of people of Chilean heritage in the Netherlands, namely to what extent linguistic findings should be explained on the basis of *pattern replication* and *incompleteness*, and whether the factor *variety properties* should take into account vertical (parent-child) transmission or also the additional dynamicity brought about by horizontal (peer to peer) propagation of variety properties.

To characterize the sociolinguistic situation of the Chileans in the Netherlands, in the following I will combine sources which may be little in scope each, and diverse from each other, but which acquire power in combination. In section 2.1 I will review academic studies and miscellaneous sources which tell about this group's history, demographics and networks. In section 2.2 I will present results from my own research on the basis of a modest amount of survey data, which asked people of Chilean heritage questions about the social networks they maintain, their choice of language with friends and relatives, their language attitudes and feelings of identity, and what linguistic phenomena they observe in the Chilean community. My own experiences and observations as a second generation Chilean and participant in Chilean networks in the Netherlands, will serve as a point of reference throughout this study.

2.1 History, demography and organized networks

A peak in immigration from Chile was reached in the mid-1970s, as many Chileans left their country fleeing the dictatorship of Pinochet, which was established through a violent military coup in 1973. Between 1000 and 1500 Chileans were officially invited by the Dutch government between 1973 and 1984, others sought asylum individually, but no exact numbers seem to be available. A popular scientific website about Dutch history speaks of 2000, of which half got a residence permit (Mendel et al., n.d.).

Although many arrived traumatized, over time they generally managed to integrate successfully, for which an often cited explanation is that the Chileans were received in the Netherlands in a liberal, welcoming political and social climate (see e.g. Elicegui Aramburu & De Jong, 2000; Van Kregten, 2007; Van Schaik, 2010). Elicegui Aramburu and De Jong (2000), who did a sociological study among 40 respondents of Chilean descent in the Netherlands, point to another factor possibly contributing to their smooth integration, namely that the refugees had a relatively high average education level upon arrival. According to these authors, the second generation surpassed their parents, since among the respondents there was a higher percentage of university-schooled individuals (53%) than is known about the Surinamese, Turkish and Moroccan second generation, and even than the average among the native Dutch (Elicegui Aramburu & De Jong, 2000, p. 29).

The Chilean refugees generally had, as Van Schaik (2010, p. 29) expresses it, a pro-active attitude and 'kept their culture alive with debates, dance groups, dinners, musical events, periodicals and the solidarity movement'. There was certainly a sense of community and a strong feeling of solidarity, internally, but also *vis à vis* other groups, such as the Argentineans, who came a bit later but with a similar history. Important is also the fact that many Dutchmen were solidary with the Chileans – there was an organized solidarity movement - and that both groups developed positive mutual attitudes and ties (Barajas, 2007; Elicegui Aramburu & De Jong, 2000; Van Gelder & De Graaf, 1977; Van Kregten, 2007). On the other hand, many of the Chilean political refugees referred to themselves as *exiliados* 'exiled', and there was strong nostalgia among many, illustrated by anecdotes, famous in the refugee community, of Chilean families who never unpacked their suitcases completely, even after years (cf. also Corduwener, 2001). Being political refugees, it is not surprising that culturally, socially and politically they remained very connected with developments in the homeland (Elicegui Aramburu & De Jong, 2000).

Over the course of the 1980's, cultural and political activities in the community began to fade and the Chileans gradually shifted their focus more towards family life and career (Van Schaik, 2010). In the late 1980's and early 1990's, as the Pinochet regime in Chile weakened and eventually fell, many Chileans remigrated. Again no exact figures seem to be available.

Today the community of Chileans consists in part of those *exiliados* who stayed and their offspring, and in part of a growing group of newcomers, who immigrate for diverse

reasons. Data from the Dutch Central Bureau of Statistics (CBS) show that the total number of persons of Chilean heritage has increased from 3566 in 1996 (there are no earlier detailed records kept by CBS) to 5426 in 2014.

In the observation of Elicegui Aramburu and De Jong (2000), the sense of community was less at the time of their study than in the seventies and eighties. This may not be surprising given that the community had gone through a period of remigrations, focus on family life and career and a lack of binding force in the form of an urgent political cause, since the transition from dictatorship to democracy (1990) in the homeland.

My personal impression is that over the past five years (roughly the time of writing this thesis) people are increasingly in contact through initiatives driven mostly by newcomers. These activities range from student and expat networking meetings to a variety of Facebook pages, such as *Chilenos en Holanda* 'Chileans in the Netherlands', *Chilenas viviendo en Holanda* 'Chilean women living in the Netherlands', *Chilenas y chilenos viviendo en Holanda* 'Chilean women and men living in the Netherlands', *Chilenas (de mente abierta) viviendo en Holanda* 'Open-minded Chilean women living in the Netherlands' and *Comunidad de chilenos en Holanda* 'Community of Chileans in the Netherlands'. The page *Chilenos en Holanda* had around 106 likes in autumn 2013, while two years later the number of likes has gone up to 929. This illustrates the rapidity with which especially the online networking has boomed. This and other Facebook pages seem to be dominated by posts of newcomers, but nevertheless offer an ever more important channel for connecting and mobilizing the broader community. Many Chileans are also connected to pages with a broader orientation such as *Latinos en Holanda* (3778 likes). All communication on the mentioned Facebook pages is in Spanish.

The *exiliados* still know and meet each other and their various initiatives and organized networks can be seen in part as a continuation of community life in the seventies and eighties. After the quite active cultural foundation Latinos Plus (*Plus* referring to the Dutch term *65+* for people above 65 of age) in Amsterdam ceased their activities in 2009, some continued to organize small initiatives in the same community center, such as a two-weekly evening of literary debate and film. A very lively online meeting point is the Chile-mailing list run by the website noticias.nl, where people discuss all sorts of, mainly Chile-related, news and topics. These networks function exclusively in Spanish and, although dominated by the older generation, are also frequented by newcomers and other people of Latino heritage.

The second generation seems to me to have more mixed networks. One meeting point of the young people is the regular dance event *Fiesta Macumba* (https://nl-nl.facebook.com/FiestaMacumba) in Amsterdam, of which the organizers and host deejays are second generation Chileans. The same nuclear group formerly hosted the famous *Qué Pasa*, a weekly night in club De Melkweg which for many years set the trend of Latin American pop/rock/hip-hop music among Dutch and multicultural hipsters.

There are also cultural events in which *exiliados*, second generation, newcomers, other Latinos and Dutchmen blend, in a predominantly Spanish speaking atmosphere. An example is the yearly celebration of Chile's national Independence Day, 18th of September, which has recently attracted more and more interest - in 2011 over 750 visitors were reported – and led to an ever more professionalized organization (http://www.fiestaspatrias.nl). Chile's history is marked by natural disasters, and over the past five years there has been an exceptional sequence of catastrophic events which have mobilized a lot of solidary activity in the Dutch-Chilean community. An example is the series of benefit parties that were organized to help victims of the devastating earthquake and tsunami which hit Chile in 2010 (http://soschilinu.wordpress.com).

In September 2013, a group of Chileans and Dutchmen organized a celebration of '40 years Chilean community in the Netherlands'. The celebration consisted of the publication of a book with 40 interviews with *exiliados* as well as Dutchmen who participated in the solidarity movement (De Kievid, Eppelin, & Snoep, 2013) and its presentation on an event with also an exhibition, speeches and a concert by an orchestra of Dutch and Chilean musicians brought together for the occasion (http://www.chili40jaar.nl/).

2.2 Empirical study

This section will present combined results from an online survey (50 participants) and face-to-face interviews (18 participants[i]). The online survey was designed to gain more insight into the sociolinguistic profiles and linguistic habits among Chileans (and their children) in the Netherlands. It was a multiple choice procedure, which people could access from any computer connected to the internet, and complete anonymously, in Spanish or Dutch. I advertised it mainly through the Chile-mailing list (around 250 subscribers), a Hyves page called *Chilenen in Nederland* 'Chileans in the Netherlands' (223 members) a Facebook page called *Chilenos en Holanda* 'Chileans in the Netherlands' (106 likes), and with flyers at parties and the like. The sample represented well the characteristics of the Chilean community in terms of geographic spread in the

[i] Actually 24 persons participated in the live interviews, but 6 of them had also participated in the online survey. To be clear that I count each individual as one contributor to the data, I chose to represent these 6 only as participants in the survey. Because answers were highly consistent between both procedures, I could make one case for each question in the survey which corresponded to one in the interview, based on the total information given in the responses. Only in one case there was a clear contradiction between answers in survey and interview. This case, concerning the feeling of identity, is described in the third paragraph of section 2.2.4.

Netherlands, socio-economic profiles, ages and immigration histories, as observed by myself and the aforementioned studies.

The face-to-face interviews, which took between 45 and 90 minutes on average, were conducted as part of the larger elicitation procedure with which I obtained the data for my linguistic research (see Chapter 3, section 3.2). So these 'personal background interview' sessions were embedded in between the more 'experimental' sessions of describing pictures and videos.

The survey and interviews were different in some respects. Firstly, the number and phrasing of questions was often different, and they were of course administered in different ways (multiple choice vs. open questions). I mainly solve this by converting the responses from both sources into more general observations. Secondly, there's an important difference in the way the participants were selected: for the online survey there was only a minimal posterior selection, leading to exclusion of a few 'irrelevant' respondents (e.g. people with no Chilean heritage whatsoever), whereas for the linguistic elicitation I consciously selected the participants, aiming at a controlled sample with regard to age, generation, social backgrounds, proficiencies, etc. However, as Table 2.1 shows, the two resulting selections were similar in terms of education level, place of residence and ages.

Another important difference is the fact that many respondents to the survey were what I will label *newcomers* (NC): people who immigrated to the Netherlands not in the period of the dictatorship, but more recently (most of them after the year 2000). I did not select *newcomers* for the linguistic research, because I focused on those who have been intensively Spanish-Dutch bilingual since childhood (second generation), and/or for a very long period (first generation). That means that whenever I refer to *newcomers* in the following sections, the information comes from the survey only, whereas for the other groups, it is usually from the combination of sources. The category 'in-between generation' (GX) is also absent in the linguistic chapters, but this is because the same participants were labeled as G1 for the linguistic research.

The definition of certain categories displayed in the table needs clarification. First generation (G1) are those who arrived before 1990, and were then older than 18. The in-between generation (GX) consists of those who arrived between age 7 and age 18 (and before 1990). Second generation (G2) are those born in the Netherlands or arrived before age 6, with one or both parents Chilean. Newcomers (NC) are all those who arrived after 1990. Education level was based on the level of schooling attended (interviews) or the level of schooling needed for the occupations that were mentioned (survey). *MBO* and *HBO* are Dutch types of education, roughly translatable as, respectively, intermediate vocational education (e.g. nurse, secretary) and professional tertiary education (e.g. manager, programmer). I created a separate category to combine academic degrees with others who, because of a language-oriented profession such as language teachers and journalists, can also be expected to be frequent readers. Only the indications of three participants were categorized as low qualified, namely 'cook', 'baby-sitter' and 'laborer'. As for place of residence, *Randstad* refers to the metropolitan conglomeration

in the West of the Netherlands including, among others, Amsterdam, Rotterdam, Utrecht, The Hague and Almere.

Table 2.1 Composition of pool of respondents in terms of generation, gender, education level, place of residence and age, as well as the procedure they participated in.

		Survey	Interviews	Combined
Generation	First generation (G1)	10	2	12
	In-between generation (GX)	10	2	12
	Second generation (G2)	11	14	25
	Newcomers (NC)	19	0	19
Gender	F	29	5	34
	M	21	13	34
Education level	Low qualified	3	0	3
	Medium qualified (e.g. MBO)	15	4	19
	High qualified (e.g. HBO)	14	8	22
	Academic/language oriented	16	6	22
	Not answered	2	0	2
Place of residence	Amsterdam	27	14	41
	Other Randstad	15	3	18
	Other	8	1	9
Age	21-35	17	9	26
	36-50	22	5	27
	51+	11	4	15
Total participants		50	18	68

2.2.1 Networks

Both procedures contained questions about friendships and romantic partners, as an indication of social networks the respondents participate in. As can be seen in Table 2.2, close friendships with Dutchmen are present in all generations. All second generation individuals indicated to have Dutch among their best friends, but there are quite a few in the other groups who do not. Most of the newcomers have Dutch best friends. Exclusively Dutch networks are reported by almost half of the G2 respondents, but rarely in the other groups.

Table 2.2 Dutch best friends reported across the subgroups. 'Dutch' stands for ethnic Dutch or Dutch with some ethnic background, other than Hispanic.

	No Dutch among best friends	Dutch among best friends	Only Dutch best friends
G1 - First generation	4	7	1
GX - In-between gen.	6	5	1
G2 - Second generation		13	12
NC - Newcomers	8	9	2

'Dutch' in Table 2.2 did not include persons raised in the Netherlands with Spanish speaking parents. However, one could wonder whether the Chileans form close in-group social networks with children of Chilean or other Hispanic[i] immigrants. As can be seen from the last column in Table 2.3, this is not confirmed in the sample. Only two persons from the in-between generation indicated to have only G2 Hispanic best friends. Another possibility would be that the Chilean G2 connects exclusively with other, not necessarily Hispanic immigrant children, in networks that set themselves apart from 'white' Dutch networks. Such cases were not reported at all. Some of the second generation do report close friendships with other immigrant children, Hispanic as well as non-Hispanic, but never exclusively.

[i] I choose the term Hispanic, following North American custom, as a shortcut for 'persons immigrated from Spanish speaking countries or the children of these'.

The first generation does not report friendships with immigrant children, which is easy to explain on the basis of age differences. Some of the newcomers, generally younger than the G1, do connect to second generation Hispanics.

Table 2.3 Best friends reported with persons raised in the Netherlands, with backgrounds other than ethnic Dutch.

	Non-Hispanic G2 among best friends	G2 Chileans among best friends	G2 Hispanics other than Chilean among best friends	Only G2 Chilean and Hispanic best friends
G1 - First generation				
GX - In-between gen.	2	4	3	2
G2 - Second generation	6	7	4	
NC - Newcomers		3	1	

Table 2.4 shows friendships with Chilean and other Hispanic persons not raised in the Netherlands, i.e. immigrants. Note that the multiple choice answers included the phrase 'born in X and spent the most part of his/her youth there', so these can include G1 type as well as NC type friends, and even some GX type. It seems that all groups have these kinds of best friends, although the G2 least of all. Exclusive Hispanic immigrant networks seem to be absent in the second generation but quite often mentioned in the G1, GX and NC.

Table 2.4 Best friends reported with immigrants from Spanish speaking countries. (Sometimes several responses of one individual are represented across more than one column).

	Chilean immigrants among best friends	Immigrants from other Spanish speaking countries among best friends	Only Hispanic immigrants as best friends
G1 - First generation	10	6	4
GX - In-between gen.	4	5	3
G2 - Second generation	2	3	
NC - Newcomers	11	2	8

Let me discuss some of the findings regarding the countries of origin of the Hispanic best friends mentioned (without making another table). 1 of the G1 and 7 of the NC had in fact *only* Chilean best friends. As for the other nationalities, no particularities were found, except perhaps a little 'Argentinean connection': 5 out of 12 first generation participants reported Argentinean best friends, and 3 out of 12 GX-participants (the other groups reported one Argentinean best friendships each). This may have to do with the shared experience of arriving as political refugees in the same period, as mentioned before, which could arguably be a stronger factor in those that arrived as adult or adolescent *exiliados*. For the rest, no major role seems to be reserved for connections to other smaller Latin American communities with which they may share close cultural affinity or migration history (e.g. only 1 Bolivian, 1 Peruvian, 2 Uruguayan best friends were mentioned by all participants), neither to the three biggest Spanish speaking groups (see Table 1.1 in Chapter 1): 6 Spanish, 2 Colombian and no Dominican best friends were mentioned by all participants.

The interview and survey also asked about the participants' spouse, fiancée or other stable romantic relationship. Since having a partner normally brings along the connection to family-in-law, this information can give important additional insight into social networks. Table 2.5 represents the partners. Note that number of responses per group is lower, since this question was only answered by those that had a partner. For 3 interviewees, the ex-partner was counted, as they had been very long together and broke up only recently. We can observe that the networking patterns found up to now are also reflected more or less in the patterns of partner choice. Dutch partners are present in all groups. Most salient are the partner choices of the NC, all of whose partners are Dutch, and the G2, where a large majority of partners is Dutch. Some partners with a Chilean or other Hispanic background are also present in the G2, and there is only one relationship between two G2.

Table 2.5 Ethnic backgrounds of partners.

	Raised in Spanish speaking country	Raised in Chile	Chilean G2	Dutch	Other
G1 - First generation		3	1	2	
GX - In-between gen.		1		6	
G2 - Second generation	1	2	1	14	1
NC - Newcomers				13	

To summarize the findings on the networking behaviors, it seems there is a certain degree of overlap between the different groups. Part of the G2 connects to the other groups and to Hispanics in general, although a much larger part of them does not, and is oriented exclusively towards Dutch social networks. The G1, GX and NC participants generally connect to both Dutch as well as Hispanic networks, but the ones with exclusively in-group networks outnumber the ones with exclusively Dutch networks. This is congruent with the observations in the previous section, that most organized community activity is initiated and dominated by those born in Chile. Although a subgroup of the G2 maintains ties with immigrants and fellow G2's, they do so *in addition* to their Dutch networks and never *exclusively*, like many of the immigrants.

2.2.2 Current patterns of language use

Now that we know more about who the participants connect to, we may wonder what they speak with them. Since we can safely assume that most interactions with Dutch contacts proceed in Dutch, we will zoom in on relations with peers that are bilingual Spanish-Dutch, i.e. siblings, cousins, friends and acquaintances in the Chilean and/or wider Hispanic network. As this level of detail was not part of the interviews, Table 2.6 is based only on the survey. The figures in each group stand for the number of 'relationships'. That is, not averages of responses, but one token for each relationship mentioned. For example, if a respondent did not tick 'cousins', this person indicated not to have bilingual cousins in the Netherlands, and no token was counted, but if the person did, the language habit indicated with the cousins was counted as one token, i.e. one 'relationship'. Another token was added when the participant ticked language habits with an 'oldest sibling', etc.

The table shows clearly how the first generation mostly reports peer relationships with which they speak Spanish. The second generation speaks Dutch with most of their bilingual peers, although they nevertheless report some peer relations with whom they sometimes use Spanish, or even use Spanish exclusively. In the in-between generation there seem to be all kinds of relationships, from exclusively Dutch spoken, to exclusively Spanish spoken. The newcomers have some mixed language habits with peers, but in most relationships with fellow Hispanics, Spanish is spoken.

Table 2.6 Relationships with bilingual peers (siblings, cousins, Hispanic friends, etc.) and the language choice patterns within these (responses from survey only). (Numbers represent reported relationships, which could be 0 or more per respondent).

	Always Dutch	Dutch most of the time	Sometimes Spanish, sometimes Dutch	Spanish most of the time	Always Spanish
G1 - First generation	3	1		3	23
GX - In-between gen.	4	10	6	6	10
G2 - Second generation	15	4	5	3	5
NC - Newcomers	1	3	5	1	28

Table 2.7 contains information about consumption of Chilean media, such as written and audiovisual news, literature, films and music, contact with friends and relatives in Chile through phone, Skype, email or chats, as well as visits to Chile. These data can tell something about Spanish language use, as well as the cultural, social and emotional links with the homeland. Since the measures used here are rather innovative, some clarification is in place. The possible answers in the survey to the *media* and *personal contact* questions were 'hardly ever', 'a few times a year', 'a few times a month', 'a few times a week' and 'daily', and the interviews yielded comparable information in terms of 'times'. To calculate averages, I transformed the global answers into 'times per year' ('daily' = 365, 'few times a week' = around 3 x per week = 150, etc.). Because visits to Chile *per se* are not representative, but need to be related to the time the person had available for these visits, the total number of visits reported was divided by the years the person lived in the Netherlands.

Bypassing the obvious shortcomings of this method, the table makes sense in the light of the global picture about social and linguistic habits. The first generation seems to have by far the highest consumption of Chilean media, followed by the newcomers. The GX and G2 are equally low. As for personal contact, differences are not very large between groups, but it seems that the NC maintains most contact with the homeland and the G2 least. There are also no notable differences regarding visits to Chile, except for the newcomers, who have a much higher ratio of travels to Chile. This is partly due to a few exceptionally high ratios in this group. Two NC participants went two times in their two years living in the Netherlands; giving them a ratio of 1.0. Another NC reported the surprisingly high number of 13 visits in 11 years, yielding a ratio of 1.18.

Table 2.7 Homeland media consumption, personal contact and visits; tentative quantifications.

	Chilean media consumption (av. times/year)		Personal contact with Chile (av. times/year)		Visits to Chile (av. times divided by years of living in NL)	
	Score	SD	Score	SD	Score	SD
G1 - First generation	214	137	83	53	.27	.13
GX - In-between gen.	54	68	87	67	.30	.20
G2 - Second gen.	52	63	59	54	.26	.19
NC - Newcomers	144	116	119	82	.79	1.06

There were also questions about *overall* language use (oral as well as written). Table 2.8 gives the impression that Spanish is used often throughout the week by all participants. A majority of the G1, GX and NC even manage to use it 'always' or 'most of the time' and, remarkably, also four G2 respondents. However, the largest contingent within the G2 (11/25) only uses Spanish 'sometimes' and the G2 is also the only group with persons who speak Spanish hardly ever – 7 out of 25 of them reported so. This is compatible with their earlier observed predominantly Dutch networks and Dutch language habits with bilingual peers.

Table 2.8 Answers to the question 'How much do you use Spanish in an average week?'

	Hardly ever	Sometimes	Around half of the time	Most of the time	Always
G1 - First generation		4		4	4
GX - In-between gen.		2	2	3	5
G2 - Second generation	7	11	3	3	1
NC - Newcomers		5	4	2	7

To sum up the findings on current language use: it seems that a lot of in-group communication still proceeds in Spanish. It is the most natural choice among those who

grew up in Chile. However, among the G2, Dutch is often the language of choice with each other. This may not necessarily be a reflection of the fact that they were asked about Hispanic peers with whom most of them do *not* maintain close ties, as observed in 2.2.1, the section on networks. Even those who *do* maintain close in-group ties may use Dutch with them. One interviewee told that some of his best friends are second generation Chileans, with whom he meets regularly, but nevertheless on such occasions they speak mainly Dutch, with occasional Spanish switches:

> *'Yo creo que todos nosotros en general hablamos holandés juntos. Pero si por ejemplo viene una hueá, por ejemplo, yo diría en holandés todo, que sé yo una conversación, y cuando yo podría decir: 'Pero tu sabís po' Carlos, si esta hueá así no puede pasar po' hueón, esta hueá así no funciona!' y pum, y cambio de nuevo al holandés. Pero esa hueá asi como con-, a veces para mí las emociones fuertes, lo hago en español.'*
>
> 'I think that all of us in general talk Dutch together... But if, for example, something pops up, for example, I would talk in Dutch, I don't know, the whole conversation, but then I could say [changing to strongly colloquial Chilean Spanish]: 'But you know damn well, Carlos[i], this shit can't go like that, this shit doesn't work like that!' and bam, I change back to Dutch. But that stuff like that, sometimes for me, strong emotions, I do it in Spanish.' (SeqG2E[ii])

Conversely, another G2 interviewee told that, although she did not consider them close friends, she would once in a while meet with a group of second generation peers and on such occasions they all enjoyed speaking Spanish:

> *'A mí siempre me ha gustado que yo por ejemplo, eh, he tenido, igual no mucho pero unos amigos latinos, no, con quien ibamos, por ejemplo, a salir a bailar salsa, o yo que sé, que podíamos hablar español, o que por ejemplo podíamos mirar fútbol y eramos todos por el mismo equipo, no sé, son cositas pequeñitas pero a mi gustaba mucho.'*

---

[i] Pseudonyms are used whenever names are mentioned in the quotes.

[ii] Codes refer to individual, anonymized participants. 'Seq' stands for 'sequential bilngual', 'Sim' for 'simultaneous bilingual'; G0, G1 and G2 stand for homeland group, first generation and second generation. The final alphabetic letter indicates the unique individual within the above groupings.

> 'I always liked that, for example, I have had, not many but some Latino friends, right, with whom we would, for example, go out to dance salsa, or, I don't know, that we could speak Spanish, or that for example we could watch football and we were all for the same team, I don't know, small things but I liked them a lot.' (SeqG2B)

These statements illustrate that the use of Spanish between peers may perhaps be viewed as a 'marked' choice, associated with some special expressive values, as an enrichment of the default, everyday use of Dutch (cf. Appel & Muysken, 1987; Myers-Scotton, 1998). Apart from the above examples, which I can perhaps best describe as *sentimental* or *identity marking* functions of switching from the default Dutch to the 'marked' Spanish, many second generation interviewees also reported on a *secretive* function: 'Sometimes in class we would start to speak Spanish, so nobody would understand.' (SeqG2H).

2.2.3 Intergenerational transmission

By looking at the reported language choices between parents and children, one can have an indication of the extent to which Spanish is passed on over the generations. Table 2.9 is again based on reported 'relationships'. This time the reports of G2 and GX about the language habits with their fathers and mothers (excluding non-Hispanic parents) are combined with those of the G1 with their children, into the category labeled 'G1 with their children'. These relationships turn out to be most often Spanish spoken, although it is remarkable that there are already quite some first generation immigrants who exclusively communicate with their children in Dutch. By looking at the reports of G2 and GX separately (not represented in the table), it turns out that all the GX spoke 'always Spanish' with their parents, whereas the G2 represented diverse language choices with their parents. This may be related to the fact that the GX were raised in Chile until their 6th or later age, and so probably continued the monolingual habits when moving to the Netherlands with their parents, while the G2 were raised in the bilingual setting from early on, which allowed for more bilingual habits to permeate the home. As can be seen from the two middle rows of responses, there are 19 'third generation' children reported in this sample, and all except two of them are mostly or exclusively exposed to Dutch in the household. This suggests that transmission of Spanish to new generations may quickly come to a halt in this community. One G2 and one GX *did* report to make a special effort to keep Spanish the language of the home, and are consequent in it: they use 'always Spanish'.

Table 2.9 Language choices in parent-child relationships. (Numbers represent reported relationships, which could be 0 or more per respondent).

	Always Dutch	Dutch most of the time	Sometimes Spanish, sometimes Dutch	Spanish most of the time	Always Spanish
G1 with their children	10	2	8	8	39
GX with their children	2	5			1
G2 with their children	7	3			1
NC with their children	1	1	3	1	4

Let me mention some relevant details which do not fit well into a table. First, I could not find remarkable differences between mothers and fathers. Second, I found some indications of more Spanish towards older than towards younger children, probably related to the finding mentioned in the previous paragraph of only Spanish towards GX and mixed habits towards G2. Finally, limited data about intergenerational contacts other than parent-child, such as grandparent-grandchild, aunt-nephew, etc., showed that language choices in these cases were similar to the parent-child patterns, with the first generation being most often keen on using Spanish. Thus, while the G2 generally give up efforts, it is often the grandparents who manage to pass some Spanish knowledge on to the 'third generation'.

> *'Mis padres viven acá al lado y mis, mis hijos ven todos los días a sus abuelos. Tomamos así la decisión que nosotros holandés y los abuelos, el español. Así que ellos, ahora por ejemplo mi hija de once entiende el español y ella trata de también hablarlo y mi hijo de tres, también ya: 'cierra la puerta, sácate la chaqueta' - son cosa que él ya... capta, de sus abuelos.'*
>
> 'My parents live here next door, and my children see their grandparents every day. So we took the decision that we do Dutch and the grandparents Spanish. So they, now for example, my daughter of eleven understands Spanish and she tries to speak it as well, and my son of three too, already: 'Close the door, take off your jacket' – things that he already gets, from his grandparents.' (SeqG2C)

The survey as well as the interview contained a very general question: 'What do you think about the vitality of Spanish among Chileans in the Netherlands?' (In the survey version this question had multiple choice answers and comment fields.) In the survey, no respondent ticked the answer that 'Spanish is not alive even in the first generation,

there's hardly a community', and also in the interviews all opinions were congruent with the observations in the previous sections, that much of the in-group communication between peers is still in Spanish (especially among the first generation). However, opinions about the passing on of this vitality tended towards a confirmation of the above sketched picture of a quickly fading transmission to the new generations. Around 15% of the respondents were optimistic, believing that 'Spanish will be passed on', whereas around 45% were pessimistic, believing that Spanish, although alive at present, will not be passed on to new generations. Finally, around 40% of the respondents did not know, or expressed their belief that transmission would be dependent on certain conditions.

In the survey, many ticked the answer that Spanish will be passed on 'only in families where both parents are Hispanic'. One G2 interviewee, married to another G2 and using exclusively Spanish with his child, even thought it 'logical' that Spanish is in decline, because:

> *'Mi pareja es chilena también, que tenemos todos los rituales, digamos, estamos casi iguales y... pero si veo, todo el resto de los jóvenes todos se están mezclando. Y alrededor mío, hasta mi propia familia, mi hermano también está con una, chica que no habla español y los niños no - los niños entienden todo, pero no hablan.'*
>
> 'My partner is Chilean too, so we have all the rituals, let's say, we're almost the same, and... but if I see, all the rest of the youth, they're all blending. And around me, even my own family, my brother is also with a girl who doesn't speak Spanish and the kids don't – the kids understand everything, but don't speak.' (SeqG2F)

Another G2 interviewee was optimistic about the maintenance of Spanish as a living language in the Netherlands, mainly through the influx of new immigrants, possibly from other countries, such as Colombia. A G2 interviewee who recently moved from the northern town of Den Helder to Amsterdam, observed that it is also important *where* one lives, for the success of passing on the language. After stating that he does not consider his Spanish very good, he goes on:

> *'Pero aquí en Amsterdam, los hijos y hijas de amigos de mi papá, que tienen como mi edad, ellos sí hablan bien castellano. Entonces no sé, porque a lo mejor pienso que porque el, la - cómo se dice? - comunidad aquí es Amsterdam es mucho más grande y se juntaban mucho más que ahí en Den Helder. No sabía que había chilenos, primero, y ahora resulta que hay hartos chilenos, pero nunca se juntan.'*

> 'But here in Amsterdam, the sons and daughters of friends of my dad's, who are about my age, they do speak good Spanish. So I don't know, because perhaps I think that the, the - what's it called? – community here in Amsterdam is much bigger and they would meet much more than over there in Den Helder. I didn't know there were Chileans, at first, and now it turns out there are lots of Chileans, but they never come together.' (SimG2N)

In the interviews, participants without children were also asked whether, if they would have children, they would be *willing* to use Spanish with them. The vast majority of them (11 out of 15) were indeed willing and even enthusiastic. Only one person, a GX, was not willing and stated that 'Dutch is more important' (GXE). Two others (G2) were willing, only if they would first succeed to improve their level of Spanish, because they were insecure about being able to pass on *good* Spanish. One G2, who recently became a father, said he would like to see his child speak twenty languages, but that he would not use Spanish with him under 'external pressure':

> *'No me nace ... [...] y menos me nace cuando la gente dice: 'Oye, pero le tenís que enseñar en español!''*
>
> 'It doesn't come spontaneously to me, and even less so when people say: 'Hey, but you have to teach him Spanish!'' (SeqG2H)

To this participant's observation that spontaneity is probably an important condition for successful transmission, could be added that it is also not a matter of unilateral agency on the part of the parents. Many of the second generation interviewees told that as a child they were reluctant to speak Spanish. They would feel different from their Dutch peers, and even ashamed, as illustrated by the following G2:

> *'Cuando yo invitaba así a un amiguito a ... después de la escuela, mi papá me hablaba español, yo veía que el holandesito lo miraba así como qué idioma raro que esta hablando usted.'*
>
> 'When I would invite a playmate to ... after school, my dad would speak Spanish, I would see that the little Dutchman looked at him like: what a strange language you are talking.' (SimG2R)

Thus even if the parents were trying, in many households the use of Spanish was a struggle, according to many G2 interviewees. Four of them even told that they had developed a consistent system at home whereby the parents spoke Spanish, and the children answered in Dutch, and vice versa. However, almost always the interviewees added that their reluctance faded when they got older. As adolescents or young adults

they would get interested in their heritage and start making more efforts to learn better Spanish. Many blamed themselves for not having done so before.

Before 2004, a state funded program made it possible for speakers of many heritage languages in the Netherlands to send their children to extra-curricular language classes, normally a few hours per week. Spanish was certainly available in most of the country, but I encountered only one interviewee who had attended such 'Saturday classes' as a child – only for a short period. One G2, mother of two, had clear ideas about what the limits of pressure should be:

> *'Es que comparo algunas veces unos niños que son chinos y rusos, que van también ahora, los sábado, a un colegio chino y a un colegio ruso. Eso lo encuentro bastante fanático, los niños están de lunes hasta el sábado en colegios metidos. Así que, no, yo creo que estoy conforme con lo que yo ha traspasado a ellos del idioma español. Estoy segura de que si ellos tienen interés de hablar mas, lo van a desarrollar después. Igual como mi hermano mi hermano antes no, no sabía nada del, de chileno o de español y después como a los doce años, trece años empezó a desarrollar un interés y ahí él se puso, empeña, y lo captó así, más rápido.'*
>
> 'If I compare sometimes some children who are Chinese and Russian, who also go now, on Saturdays, to a Chinese school and a Russian school. I find that pretty fanatic; the kids are from Monday to Saturday in schools. So, no, I think that I am comfortable with what I have transmitted to them of the Spanish language. I'm sure that if they are interested to speak more, they'll develop it later. Just like my brother, my brother before did not know anything of Chilean or Spanish and later, around age twelve, age thirteen, he started to develop an interest and then he put an effort and he understood like, more quickly.' (SeqG2C)

In sum then, the first generation parents use Spanish with their children in the overwhelming majority of cases (although note that we do not know how many of the children also talk back in Spanish). The use of Spanish with the third generation, however, seems to be mostly in Dutch. Even in the first generation there were quite some who reported to use predominantly or exclusively Dutch with their children. These data, as well as the reported observations of transmission around them, lead to the impression that even though the motivation to pass on Spanish to the new generations may be high in this group, in practice the use of Spanish with the youngest generations is very limited. Whether individual households may succeed to successfully transmit the language depends on important conditions such as access to a speech community and spontaneity in the parent-child interactions. One condition perhaps not stressed enough yet, is simply a sufficient level of Spanish of the parents themselves. The following

statement of a G2 mother, married to a Dutchman, sums up nicely the mismatch between willingness and actual success:

> *'Aunque mi marido también habla muy bien español, y le gustaría que yo, también. Pero no, no pasa. Uno no puede ser perfecta. [Entrevistador: por qué?]. Porque me cuesta. No es que no me guste hablar español, pero tengo que pensar tanto antes que me salga algo.'*
>
> 'Although my husband also speaks very well Spanish, and he would like that I, too. But no, it doesn't happen. One cannot be perfect. [Interviewer: why?] Because it's hard. It's not that I don't like to speak Spanish, but I have to think so much, before anything comes out of me.' (SeqG2D)

2.2.4 Identity and language attitudes

Table 2.10 gives an impression of the kinds of answers given to the question 'What do you say when someone asks you about your identity?'. The multiple choice options in the survey were 'Chilean', 'Dutch', 'mixed', 'other country', or 'other', with the possibility to write additional comments in a comment field. Generally, the setting of the face-to-face interviews turned out more inviting for participants to add nuances to their 'principal' feeling of identity. For instance one G2 interviewee described himself as 'A Chilean from Amsterdam', and another one as 'A very Latin Dutchman'. For the table, statements with and without nuance were broadly categorized into 'Dutch in the first place' and 'Chilean in the first place'.

Table 2.10 Self-perceived identities.

	Dutch in the first place	Mixed	Chilean in the first place	Other/unimportant/ not answered
G1 - First generation		3	7	2
GX - In-between gen.	2	1	7	1
G2 - Second generation	7	5	8	5
NC - Newcomers		1	18	

There were only two persons, one G2 and one GX, who called themselves simply 'Dutch', without nuance. Interestingly, one of them was a second generation person who was very proficient in Spanish and had a Chilean mother and a Dutch-Argentinean father. 'Chilean', without nuance, was stated very often (36 times). This was the feeling of the overwhelming majority of the newcomers, but more surprising are the 5 G2 individuals who felt simply 'Chilean'. Perhaps also counter to expectation, only half of the G1 (6) still felt simply 'Chilean', while the other half had acquired some nuance to being Chilean or a mixed/other identity feeling over the years in the Netherlands. The in-between generation, on the other hand, had stuck to their simply 'Chilean' identity in a great majority of cases (7).

Out of the six who participated in both the survey and the interviews, one person had a clear contradiction between her survey answer, namely simply 'Chilean', and her interview answer, which can be summarized as 'Dutch, only with Chilean looks and temperament'. I decided to leave this GX person out of the table. Her case illustrates that it is difficult to capture the identity question in clearly delimited categories. As the same participant stated in the interview, her feeling of identity interacts with the attitudes of other people. Thus, she told that in the Netherlands people often need to overcome the prejudice caused by her Chilean looks, before they realize 'how Dutch she really is'. In Chile, on the other hand, sometimes her way of speaking and certainly her mentality caused people to conclude quickly that she was not Chilean, and consequently refer to her as *la holandesa* 'the Dutchwoman'.

A GX person who described herself as 'mixed' in the survey, explained in the interview how identity is not a static thing but can change over time:

> *'Antiguamente decía, llena de orgullo, yo soy chilena. pero me fui retirando del ambiente chileno y me integré mejor en el ambiente holandés, entonces obvio que fui tomando la mentalidad de acá, entonces últimamente me digo: sí, tengo la apariencia chilena pero de acá [enseñando la cabeza] soy más holandesa, en mi pensar.'*
>
> 'Before I used to say, very proudly, I am Chilean, but I gradually retreated from the Chilean scene and became better integrated in the Dutch scene, so obviously I started acquiring the mentality of here, so lately I say to myself: yes, I have Chilean looks, but in here [pointing at her head] I am more Dutch, in my thinking.' (GXE)

There were also questions about feelings and values attached to certain languages and language varieties. Taking together the answers to these different questions, it was observed that opinions on Chilean Spanish, as opposed to other types of Spanish, were in large part positive (33 participants) or neutral (29 participants, including non-responses), independently of whether one felt Chilean or not. Five out of the seven survey respondents who, apart from 'enjoying' speaking Chilean Spanish, found it also

'important' to do so, were second generation speakers, who had indicated to feel simply 'Chilean' (4) or 'mixed' (1). One of the interviewees, a GX, was particularly positive about Chilean Spanish and used the word *arraigo* to explain why. This word turns out difficult to translate, having as closest equivalents, in this context, 'holding on' and 'rootedness':

> *'Digamos que yo uso mi idioma chileno, por un arraigo. Digamos, o sea, yo no me quiero sentir excluida de Chile.'*
>
> 'Let's say I use my Chilean language, because of holding on to my roots. Let's say, I mean, I don't want to feel excluded from Chile.' (GXD)

Interestingly, the elicitation interviews with the control group in Chile indicate that opinions on Chilean Spanish are much more mixed in Chile itself, including very negative statements like 'It's vulgar, I try to avoid speaking like that' (participant G0H) reflecting probably the normative ideas about language in Chilean education. As the sample shows, these opinions may become neutral to positive in the bilingual situation. The only participant in the Netherlands with a plainly negative opinion about Chilean Spanish was a first generation immigrant who stated: 'It makes me feel ashamed.' (G1G). Perhaps the shift to neutral/positive evaluations is less surprising for the second generation, who did not go to school in Chile. In the words of participant SimG2P, languages are nothing but a 'vehicle of communication'. This and similar statements of G2 participants reflect, in my interpretation, the more neutral, pragmatic views of language in Dutch society and education. Positive statements about Chilean Spanish may be the consequence of G2 participants associating Chilean Spanish with pleasant contexts such as family, holidays, cultural events, music, etc. However, even in the second generation, echoes can be heard of negative normativity, as illustrated by a G2 participant who stated: 'It's ugly, but I like it.' (SimG2Q).

As for the other findings on language attitudes, almost all participants considered it 'important' to speak both Spanish (no matter what kind) and Dutch, as well as 'other languages'. The interviews also repeatedly showed that many take pride in the fact that Spanish is an important language in the world, as illustrated by a G1 statement:

> *'Les hemos inculcado, como se dice, de que nuestro idioma no es, eh, un idioma muerto. Es un idioma que lo podís hablar en muchas partes del mundo. Eso lo tienen muy claro, creo, hasta los chiquitos también.'*
>
> 'We have instilled in them [his children - PIvS], what's it called, that our language is not, eh, a dead language. It's a language that you can speak in many parts of the world. That is very clear to them, I think, even to the small ones [his grandchildren - PIvS].' (G1B)

Silva-Corvalán (1994), in her linguistic study among Mexicans in LA, also found that across generations generally the attitudes towards Spanish language and Mexican culture remained very positive. However, a so called 'commitment questionnaire' with questions like 'Would you attend a conference on how Mexicans in LA can improve their command of Spanish?' showed that actual *commitment* faded over the generations. This is illustrative of the need to take caution in associating attitudes too strongly with actual behavior. However, when correlating the identity statements in the sample with other measures, it *does* turn out that, in general, the second generation persons who feel 'Chilean' in the first place use more Spanish overall, consume more Chilean media and maintain more contact with Chilean relatives than those who indicated to feel 'Dutch in the first place'.

As illustrated in Table 2.11, with five exceptions, only individuals who feel Chilean in the first place use Spanish predominantly or exclusively with younger generations, and no persons who feel Dutch in the first place do so, although the latter observation is based on only five reported cases. In the section on transmission, it was found that only one G2 and one GX speak 'always Spanish' to their children. These two described themselves as 'Chilean'. However, feeling 'Chilean in the first place' is not a guarantee for maintenance of Spanish, since Table 2.11 shows that a majority (31/55) of the persons who felt like that, use Dutch always or most of the time with the younger generations.

Table 2.11 Groups based on identity statements, and their language use with the younger generations (own children, but also nephews, nieces and grandchildren). (Numbers represent reported relationships, which could be 0 or more per respondent).

	Always Dutch	Dutch most of the time	Sometimes Spanish, sometimes Dutch	Spanish most of the time	Always Spanish
Chilean in the first place	16	15	7	3	14
Mixed	3	0	3	0	3
Dutch in the first place	4	1	1	0	0
Other/unimportant/not answered	6	1	2	1	1

Let me sum up the findings on identity and language attitudes. Not surprisingly, most of those who recently immigrated as adults (NC) still feel predominantly 'Chilean', while many of those who have lived in the Netherlands for decades (G1) or were born there (G2) have acquired different feelings of identity, sometimes in addition to 'Chilean'.

Many of the in-between generation, however, have stuck to their feeling of being 'simply Chilean'. In the second generation there are also more persons than I expected who feel 'Chilean' in the first place.

The positive attitude towards Spanish, which seems to remain strong in the second generation, even more so towards Chilean Spanish, and the fact that so many of second generation respondents feel Chilean in the first place, may constitute a counter-force against the shift to Dutch, as many of those individuals display higher current use and transmission efforts of Spanish. However, it is clearly not the only factor that will determine the success of transmission to the new generations.

Another attitude-related point that I would like to add in favor of maintenance of Spanish, though not part of the empirical investigation, is the observation that, ever since their arrival, the Chileans seem to have encountered less *external* pressure to assimilate or abandon their language. One could perhaps speak of a certain degree of *overt prestige* for Spanish in Dutch society (cf. Milroy, 1980). As a Chilean immigrant humorously illustrates in an interview on the website Noticias.nl: 'We didn't go to Dutch classes; on the contrary, we were teaching Dutch women Spanish.' (Corduwener, 2001). I dare to hypothesize that attitudes toward Spanish as a language remain positive in Dutch society. This observation was mentioned by many interviewees when considering the question of transmission, such as the following G2:

> *'En los colegios se está dando español ahora. Está bastante de moda, yo creo que más de moda que el turco o el francés por ejemplo, aunque también se da en el colegio francés, pero es un lenguaje bastante moderno, que se está dando más, tiene más importancia.'*
>
> 'In the schools they are teaching Spanish now. It's quite fashionable, I think more fashionable than Turkish or French, for example, although French is also taught in school, but it is quite a modern language, it's more present, it's more important.' (SeqG2C)

2.2.5 Linguistic outcomes

Perhaps the clearest indication of the language shift which seems to be underway in this group, are the responses about language proficiency. Even though the majority of second generation participants indicated to have acquired Spanish in childhood, the same group considers Dutch their best language in the great majority of cases. Five considered that they commanded Spanish equally well as Dutch. Six of the 'late' acquirers of Dutch (GX, NC and G1) also considered to have become truly balanced bilinguals.

Table 2.12 Self-assessed dominant language.

	Dutch dominant	Balanced	Spanish dominant
G1 - First generation		1	11
GX - In-between gen.	2	4	6
G2 - Second generation	19	5	1
NC - Newcomers		1	17

Most of those who are Spanish dominant, nevertheless consider to have a 'good' (18) or 'fairly good' (4) command of Dutch. Nine of them indicated to have 'hardly or no command of Dutch', of which 1 G1, 1 GX and 7 NC. Of the 21 persons who are Dutch dominant, 2 indicated to speak Spanish 'fairly well', and 19 'well'.

When asked to answer, out of a multiple choice list, what sort of Spanish was spoken generally in the Chilean community, a majority of answers (39/75; people could tick more than one answer here) indicated that the Spanish was changing in some way. Of these, 17 indicated that the participants perceive the Spanish to become 'Dutchified'. Another 22 of them indicated that the Spanish of the Chileans in the Netherlands was starting to resemble more 'another variety' of Spanish. Only one person specified in a comment which variety, namely 'Spanish', although it is not sure whether that meant 'Spanish from Spain', while another subgroup (9) specified that the Spanish in the community was changing towards a 'general' kind of Spanish, with characteristics of different varieties.

Apart from those who perceived Spanish to be changing, there was a large number of answers (28/75) which indicated that 'The Chileans in the Netherlands do not speak like the Chileans in Chile nowadays, but like in Chile when they left, and this is passed on to the new generations.' Only a minority of speakers (8/75) was of the opinion that 'The Chileans in the Netherlands speak pretty much like they do in Chile nowadays, thanks to contacts, vacations, media and new immigrants from Chile'.

One second generation interviewee gives nice examples of Dutch influence as well as old fashioned elements in his Spanish, and how this is often considered funny in Chile:

> *'[Amigos en Chile] se rien porque digo magnetrón, y que hay un weon que ¿como que magnetrón? ¡microondas!, pero esos son las palabras que nosotros teníamos en la casa, porque nosotros estabamos acá viviendo cuando llegó el magnetron, cachai, [...] Yo tengo dichos [...] que son super antiguo(s), que son de mi papá... eh, decir el año de la cocoa.'*

> '[Friends in Chile] laugh because I say magnetrón [the Dutch word for microwave, but pronounced with Spanish phonetics], and then there's a guy like 'What magnetrón? microondas!' But those are the words that we would have at home, because we were living here when the microwave arrived, you see. [...] And I have expressions [...] that are very old, that are my dad's, like to say: el año de la cocoa ['the year of the cocoa']' (SeqG2E)

The survey question 'Have you ever used Spanish and Dutch in a mixed manner within one sentence?' was answered only by three respondents with 'Never'. The rest ticked 'Sometimes, but not often' (23/50) and 'Yes, regularly' (24/50). These responses, with a balanced spread over the generational groups, may give rise to expectations of lively code-switching across generations, but my observations as a community participant as well as the outcomes of the linguistic studies in the remainder of this book call for a more limited interpretation of these responses. I will return to this in the next section.

Altogether, the linguistic phenomena observed in this group, as well as the self-assessments regarding these, are compatible with the rest of the findings. The majority of the second generation is Dutch dominant, while claiming a good command of Spanish. The G1 and NC are overwhelmingly Spanish dominant. A majority of them has additionally a 'good' command of Dutch, but a minority of mainly newcomers indicates to speak hardly to any Dutch. The GX display more inter-individual variation as to their language dominance and proficiency. Across the community, an old-fashioned type of Chilean Spanish is observed, as well as some accommodation to or influence from other Spanish varieties. Finally, around half of the respondents report to occasionally mix Dutch and Spanish within a sentence and another rough half frequently.

2.3 Discussion and conclusion

In the following discussion I will first summarize the general picture, then turn to the sociolinguistic profiles of each of the four generational groups, then answer the main questions, followed by what this means for the linguistic phenomena to expect, and finalize with some remarks on code-switching and transmission of Spanish to new generations.

The general picture that arises from the combination of sources is of an initially rather tight knit community which became less coherent over time. However, what probably remains as an undercurrent is the positive attitude towards, good integration in and strong ties with the host society, while at the same time the persistence of a Spanish speaking basic network and positive cultural and linguistic attitudes towards things Chilean. These features appear to be generally shared across all types of individuals in the group under study. However, the data show that the four generational groups each show characteristic patterns of behavior.

The first generation has Spanish as the mother tongue and uses this language for interaction with other Hispanics, who predominate in their social networks. Most of the first generation use Spanish with younger generations. Although often acknowledging

their broadened horizon after decades in another society, they consider themselves Chilean. Many keep following Chilean affairs through media.

The newcomers, who, like the first generation, grew up in Chile and migrated as adults, are in fact very similar to the latter in that their social networks are in large part Spanish speaking. A difference is that, while many of the first generation moved to the Netherlands with their families or formed families within the community, the newcomers only report Dutch romantic partners. In my view, this reflects differences in the migration histories of these two groups. While the first generation was strongly interconnected from the start (often knowing each other from before moving abroad) through their shared experience as political refugees, the newcomers had diverse individual motivations for migrating (e.g. moving to their long-distance partner or other adventurous reasons). The newcomers feel Chilean, maintain contact with their friends and family in Chile and travel there regularly.

The in-between generation also seems to participate much in Hispanic networks and use a lot of Spanish in their daily life. However, the reports on language dominance and identity in this group are more diverse than the newcomers and the first generation, with some leaning towards the Dutch, others towards the Chilean side. Judging from oral accounts, this finding may reflect different individual choices made regarding what language and identity to cultivate, and perhaps also more instability in this respect across periods and contexts. This diversity may be a consequence of the fact that their confrontation with the new society took place in adolescence, a period in which they were developing their sense of personal identity more than the younger children, but had not yet reached the stability of the adult migrants in this respect.

The second generation can be characterized as the least oriented towards maintaining in-group networks. Some of them do, but none of them exclusively. The second generation is mostly Dutch dominant, while their use of Spanish seems limited to communication with the older generations. Although some report to use much Spanish with bilingual peers, Dutch predominates in these interactions and, judging from oral accounts, switching to Spanish may serve a highly emblematic function. Identity statements are very diverse, with quite a few feeling 'Chilean in the first place'. However, of all four groups, the second generation follow Chilean media the least, maintain least contact with friends and family in Chile and travel least to Chile.

The main question of this study was: *To what extent do people of Chilean heritage in the Netherlands interact with each other in Spanish?* The answer is that, although I would characterize the Chilean community as a small world in which everyone knows everyone (especially the *exiliados* and their offspring), there are broadly two subgroups when it comes to social and linguistic behaviors. The first actively maintain Spanish speaking social networks, the second does not.

The first subgroup may be close to the idealization of a Spanish speaking 'speech community' in the Netherlands. The foundations of this speech community lie in the fact that the first wave of Chilean immigrants formed a small, tight knit, highly organized, solidary community of like-minded people with shared histories of political refuge.

Although this old group has gone through changes (remigration, less collective activity), there still remains a nuclear network consisting mainly of people from the first and in-between generation, which is strengthened by the influx of newcomers, who share with the old group the experience of having grown up in Chile. Spanish is the language of choice for interaction in this group, without question.

The second subgroup is formed by the majority of the second generation and some of the in-between generation. Their regular use of Spanish is limited to interactions with the parents and other members of the older generations. They generally do not seek to maintain Hispanic ties, so that it is perhaps not adequately labeled a 'group'. Some peers of the second and in-between generation do maintain friendships, but they prefer to interact in Dutch.

Thus, we find that the actual heritage speakers, i.e. the second generation, although generally indicating to have good command of Spanish (2.2.5), do not participate in a speech community in which their Spanish is shaped continuously through accommodation to peers and conventionalization of new phenomena. This means that it is fruitful to approach the speech of the heritage speakers not as a variety, but as individual examples of bilingual speech. The commonalities between these individual examples should be interpreted primarily as the result of the general nature of *pattern replication*, *incompleteness* and the *variety properties* which they acquired from their parents.

The linguistic studies to come will also include some individuals of the 'speech community' subgroup, i.e. speakers from the in-between and first generation (together re-labeled as G1). The linguistic profiles to expect should be rather different from those of the heritage speakers (from here on: G2). Persons participating in the first subgroup, i.e. the 'speech community', would not be expected to be subject to incomplete acquisition, since they acquired Spanish monolingually in childhood, and also hardly to attrition, because of their intensive continued practice of Spanish. However, like in the G2, cross-linguistic influence from Dutch (in the form of matter and pattern replication) can be expected in most of the G1 speakers, because of their intensive and prolonged use of Dutch in daily life. Only a minority of mainly newcomers indicated to speak hardly or no Dutch.

Contrary to the G2, the G1 participants can be expected to be subject to the additional dynamics of innovation, accommodation and conventionalization of linguistic phenomena in the speech community. The reports in section 2.2.1 about social networks suggest that these also include persons from other Latino backgrounds, and around a third of the respondents observed some sort of 'change' in the Spanish around them. However, I do not expect large scale dialectal leveling, let alone convergence to another variety, because the present data give evidence of (i) a numeric predominance of Chileans in the networks, (ii) a generally strong sense of Chilean identity among the respondents and (iii) an appreciation of Chilean Spanish in the community. In fact, only nine participants in the survey ticked that they enjoyed especially 'to adapt to the kind of Spanish of my interlocutor' (most often in addition to other options, such as that they

enjoyed 'speaking other languages' or 'speaking Chilean Spanish'), and only one person enjoyed to speak 'the Spanish of another country' and not Chilean Spanish. There may be some variety dynamicity in the sense that the observed 'seventies-flavored' *chilenismos* (regional Chilean colloquialisms) of the older group may be converging with more recent 'flavours' from newcomers. Note that it is expected that the G2, on the other hand, exhibit more 'fossilization' of the 'seventies flavoured' Chilean Spanish they acquired from their parents.

The overwhelmingly affirmative responses to the question about 'using Spanish and Dutch in a mixed manner within one sentence' call for a consideration of code-switching as a relevant phenomenon in all generational groups. My observations as a community participant are as follows. Those participating in the 'speech community' subgroup – i.e. mainly the G1, NC and some GX - speak only Spanish with bilingual peers and do not switch inter-sententially to Dutch. Occasionally they may insert Dutch words and expressions pertaining to specific semantic domains which for the bilingual are associated with Dutch-speaking contexts (e.g. work, school, Dutch culture and society; cf. Backus, 2001). This type of switching will be discussed and exemplified in Chapter 3, section 3.3.2 of this book. The second generation, on the other hand, speaks Dutch with their bilingual peers and only very incidentally switches to Spanish for expressive purposes, as discussed in section 2.2.2. In Chapter 3, section 3.3.2, we will see that when speaking Spanish, the Dutch lexical insertions of the G2 are often simply the result of not being able to come up with the right word in Spanish.

Finally, with respect to intergenerational language transmission, the present data clearly suggest that the community under study is undergoing a rapid shift to Dutch. Those of the second and in-between generation who report to have children, hardly speak Spanish with them, and even some of the first generation use exclusively or predominantly Dutch with their children. The few reports from the newcomers with children point to perhaps more holding on to Spanish in their mixed Dutch-Chilean families. Thus, some families in this community may make a special effort to use Spanish in the household and maintain a Spanish speaking network apart from their Dutch connections, but the 'third generation' will almost certainly not be anywhere comparable to the current generations in terms of general proficiency and frequency of use of Spanish, unless some massive new wave of immigration turns the tide.

Chapter 3 Selected linguistic topics
Exploring divergence in heritage language systems

The present chapter has three aims. The first is to describe the participants and the elicitation procedure that were the source of all the data throughout this book. This will be done in section 3.1 and 3.2 respectively.

The second aim is to present a global impression of the data, especially focusing on where the Spanish of the participants of Chilean heritage in the Netherlands, first and second generation, differs from that of the monolingual controls in Chile. Section 3.3 will discuss a broad range of linguistic phenomena in the corpus, ranging from lexicon (3.3.1, 3.3.2, 3.3.3) to grammar (3.3.4, 3.3.5, 3.3.7), to fluency (3.3.6).

The third and final aim is to develop the explanatory approaches springing from the cognitive linguistic perspective taken. Although all three types of mechanism (section 1.2.4) will regularly be investigated, sections 3.3.2 and 3.3.3 focus on evidence for cross-linguistic influence (matter and pattern replication respectively), sections 3.3.4 and 3.3.5 on incompleteness and section 3.3.7 on both.
The final section (3.4) will evaluate the above aims.

3.1 Selection of participants

The data for this book come from the transcribed interviews with 40 adults – i.e. 24 bilinguals in the Netherlands and 16 monolinguals in Chile. As the starting point of participant selection I used my own social network. In the Netherlands I approached friends and acquaintances in the Chilean community, and was often redirected to contacts of them. In Chile, I interviewed, among others, some of my relatives and some of the friends, acquaintances and relatives of my assistant. In the following I will discuss the selection criteria.

As to language, the Chilean controls (hereafter abbreviated as G0 – 'generation zero') were selected for being monolingual. A few of the participants reported to have knowledge of English, but they did not use it on a daily basis. One of them said to occasionally read scientific literature in English, which was the highest intensity reported. Most participants, however, had virtually no knowledge of English or other languages.

In the Netherlands, the criterion was that participants had to be bilingual in Dutch and Spanish and consider themselves able to conduct the interview entirely in Spanish. Three types of bilinguals were included. The group of 'first generation immigrants' (G1) consisted of 7 persons, with a late 'onset of bilingualism', i.e. Dutch was their non-

dominant L2. Their ages of arrival to the Netherlands ranged from 13 to 43. They had spent on average 34 years in the Netherlands (STD 2.06) with a minimum of 30 and a maximum of 36 years.

The 'second generation' (G2) were bilinguals who had had an onset of bilingualism in early childhood, and within the selection of this group a subdivision was made: 7 had grown up with one Dutch and one Chilean parent and had thus had an onset of bilingualism from birth, and 10 had been raised by two Spanish speaking parents or a single Spanish speaking parent, and thus had heard only Spanish until first immersion in Dutch speaking environments. The first group would in fact be simultaneous bilinguals under all definitions, because without exception they were exposed to both languages from birth. Although it was not always possible to trace back the exact age at which the second group started to regularly attend a social environment where Dutch was spoken, such as kindergarten or preschool, certainly all of them fall under Silva-Corvalán's (2012) definition of early sequential bilinguals in that their onset of bilingualism was after 6 months of age[i]. Throughout this book I will refer to these two groups as, respectively, the simultaneous bilingual second generation (SimG2) and the sequential bilingual second generation (SeqG2). Although the first generation participants can be called *late sequential bilinguals* (and have been called thus in Chapter 1), to avoid confusion and too long group names I will not refer to them as such, and reserve the term *sequential* only for the SeqG2.

The length of residence in the Netherlands of the G2 as a whole was on average 29 yrs (STD 5.89), most of them uninterrupted since birth or arrival. The SimG2 were all born and raised in the Netherlands. Six of the SeqG2 were born in the Netherlands, two arrived at age 1 and two at age 5. One of them had spent some short periods in other Spanish speaking countries as a child. In both SimG2 and SeqG2 there was one participant who had spent a period living in Chile as a young adult – both around 10 years of duration.

For the participants in the Netherlands, proficiency in Dutch was not measured, but all of the G2 indicated to be Dutch-dominant, while the level of Dutch varied considerably in the G1. As for Spanish, the mirror image was the case: native proficiency in all G1, versus varying levels in G2, but never dominance. There were individual differences as to current use of Spanish, depending on whether they had, for instance, a busy social life in Spanish speaking circles or a partner with whom they spoke Spanish.

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[i] And well before age 5, which is the starting age of compulsory attendance at school in the Netherlands.

Since in the Netherlands people generally are exposed to English and other languages in many contexts of life, it was impossible to control for the command of third languages. Especially the second generation participants had good command of English due to their school curriculum and media. Among the second generation there were two who reported to also use French frequently via social media; one had studied in France, the other had relatives there. One participant reported to command Portuguese well, because of a Brazilian father (although not part of the household in childhood) and regular visits to Brazil. One of the G1 participants reported to use English regularly at work and in a former long-term relationship.

Although there is rather little geographical variation within Chilean Spanish, especially in morphosyntax, I chose to further limit the origin of the participants by concentrating on the Central Valley region. Running roughly from La Serena in the north to Concepción in the south, with the culturally dominant capital Santiago in the middle, this most populous region of Chile can be regarded as a very homogeneous dialectal area (Claudio Wagner, Chilean dialectologist, p.c.).

All of the monolingual controls were recorded in their hometowns Santiago or Valparaíso, the main urban centers in the Central Valley. Although some had grown up in other towns, and one outside the Central Valley, all had spent most of their life in Santiago or Valparaíso. The G1 participants in the Netherlands had all spent at least their early childhood in the Central Valley of Chile. Some had later spent some time in other parts of Chile, other Spanish speaking countries, or other parts of the world. Most of the G2 had both parents from the Central Valley, some only one, and one participant had both parents from Valdivia (south of Concepción), but they had lived in Santiago previous to coming to the Netherlands. The G1 and G2 were living in the following hometowns in the Netherlands: Amsterdam, Rotterdam, Oegstgeest (Zuid-Holland), Nijmegen.

Because finding willing and suitable participants was already complicated enough, the criteria for age, sex and socioeconomic background were loosely applied. I strived for a balance between low, middle and high socioeconomic background, on the basis of the education level of the parents. The estimation was rough, but to give an indication, ‘low qualified’ were cases such as blue collar workers or housewives with up to secondary school diplomas; ‘high qualified’ were university-educated professionals; ‘medium qualified’ were the cases more or less in between, i.e. people with education beyond secondary school, but not university degrees. As to age, the G2 had a range from 21 to 42 and the G1 from 45 to 78. I tried to mirror the generations in the control group: eight of them were between 20 and 35 years old, and the other eight between 39 and 88. As to sex, there was a slight overrepresentation of males. Of the participants in the Netherlands, 9 were women and 15 men. Of the Chilean controls, 7 were women and 9 men.

For reasons of privacy, I decided to completely anonymize participants by referring to them with a unique code. This code does not contain information about sex, age, residence, etc. but only about the group they belong to. Thus all codes start with G0, G1,

SimG2 or SeqG2 and are followed by a letter from the alphabet. Throughout the book, each individual's utterances are accompanied with this unique code.

Table 3.1 summarizes the participant profiles.

Table 3.1 Summary of participant profiles.

		G0	G1	G2
Childhood residence	Chile	16	7	0
	Netherlands	0	0	17
Current residence	Chile	16	0	0
	Netherlands	0	7	17
Language situation in childhood	Only Spanish speaking parent(s)	16	7	10
	One Spanish, one Dutch speaking parent	0	0	7
Gender	F	7	4	5
	M	9	3	12
Education level parents	Low qualified	4	2	3
	Medium qualified	6	3	9
	High qualified	6	2	5
Rough age grouping	Twenties-thirties	8	0	16
	Forties and up	8	7	1
Total participants		16	7	17

3.2 Data collection

The data used throughout this book were collected in the context of a large research project, called Traces of Contact (ERC Advanced Grant #230310 awarded to Pieter Muysken). Within this project, there were two subprojects which made use of a common

elicitation procedure: the Suriname and the Heritage Languages subprojects. The procedure was designed by the researchers themselves, containing in part stimuli from earlier work by others. It had a broad central aim of eliciting phenomena of TAM (Tense, Aspect, Mood) and argument structure.

The procedure consisted of two parts: visual elicitation and a personal interview (Figure 3.1). In the visual elicitation part, videos and images were shown on a laptop in front of the participant, with the interviewer instructing in the heritage language. There were two subsets of visual stimuli, which I will refer to as *clips* and *stories*. The *clips* part consisted of short clips and some pictures, each depicting only one event (e.g. a boy kicks a ball, a woman puts a ladder against a tree, etc.). The participants were shown two clips at a time, and were asked to describe, after seeing both, 'what was going on'. The *stories* part consisted of videos with more than one event each (mainly short stories or fragments of stories). Here the participants were asked to tell what was going on, *while watching* the video.

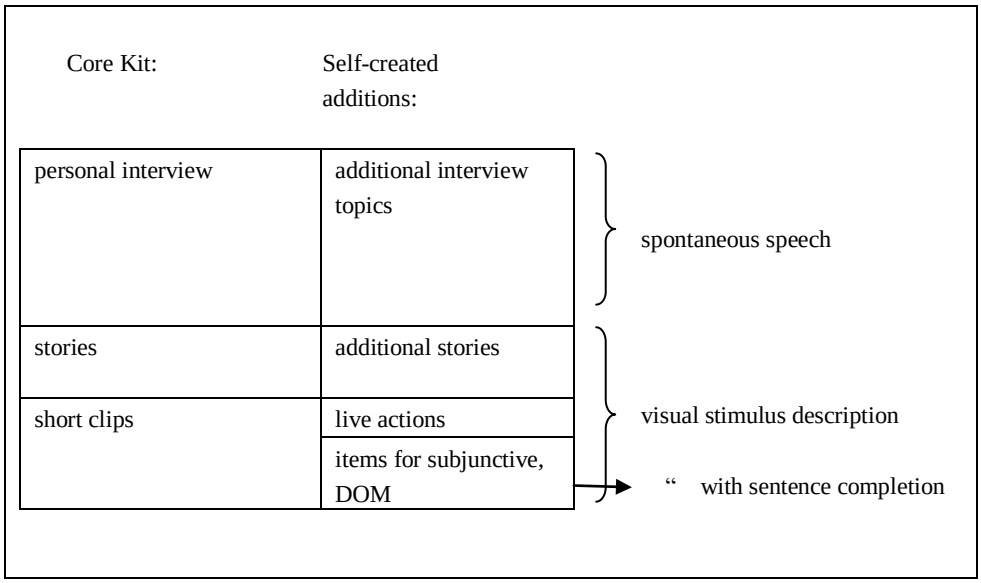

Figure 3.1 Composition of the elicitation procedure, with size of boxes indicative of proportional length of components.

The visual stimuli were used before in other experiments, and were added to our kit with the permission of the researchers (see for sources Appendix II). Some of the stimuli were created by these researchers; others were actually existing cartoons, such as the German *Maus* series. The process of collecting stimuli, contacting authors and compiling the selection was done mainly by Kofi Yakpo, in consultation with the rest of

the team. Because some questions can be relevant in one language but less so in the other - e.g. looking at differential marking of specific human objects could be interesting in Spanish, but in Moroccan Arabic this phenomenon does not play a role -, the design was aimed at eliciting many different kinds of propositions, with semantic contents interesting for as many as possible of the languages involved in the project. An inventory of the selected stimuli and what types of content they were aimed to elicit, can be found in Appendix II.

The stimuli captured aspects of argument structure well, but TMA was somewhat harder to elicit with the available videos and pictures. Besides, it was also necessary to collect sociolinguistic data from the participants, such as language habits, social network, identity, etc. Therefore, the second part of the procedure, the personal interview, was designed such that it could capture both the sociolinguistic data as well as elicit TMA. The interview format was designed mainly by me.

The questions in the interview were formulated in such a way that they stimulated the participant to start telling, instead of just giving short answers. For example, rather than asking three questions: 'Where did you grow up?', 'With whom?' and 'How did you usually spend your holidays?', which could elicit short answers like 'In Amsterdam', 'With my father, mother and brother' and 'In Morocco', one question was asked: 'Can you tell something about how you grew up?'. The participants then were more likely to start a narrative in the past, with habituals, progressives, imperfectives, etc. Meanwhile the interviewer check-marked whether the necessary sociolinguistic data (home country, region, family composition, holidays, etc.) were mentioned, and if something was not mentioned, he would ask for the specific data more directly after the participant had finished telling. An example of the interview form used can be found in Appendix III.

Altogether, the common elicitation kit consisted of a visual component with 82 stimuli, taking about 25-30 minutes to complete, and an interview component taking 15-20 minutes. Apart from this common core, every researcher was free to add stimuli for his/her own research purposes.

For Spanish, I created different kinds of additional stimuli. To investigate certain kinds of dative constructions which are common in Spanish but do not exist in Dutch, such as dative external possessor, dative of interest and dative experiencer, I created a few short clips and three stories, with myself and others (including my cats) as characters and with events such as a laptop that falls (to potentially elicit a dative of interest: *Se te cae el laptop* 'The laptop falls you') or keys that were left inside a house (dative experiencer: *Se te olvidan las llaves* 'The keys forgot-themselves to you'). I also added a 'live' component to the procedure, in which I performed simple actions to elicit possessor raising, such as taking off my glasses and wiping them, with the question *¿Qué hago?* 'What am I doing?' Data elicited with these stimuli, together with some stimuli from the core kit, are central to Chapter 5 on dative constructions.

To examine the use of the subjunctive versus indicative mood in purpose clauses (section 3.3.4 of this chapter), I created a series of pictures aimed at eliciting subordinate

finite purpose clauses starting with *para que*... 'in order to...' Later, in collaboration with Alejandra Rojas, a student doing a research assignment under my co-supervision, I created a series of short clips to elicit, among others, differential object marking, which were accompanied by a written phrase to be read aloud and completed, such as *alguien besó* ... 'someone kissed...' (clip of someone kissing a bag). The earlier mentioned *para que* pictures were incorporated in this series as fillers, after adding written preambles in the same fashion, such as *una casita que sirve para* ... 'a little house that serves to ...' (picture of a bird house). Finally, this series also contained some clips + preambles designed to elicit other finite subordinations requiring subjunctive. This series was added at a later stage of my investigation so it was only elicited with a subset of the participants.

The personal interview was also enriched with some items specific for my Spanish investigation, with the purpose to elicit a richness of TMA and discourse types, such as narratives, instructions, impersonals, conditionals, etc. Among other topics I asked them how they experienced the 2010 catastrophic earthquake, and what their thoughts were about the 33 miners who lived 70 days trapped underground. These topics generally elicited lively, spontaneous discourse, because they were of general interest and at the same time personal. Everyone had either lived through the earthquake or had been closely following the news from afar, worried about relatives, and everyone had some opinion on the captivating and worldwide discussed story of the miners.

The core kit together with my additions and the extended interview format added up to a total length of approximately 1.5 hours of speech per participant, but the length of personal stories in the interview part was quite variable, depending on the talkativeness of the participant. I made much effort to make the participants feel at ease in order to let them speak as much and as spontaneously as possible. This meant, among others, that I did not impose any time limits on the interviews, permitted the interview to drift away from the central topics (within reasonable limits) and occasionally let the interview take the form of a conversation. The language used throughout the interview was strictly Spanish. However, participants were allowed to use Dutch if they could not find the right word or paraphrase in Spanish.

All interviews (elicitation + personal interview + additions) were conducted by me, except for two, which were done by Alejandra Rojas, the earlier mentioned student assistant, who was also a Chilean heritage speaker in the Netherlands. Before conducting these interviews alone, she accompanied me in some interviews, in which I let her practice by conducting parts of the interview under my supervision. In another interview in the Netherlands I was accompanied by Mitchel Lazzús, another Chilean heritage intern. In Chile, I was accompanied in all interviews by Viviana Ávila, a linguistics student of the PUCV university of Valparaíso.

The interviews were recorded with the built-in microphone of the laptop, the invisibility of which was thought to contribute to relaxation, and the free software Audacity, which ran parallel to the playing of the stimuli on the same laptop. Participants wore headphones (without microphone) because some stimuli had sound.

For the transcription of the approximately 60 hours of recording (out of which 31 hours were actual speech by the participants) I was aided much by student assistants, especially Viviana Ávila. It was done with the software ELAN (Brugman & Russel, 2004; ELAN, n.d.) in ordinary Spanish orthography.

3.3 Linguistic exploration

To give a first impression of the nature of the data, fragments (1) to (4) present descriptions of the same story video by individuals from each of the four groups (in the order G0 - G1 - SeqG2 - SimG2). They contain examples (in bold) of almost all phenomena that will be discussed in this and the next chapters.

Fragment (3) contains examples of three topics which will be studied qualitatively in sections to come: (i) Use of a Chilean dialectal form, namely the word *laucha* instead of standard Spanish *ratón* for 'mouse'; (ii) Insertion of a Dutch word, namely *banjo* 'banjo'; (iii) A candidate for an analysis in terms of *pattern replication* from Dutch, namely *mirando feliz* 'looking happy', which does not sound very conventional in homeland Spanish. It may reflect a translation of a conventional combination in Dutch, namely *blij kijken* 'to look happy. Section 3.3.1 will discuss *chilenismos,* i.e. features pertaining specifically to the Chilean variety of Spanish, section 3.3.2 matter replication, i.e. the use of Dutch words, and 3.3.3 pattern replication.

Disfluencies in the form of longer pauses (transcribed as '...'), shorter pauses (transcribed as commas), filled pauses ('eh'), repetitions and word-finding problems are highlighted in (1), the fragment of the homeland monolingual speaker, to illustrate that disfluencies occur in all speakers. However, as we will see in the quantitative analysis of fluency in 3.3.6, they increase as we go down the scale of G0-G1-SeqG2-SimG2.

Finally, the fragments contain some hints at grammatical phenomena which will be explored throughout this book. The present chapter contains explorations of differential object marking (section 3.3.5), mood (section 3.3.4) and progressive constructions (section 3.3.7) – of which only the latter can be illustrated below, namely in fragment (2): *está tocando* 'he is playing'. The fragments also contain examples of the topics treated in the next chapters, namely dative constructions, studied in Chapter 5 and highlighted in bold in (2), and (inaccurate) gender agreement, studied in Chapter 4 and highlighted in bold in (4).

(1) El mismo ratoncito anda con una **...** ¿cómo se llama? **un eh ... una** especie de laúd, o sea, una guitarra ... Y, toca, y se le rompe una cuerda ... Agarra su cola, se la quita y la instala como cuerda nueva del, del instrumento ... Y lo, y lo toca ...

'The same little mouse walks around with a ... what's it called? a ... some kind of lute, I mean, a guitar ... And he plays, and a string breaks ... He takes his tail, he removes it and installs it as the new string of the, of the instrument ... And he, and he plays it ...' (G0F)[i]

(2) Aquí **está tocando** el ratón, parece que es una, mandolina o una guitarra ... pero suena como guitarra eléctrica en todo ca- ¡Ay, **se le cortó** una cuerda! ... ¿Y ahora qué?... Parece que se le ocurrió una cosa ... Se saca la cola, y la usa como cuerda... Y la cuerda la usa como cola.

'Here the mouse is playing, it appears to be a, mandolin or a guitar ... but it sounds like an electric guitar anywa- Oh, a string has snapped! ... And now what? ... It seems something occurred to him ... He removes his tail, and uses it as string ... And the string he uses as tail ...' (G1C)

(3) La **laucha** con un eh, [**banjo:]** o una guitarra, no sé ... caminando y tocando la guitarra ... **mirando feliz** ... Se le quiebra una cuer-, cuerda ... Mira un poco ... Mira a su ... a la cola, y saca su cola y lo, usa como la cuerda y la cuerda que se le quebró se lo mete, de nuevo como cola. Lo usa como cola.

[i] The glossing strategy used throughout this book is the following: When morpheme-by-morpheme glossing is irrelevant (such as in the above case), only an English translation will be given – with some bold or underlined parts if necessary to orientate the reader towards highlighted elements in both the Spanish and the English version. Morpheme-by-morpheme glossing will consist of the equivalent word combinations in English as much as possible. Abbreviations of grammatical features and categories will be used only where it adds relevant information or where there is no English equivalent. For example: *fuiste* 'you.went' (instead of 'go.2P.SG.PAST.PRET') but *se vende* 'REFL sell.3P.SG.'

'The mouse with a, uh, *banjo* (in Dutch) or a guitar, I don't know ... walking and playing the guitar ... looking happy ... A string breaks ... He looks a bit ... He looks at his ... at the tail, and he removes his tail and, uses it as the string and he puts the string which was broken, back again as the tail. He uses it for a tail.' (SeqG2H)

(4) El ratón está tocando una, [gitara][i] ... Y una cuerda se rompe ... Se pone un poco triste ... Pero tiene una idea, se puede usar, su cola, como una cuerda de, la guitarra ... Y... **lo** pone y la cuerda **lo** usa como una, cola.

'The mouse is playing a, guitar ... and a string breaks ... He gets a little sad ... But he has an idea, he can use, his tail, as a string for, the guitar ... And ... he puts it and he uses the string as a, tail.' (SimG2N)

In the following sections, a range of linguistic topics will be explored that are found in the corpus. The sections are diverse in the types and amounts of data as well as the analytical approaches, and are organized in a way that builds up from more qualitative to more quantitative. The sections about *chilenismos* (3.3.1), matter replication (3.3.2) and pattern replication (3.3.3) contain qualitative analysis of impressionistically obtained observations (although the amount of data and depth of analysis increases across the sections). Then, sections 3.3.4 and 3.3.5 will explore, respectively, verbal mood and differential object marking, two grammatical areas for which a modest quantitative analysis is possible. The final two sections will explore areas with a large amount of available data, permitting statistical analyses, namely fluency (3.3.6) and progressive constructions (*estar* + *-ndo*; 3.3.7) - in this order, because the latter builds on the former.

The different sections explore different mechanisms of divergence in different ways: Sections 3.3.2 and 3.3.3 focus exclusively on cross-language activation as type of explanation, sections 3.3.4 and 3.3.5 exclusively on incompleteness effects, while section 3.3.7 explores evidence for both types of mechanisms. Some sections propose more detailed mechanisms of cross-language activation (e.g. section 3.3.3 on pattern

[i] Here *guitarra* 'guitar' is pronounced as [gitara], with the /r/ pronounced as a single tap instead of a trill. This is an example of divergence in the phonetic domain. Only occasionally will phonetic divergences be indicated in the transcriptions, using brackets.

replication) or divergent activation patterns due to low entrenchment (e.g. section 3.3.5 for the explanation of overgeneralization and omission of differential object marking).

3.3.1 Chilenismos

Many respondents in the sociolinguistic survey (Chapter 2) agreed with the sentence that 'The Chileans in the Netherlands do not speak like the Chileans in Chile nowadays, but like in Chile when they left, and this is passed on to the new generations.' An extensive use of 'outdated' language forms in the G1 compared to the G0 was not found to be a salient aspect in the linguistic data at first impression. However, there seemed to be something special to many bilinguals' use of chilenismos (specifically Chilean language forms) per se, especially the second generation. In the following I will examine this impression further.

Some G2 who were particularly proud of their Chilean heritage interlarded their speech with Chilean slang, such as *cabro* or *flaco* for 'boy' and the expletive *hueón* (roughly translatable as 'man' as in 'Come on, man!'). This expletive, as well as the colloquialism *hueá* 'stuff' and the regionalism *guata* 'belly' are italicized in example (5). This level of informality was not observed in the G0 at all.

(5) Ya, sacó toda la *hueá* ... En la *guata*, [laughs] ¡Genial, *hueón*!
'So, he took away all the *stuff* ... (He plays music) on his *belly*, [laughs] Awesome, *man*!' (SeqG2E)

A special kind of *chilenismo* is the so called Chilean *vos*-conjugation (or *voseo chileno*) for the second person singular. In Chile this verbal paradigm exists alongside the general Spanish *tú*- and *usted*-conjugations, whereby the ranking of formality is (from most to least formal) *usted-tú-vos* (Rivadeneira, 2009). The interview procedure contained some stimuli which elicited second person singular forms, namely the 'live actions' component, in which participants had to describe what the interviewer was doing, the interview topic 'recipe', in which the participant was asked to describe how to cook a dish of their choice, the 'directions' interview topic, in which the interviewer asked the participant how to get to their next destination after the interview, and a few 'story' videos in which I acted as the main character, so that the person to be described in these videos was their interlocutor (except in the two interviews that were conducted by assistant Alejandra). I analysed these parts of the corpus, but the use of *voseo* was very rare, most participants exhibiting it in 0% to 7% of the contexts that permitted its use. However, one participant, namely SeqG2E, who was most outspokenly proud to be Chilean, and whose speech contained, to my subjective impression, the most lexical *chilenismo* of all participants, used the *vos*-conjugation in 70 of his 125 examined cases (56%), the highest rate of all participants. Examples are given in (6) and (7).

(6) Te sacai el anillo
you.ACC take.off.2P.SG.VOSEO the ring
'You take off your ring.' (SeqG2E)

(7) Recogís la bici
pick.up.2P.SG.VOSEO the bike
'You pick up the bike.' (SeqG2E)

Because the *vos*-conjugation is uniquely Chilean (the verbal paradigm is different from other *vos*-conjugations in the Spanish speaking world), the use of it can immediately identify a speaker as Chilean. Considering SeqG2E's positive attitude toward Chilean identity, culture and language, this identification might be a desired effect.

SeqG2E was also my acquaintance and peer, which could be a reason in itself for exclusively using the highly solidarizing *voseo*. However, most other G2 acquaintances whom I interviewed, used *voseo* hardly or never. The same was true for acquaintances, friends and relatives among the G0 and G1, with the exception of my brother-in-law in Chile, who used the *vos*-conjugation in 24 out of 97 contexts (25%). The reason why this person 'peaks' among the low use of *voseo* of the rest, is unknown to me. It may be a mix of friendly attitude and a very informal personal style leading this person to sound particularly 'solidarizing' – although relatively still less than half as much as the exceptional SeqG2E.

Of the first generation, none used the *vos*-conjugation when describing me acting on a video or performing live actions. Occasionally, however, some *vos*-forms escaped their attention in other contexts, such as the personal interview, which was the more relaxed part of the procedure. I observed several instances of generic or impersonal use of the second person singular, embedded in spontaneous discourse, such as (8):

(8) Qué podís hacer?
what can.2P.SG.VOSEO do?
'What can you do?' (G1B)

Apart from such possibly 'accidental' cases, it seems plausible that those raised in Chile, i.e. the G0 and G1, although perhaps inclined to use more *chilenismos* and *voseo* in intimate settings, kept themselves back in the interview, under the influence of the strongly normative views on language in the Chilean educational system, media and general public opinion. Under these views, *voseo* and *chilenismos* are inappropriate in a setting where you are expected to 'speak correctly'. Despite my insistence in informing them that this was not the objective of the interview, it is imaginable that many Chile-raised participants would find it hard to get used to the idea that this 'language-oriented interview', including microphone and the test-like visual elicitation part, was not about 'speaking proper Spanish'.

Regarding some of the second generation participants, especially SeqG2E, I have alluded to a possible identity marking function of the use of *voseo* and lexical *chilenismos*. However, apart from this possibly *intentional* motivation, another factor may be exposure to a restricted variety (cf. Pires & Rothman, 2009; section 1.2.4). Casanova Seuma (1986; see also section 1.2.3) observed that one of the most striking features of the language of Spanish heritage adolescents in the Netherlands was that they seemed not to have mastered more formal registers of Spanish, despite the fact that all had attended Spanish classes on saturdays during 8 years on average. Most heritage participants in my study had never even attended Spanish classes, so were exposed exclusively to the everyday colloquial speech in the intimate setting of the household. Thus, they may not even be aware of alternative forms for *chilenismos* and *voseo*. And if they picked up alternatives, they may not be well aware of the connotational differences. Such an explanation may account for the only other G2-speaker with a high use of *voseo* (52/191 = 27%), SimG2N, who had quite a different profile from SeqG2E. SimG2N was one of the least fluent speakers (see section 3.3.6 below), and did not speak as emphatically proud about his Chilean heritage as SeqG2E did. He may have picked up the *vos*-conjugation from his Spanish speaking parent and interpret it as a neutral form of address.

The use of the dialectal word *laucha* 'mouse' (9) may illustrate a possible lack of awareness of *semantic* differences between Chilean dialectal forms and general Spanish equivalents. When describing the elicitation videos, three of the G2 (and two of the G1 who had arrived to the Netherlands in puberty) referred to the mouse character with the dialectal word *laucha*, while all the controls in Chile spoke of *ratón*, which is the general Spanish word for mouse.

(9) Apareció una laucha.
appeared a mouse
'A mouse appeared.' (G1D)

It was explained to me that there are different mouse-like rodent species in Chile, and that Chileans would refer to smaller mouse-like species as *laucha*, whereas bigger ones, like the one in the video, would be *ratón*, the general Spanish word. This was probably not known to the abovementioned participants, who perhaps thought that *laucha* was simply the regional Chilean word, while *ratón* was the general Spanish word. This is illustrative of the idea that the 'restricted variety'-factor may also interact with the intentional motivations. With the intuition on meaning differences and register connotations fading among Chilean heritage speakers, the use of *chilenismos* may have acquired a new distinctive function, namely that of flagging Chilean identity.

Finally, there may even be a *cultural* difference between those raised in Chile versus The Netherlands, affecting the perception of language norms *per se*. As explained above, for many Chileans socialized in Chile the 'interview about language' may call for more 'correct language use'. For people raised in the Netherlands, with less emphasis on

normativity in the educational system, a more colloquial way of speaking would be perfectly in place in this setting.

In sum, the impression is that the use of *chilenismo* is subject to different patterns in the Netherlands than in Chile. Compared to those who were raised in Chile (G0 and G1), second generation participants seem to use colloquialisms, *voseo* and other *chilenismos* in a different way, and sometimes more frequently. As reasons for this shift in frequency and function I mentioned the wish to mark Chilean identity, the lack of exposure to other, more formal registers of Spanish and a cultural difference leading to a perception of the interview setting as requiring less formal behaviour. I further hypothesize that these factors are likely to act together in shaping the patterns of *chilenismo* in these speakers.

3.3.2 Matter replication from Dutch

The replication of phonetic matter from Dutch was limited mostly to insertional code-switches because of apparent word-finding problems, and was always immediately followed by switching back to Spanish.

Word-finding problems were most common in the second generation, when describing certain visual stimuli which required words presumably infrequent in the everyday Spanish input they had received. An example is the word *cuerda* 'string' (of a musical instrument), which many second generation participants could not come up with (e.g. example (10)). One speaker, however, after a frustrating sequence of word finding problems, excitedly exclaimed that she 'should know' that word, alluding to the fact that her father was a musician, after which she proudly came up with the right word (11).

(10) Se rompe un *snaar*.
'A *string* breaks.' (SimG2S)

(11) ¡Eso tengo que saber! La cuerda se ... bueno, se rompió.
'That I should know! The string... well, it broke.' (SimG2L)

Examples (12) and (13) give away insights into the nature of the activation processes underlying the word-finding process. In (12) the speaker stops and comes up first with the Dutch word *niezen* 'sneeze' in infinitive form. Then she does an attempt in Spanish, but she comes up with another body process involving the mouth: *bostezar* 'to yawn'. She abandons this word halfway, perhaps because she realizes it is not the right word, and finally uses the Dutch word again, this time in third person singular. This example shows that the search for the right word involves activation of semantically associated words.

(12) Un hombre parado al lado de una flor, de un, un, un vaso con una flor ... ah, *niezen* ... bostez- y *niest*.
'A man standing next to a flower, of a, a, a glass with a flower... ah, *sneeze,* yaw- and *sneezes.'* (SeqG2C)

Interesting about example (13) is that the Dutch compound *benefietconcert* 'benefit concert' is interrupted by an *eh* which sounds phonetically Spanish, i.e. as a prolonged [e] rather than [ə], which would be the Dutch 'filled pause'. It appears to indicate that the speaker firmly adheres to Spanish as the matrix language.

(13) Cuando hicimos el *benefiet* eh, *concert,* ...
'When we did the benefit eh, concert, ...' (SimG2L)

Some insertions of Dutch seem not to be the product of word-finding problems, but more subtle, fluent switches that express a meaning nuance readily available in Dutch, impossible to translate with a similarly simplex expression in Spanish. An example is the use of the word *toevallig* by two G2 speakers in (14) and (15). The literal translation 'coincidentally' does not quite cover the meaning of this word, which would be more close to 'as a matter of fact', 'by the way' or 'now that we are speaking of it'. Spanish, like English, lacks a short form to cover the subtle, discourse-modulating function of this word, which is probably why the speakers chose the switch.

(14) El otro muchacho, *toevallig,* que está ahí es es boliviano.
'The other guy, *as a matter of fact*, who is there, is Bolivian.' (SeqG2A)

(15) Bueno no, ehm, no, *toevallig,* en mi calle vive un chileno.
'Well no, ehm, no, *as a matter of fact*, in my street lives a Chilean.' (SeqG2D)

The following words from Dutch seem less of a problem to translate: (16) *uitzendbureau* 'employment agency'; Spanish: *agencia de empleo;* and (17) *hoofddoekje* 'head scarve'; Spanish: *velo, pañuelo.* Moreover, the utterances come from first generation speakers who are unlikely to be unable to come up with a Spanish equivalent. However, I hypothesize that an underlying motivation for these insertions is that the concepts and their respective translations are mentioned more frequently in Dutch than in Chilean Spanish oral speech. Thus, in cognitive terms, the Dutch expressions are more entrenched in the speakers' Dutch system than their Spanish equivalents are in their Spanish system, which would favor an activation path leading to insertional code-switches. This type of explanation, as well as the observation in the previous paragraph about the more specific discourse-modulating use of Dutch *toevallig* 'coincidentally', are in line with Backus' (2001) Specificity Hypothesis, which claims that insertional code-switches have a high degree of semantic and pragmatic specificity. According to

Backus (2001), one of the ways in which a word can be specific is because it belongs to a semantic domain or type of discourse typically associated with the contact language. For (16) the domain may be described as 'job hunting' (cf. Backus, 2001) and for (17) 'issues in Dutch societal debate'.

(16) Comencé a trabajar por *uitzendbureau.*
'I started to work for an *employment agency.'* (G1E)

(17) Por ejemplo las discusiones de los *hoofddoekjes*.
'For example the discussions about the *head scarves*.' (G1G)

In a similar vein, when discussing the interview topic of 'language choice in the family setting' the participant SimG2R adopted a serious, pedagogic tone and used the Dutch expressions (18) *toegevoegde waarde* 'added value' and (19) *gemiste kans* 'missed opportunity', which to me seem to be reminiscent of a type of discourse associated with discussing social and educational politics. This may have prompted these specific Dutch insertions, rather than using Spanish equivalents *valor adicional* 'added value' and *oportunidad perdida* 'missed opportunity'.

(18) Y yo pienso que hablar un segundo idioma que no lo hablan con casi nadie, siempre es un *toegevoegde waarde*.
'And I think that speaking a second language which is not spoken by almost anyone, is always an *added value*.' (SimG2R)

(19) Y es como un *gemiste kans,* pienso yo.
'And it is like a *missed opportunity*, I think.' (SimG2R)

One participant frequently uttered what sounded most as Dutch *ja* 'yes', throughout the personal interview, especially when initiating a turn after the interviewer finished his. Speakers of Dutch can use *ja* to indicate that they are thinking what to say (cf. Hoek & De Hoop, to appear). Example (20) shows *ja* at the initiation of the answer to the interviewer's question, which could have either the intended meaning 'let me think' or simply affirmative 'yes'. In the same example, this speaker utters another *ja* somewhere on the way, more clearly in the meaning 'hold on while I think how to formulate this well.' (Note also the word *cabinete,* a hybrid between Dutch *kabinet* and Spanish *gabinete* 'cabinet'). The 'let me think'-type of *ja* could also be found occasionally in other speakers, for instance in the utterance in (21), where the G1 speaker is talking about keeping up with colloquial expressions from Chile. Cases of the use of *ja* in its meaning of affirmative 'yes', are also to be found in the conversations with the bilinguals. Example (22) comes from a first generation speaker.

(20) [Interviewer:] ¿Hay algo en las noticias de Holanda que te ha impactado últimamente? [SimG2M:] *Ja*, sobre todo preocupación con con el nuevo *cabinete*, eh, yo estaba bastante preocupado por por, *ja*, ese sector de de arte ... que querían subir los gastos y sacar los subsidios...

[Interviewer:] 'Is there something in the Dutch news that made an impression on you lately?' [SimG2M:] '*Yeah,* above all worries about the new cabinet, eh, I was quite worried about about, *yeah* that art sector ... that they wanted to raise the costs and lower the subsidies...' (SimG2M)

(21) Cuando yo llegué una vez había escuchado unas expresiones, que 'no seas barsa' o qué sé yo... *ja*, ese tipo de cosas las pierdes...

'When I arrived [to Chile] once I had heard some expressions, like 'don't be so cheeky' or whatever... *yeah*, that kind of things you lose...' (G1C)

(22) [Interviewer:] ¿Entonces el holandés lo hablas a alto nivel? [G1E:] *Ja.*

[Interviewer:] 'So you speak Dutch at a high level?' [G1E:] '*Yes.'* (G1E)

An important side note is that homeland speakers of Chilean Spanish also frequently use the word *ya* (meaning, among others, 'already') in conversation. The two words sound quite similar, except phonetic details: the Chilean Spanish version [ja] usually involves a palatal fricative followed by a short /a/, the Dutch version [ja:] a palatal approximant followed by a longer /a/. The use of *ya*, however, seems to indicate that the speaker understood and/or is listening to the interlocutor (reflecting a residue of the original meaning 'already' – as in 'I got it already'), but not that the speaker is thinking what to say (although one may take the turn after *ya*). The use is somewhat comparable to 'hm hm' or 'aha' in English. To observe this type of *ya* we would need longer stretches of speech from the interviewer to which the participant reacted, but this did not occur much, so that the use of *ya* in a 'homeland' fashion could not be illustrated from these data.

Whereas the use of Dutch-sounding *ja*, in whatever meaning shade, is in most cases likely to be a sort of reflex without much awareness, at the other end of the intentionality spectrum we can find matter replications which are clearly intended as playful. In (23), the speaker pauses after her utterance, and then adds a Dutch question tag, to a humorous effect. Truly creative is the use of the Dutch word *kloppen* 'to be correct' and its adaptation to Spanish verb morphology in (24). Like in English, there is no way in Spanish to express that something 'is correct' with a single verb. This particular possibility of Dutch is exploited in a creative, humorous manner in (24). The example does not come from the corpus, but was given to me on two separate occasions by two

different Chileans of the first generation. Both were telling me about creative language use in the Chilean community in the Netherlands and mentioned it as an illustration.

(23) Ah, tienen que ser dos po ... *toch*?
'Ah, it has to be two of them ... *isn't it*?' (G1D)

(24) No *klop*ea.
'It's not correct.'

To summarize the present section, the use of matter replication from Dutch was limited in the bilingual part of the corpus. Most of it concerned word insertions, and seldom code switching. Also it was apparent that participants were not inclined to switch to Dutch after Dutch word insertions. However, not much can be concluded about the naturalness of this behavior since the participants were explicitly instructed to stick to Spanish as much as possible. Whereas some word insertions seem rather automatic (e.g. *ja* 'yes'), others clearly serve particular intentions, from solving word finding problems to expressing meaning shades not readily available in Spanish, to playful language use.

3.3.3 Pattern replication from Dutch

As argued in Chapter 1, the activation of Dutch meaning with conservation of Spanish phonetic form, referred to as *pattern replication*, can be assumed to be an important factor underlying grammatical divergence in heritage speakers. Whereas Chapter 5 is dedicated to a more in-depth investigation of a dataset in which pattern replication is hypothesized, the present explorative section will show its heterogeneous and subtle nature across the corpus.

3.3.3.1 Single word contaminations

At the intersection between pattern replication and insertion of Dutch matter, we can find *hybrid forms* or *contaminations*, which merge a Dutch and a Spanish phonetic string, probably because the strings in both languages are highly similar in form as well as in meaning. Example (25) appears to be evidence of the activation of Dutch *manier* intruding in the formation of Spanish *manera* (both meaning 'manner, way'), resulting in a hybrid form, with a Dutch long [i:]. Similarly, Dutch *accepteren* seems to intrude in the formation of *aceptar* (both: 'to accept') in (26). However, there may be a difference in the sense that *manira* was repaired, indicating that the speaker knows that it is not the conventional form, whereas in the case of *acceptar* the speaker may not be aware of it not being the target form. Similarly, the speaker in (27) probably did not know that the translation of Dutch *planologie* ('urban planning') in Spanish is *planificación urbana* or *urbanismo*. *Planología* could be termed a *neologism* formed on the basis of a Dutch string, which morphologically and phonotactically could well be a possible Spanish word. It was pronounced phonetically as a Spanish string.

(25) Pero le molestaba mucho mi [*mani:ra*], mi manera de de vivir.
'But my *way*, my way of life annoyed him.' (SeqG2B)

(26) Era un poco recalcitrante y no quería *acceptarlo.*
'I was a bit rebellious and did not want to *accept it.*' (SimG2M)

(27) Mi mamá eh ... estudió *planología*, en París.
'Mi mother uh ... studied *urban planning*, in Paris.' (SeqG2K)

3.3.3.2 Calquing

Utterances (28) and (29) are good examples of what in the literature would be referred to as *calques* or *loan translations* – the prototypical cases of 'Dutch meaning mapped to Spanish forms'. Example (28) contains an apparent calque of the Dutch construction *we hadden het goed* (lit. 'we had it good') meaning 'we fared well (economically)'. In Spanish, however, this combination of verb, adverb and object pronoun does not conform to a conventional construction to express the same meaning.

(28)	porque	en Chile	lo	teníamos	bien
	because	in Chile	it.ACC	we.had	good

'Because in Chile we fared well.' (SeqG2C)

In (29) we find examples of the unconventional combination VERB + *por* 'for', an apparent calque of the Dutch construction verb + *om* 'for'. One could posit that in Spanish such a schema is possible (e.g. *preguntar por* 'to ask for') but for a more limited range of verbs. *Llamar por* 'to call for' seems odd in Spanish, let alone *silbar por* 'to whistle for', which even in Dutch would be unconventional. However, the Dutch schema allows for a broader range of verbs to be filled in, and thus *fluiten om* 'to whistle for' would be a 'creative extension' more readily understood than *silbar por* 'whistle for' in Spanish.

(29)	Llamó	a...	silbó	por ayuda	y llegó	el, el elefante.
	he.called	to...	he.whistled	for help	and arrived	the, the elephant

'He called, he whistled for help and the elephant arrived.' (SeqG2F)

Calques such as these clearly illustrate how Dutch meanings and their 'organization' or 'packaging' are activated while still applying existing Spanish phonetic strings. In cognitive linguistic terms one could speak of a merging of Dutch and Spanish schemas, whereby Dutch provides the organization into meaning units (or 'lexicalization patterns', Talmy, 2000) and Spanish the phonetic units.

3.3.3.3 VERB + de vuelta

Throughout the corpus I observed several instances of a schema VERB + *de vuelta* 'back', which seemed to reflect calquing from Dutch. The schema merits further investigation because it connects to work within cognitive linguistic frameworks on cross-linguistic influence involving verb-satellite constructions (for Spanish see: Hohenstein et al., 2006; Larrañaga et al., 2012; Naigles et al., 1998; Navarro & Nicoladis, 2005; Negueruela et al., 2004; Slobin, 1996). The Spanish schema VERB + *de vuelta* (e.g. *venir de vuelta* 'to come back') is a verb-satellite construction, in which the semantic component of *Motion* is encoded in the verb, and a component indicating the *Path* is encoded in the satellite *de vuelta* 'back'. The same separation of components into verb and satellite occurs in the Dutch schema VERB + *terug* 'back' (e.g. *hij komt terug* 'he comes back'). In many languages, the lexical repertoire offers the alternative of a morphologically simplex word *conflating* the encoding of Motion and Path. An example would be Spanish *volver* 'to come back, to return'. However, Dutch does not have an alternative conflated encoding for COME + BACK. As to other lexical conflations of Motion and Path, I can only think of *retourneren* 'to send back, to return', a rare word associated with rather bureaucratic written language use. It can be safely assumed that speakers of Dutch have non-conflated encodings of VERB + BACK overwhelmingly entrenched.

Table 3.2 contains all the instances of the schema VERB + *de vuelta* that could be found in the bilingual part of the corpus (G1 + G2 participants). I hypothesize that activation of the Dutch way of 'meaning packaging' (left column) caused that, out of the two possible schemas in Spanish, the ones in the middle column were actually produced because they were well aligned with the highly active Dutch schemas in terms of 'meaning packaging'. This high activation overruled the activation of the less entrenched Spanish alternatives, i.e. the conflated encodings in the right column. Let me turn to some details of the constructions and the argumentation.

Table 3.2 All instances of the construction VERB + de vuelta in the G1 and G2.

	Dutch encoding	Actual utterance	Alternative Spanish encoding
(30)	Ik gaf het rapport terug I gave the report back	Dí el rapport de vuelta a la escuela I.gave the report of back to the school 'I returned the report to the school' (SeqG2B)	Devolví el rapport I.returned the report
(31)	Ze kwam vaak terug ... she came often back	Venía hartas veces de vuelta she.came many times of back 'She came back many times.' (SimG2N, talking about Chilean grandmother visiting Holland)	Volvió hartas veces she.returned many times
(32)	Ik vind het leuk om terug te gaan I find it nice to back to go	Me gusta ir de vuelta me like go of back 'I like to go back.' (SimG2N, talking about going back to the town where he grew up)	Me gusta volver ... me like return
(33)	Ik kan beter een stap terug-gaan I can better a step back-go	Mejor voy a irme de vuelta, un paso atrás better I.go to go.me of back, a step back 'I better go back, a step back' (G1F, quoting himself speaking to the dean about repeating a year)	Mejor voy a volver un paso para atrás better I.return a step back

	Dutch encoding	Actual utterance	Alternative Spanish encoding
(34)	We waren terug we were back	Estabamos de vuelta de wintersport we.were of back from winter.sports 'We had just returned from winter sports vacation.' (SeqG2D, talking about when the news of the 2010 earthquake arrived)	Habíamos vuelto ... we.had returned
(35)	Hij wil de bal terug he wants the ball back	Quiere la pelota de vuelta he.wants the ball of back 'He wants the ball back' (SimG2N, describing a video scene)	Quiere que le devuelvan la pelota he wants that to.him they.return the ball
(36)	Ze riepen me terug naar de dekaan they called me back to the dean	Me llamaron de vuelta al decano me they.called of back to.the dean 'They called me back to the dean' (G1F)	Me llamaron para que volviera donde el decano me they.called for to return to the dean

In example (30) the speaker uses the construction *dar de vuelta* 'to give back' while Spanish would allow a single verb *devolver* 'to return' (transitive). The constructions *venir de vuelta* 'to come back' in (31), *ir de vuelta* 'to go back' in (32) and *irse de vuelta* 'to go back' (reflexive variant) in (33) were preferred over *volver* 'to return' (intransitive), which can be an alternative in all three cases.

Examples (34) to (36) also involve schemas of Motion + Path which are equivalent in Dutch and Spanish, but the produced utterances do not express a semantic component of (self- or caused) motion anymore. The main verb only encodes the stative 'being in a location' in (34), the 'wanting' in (35) and the 'calling' in (36). If we want to formulate alternative constructions that conflate the *de vuelta* component in the verb (as in the right column), we need to use the verbs *volver* 'to return' (intransitive) and *devolver* 'to return' (transitive), adding to the construction an explicit reference to self-motion and caused motion, respectively, which the other utterances leave implicit.

The hypothesis that cross-language activation leads the bilinguals to use more of the VERB + *de vuelta* schemas, where homeland speakers would opt for the conflated options in the right column, is based on intuition and in need of more evidence than the neat correspondence with Dutch meaning packaging. To be sure, the VERB + *de vuelta* schema is not absent in the repertoire of the homeland speakers, as can be seen in examples (37) to (39). However, I observe a possible difference in the use of this schema by homeland speakers. There were no examples of *ir* 'to go' + *de vuelta* or *dar* 'to give' + *de vuelta*, which, as we have seen, did occur in the speech of bilinguals. It may be that homeland speakers make use of the conflating verbs *volver* 'to return' (intransitive) and *devolver* 'to return' (transitive) in these cases, because the main event is semantically relatively simple. When the semantics of the event are more complex than 'to go' (self-motion) or 'to give' (transference), for instance *venir* 'to come' (self-motion + speakers' viewpoint) or *tirar* 'to throw' (transference + manner information), conflating into *volver* and *devolver* may not be an attractive option, since it would mean a loss of the viewpoint and manner information. In these cases, a separated encoding of *de vuelta* is preferred. Of course, this may mean that some of the bilinguals' utterances are actually according to homeland standards, such as the construction *venir de vuelta* 'to come back' in (31).

(37) Tira la cáscara otra vez, se la tiran de vuelta.
he.throws the peel another time, to.him it they.throw of back
'He throws the peel again, they throw it back at him.' (G0P)

(38) La deja de vuelta en el perchero.
it he. leaves of back on the hanger
'He puts it back on the hanger.' (a towel) (G0P)

(39) Vienes de vuelta de la tienda.
you.come of back from the shop
'You come back from the shop.' (G0L)

Additional evidence for the hypothesis that the bilingual uses of the VERB + *de vuelta* construction are unusual comes from data collected via a Facebook application called 'Polls'. I designed a poll presenting the constructions from (30) to (39) in slightly adapted contexts, contrasted with a 'conflated' alternative in a multiple choice context. The poll was made accessible on a page of which the followers were supposed to be exclusively from Chile, with an invitation to participate anonymously. The results of 40 participants showed that the G0's *de vuelta*-constructions (examples (37) to (39) were overwhelmingly approved of – they were chosen by 70% of the participants, against 30% who chose 'conflated' alternatives. The bilinguals' *de vuelta*-constructions, on the other hand, were overwhelmingly rejected: 74% of the poll participants chose

'conflated' alternatives, and 26% the VERB + *de vuelta* constructions produced by the bilinguals. Note that, for reasons I do not know, even the construction with *venir* + *de vuelta* of the bilingual (31) was rejected (by 82.5%), while the *venir* + *de vuelta* construction of the monolingual (39) was accepted (by 82.5%).

Let me summarize the observations about the verb + *de vuelta* constructions. First, they were found to align neatly with Dutch translation equivalents in terms of 'meaning packaging'. Second, they turned out to occur also in the speech of the monolingual homeland speakers, but I observed some possible semantic differences, namely that the monolingual 'deconflations' occurred only with semantically more complex events such as 'throw back', while those of the bilinguals occurred also with semantically simpler events such as 'give back'. And third, the poll results strongly confirm my intuitions that the bilingual's utterances are unusual and that the 'conflated' alternatives would be more in place in the homeland variety. All of this gives support to a hypothesis of pattern replication from Dutch as a driving force in the uses of the bilinguals, but not those of the monolinguals.

It must be noted here that the phenomenon is reminiscent of the construction VERB + *patrás* (or *pa' atrás* or *para atrás*) 'back' from studies on Spanish-English contact. This construction is very similar in that it involves a Motion component encoded in a verb, and an 'inverted direction' (i.e. BACK) component encoded in an adverbial phrase: *dar patrás* 'to give back', *llamar patrás* 'to call back', *hablar patrás* 'to talk back', *pagar patrás* 'to pay back' (examples from Lipski, 2010). These constructions are observed in the Spanish of heritage speakers in the U.S. and other English-speaking environments, including Gibraltar (Lipski, 1986).

Whereas many consider these constructions calques of English VERB + *back* constructions (Lipski, 1986; Silva-Corvalán, 1994a; Smead, 2000), others have challenged this view by pointing out similar constructions with VERB + *patrás* used in monolingual Spanish (Otheguy & Stern, 2010; Otheguy, 1993). More recently Villa (2005), on the basis of diachronic corpus analysis, proposed that the construction has been around for centuries, but that its applicability is extended to new verbs in Spanish varieties in contact with English. Something similar may be the case with the VERB + *de vuelta* constructions in the present data. More quantitative data would be desirable to further investigate the diachronic and synchronic distribution of this type of construction in Spanish in Chile, and Chilean Spanish in contact.

Otheguy (1993: 31), in a discussion of the *patrás*-construction, suggests that the VERB + *de vuelta* construction is actually more typical of the Spanish of the Río de la Plata region and 'many other areas of South America' than of other varieties. If Chilean Spanish indeed has a higher 'default' presence of VERB + *de vuelta* constructions compared to VERB + *patrás* constructions in the baselines of the U.S. and Gibraltar contact varieties, this may give the extended use among the Chilean bilinguals a more subtle, less salient character. Whereas Villa (Villa, 2005) attributes the contact-induced extension of the VERB + *patrás* schema to quite salient new verb-combinations to a function as bilingual identity marker, I would expect that this is not the case in the

present data. The extension of *de vuelta* schemas to new verbs, at least in the observed cases, does not sound as 'divergent' as many of the innovative *patrás*-constructions, and thus cannot be the focus of bilingual identity marking. I would hypothesize that a rather unintentional process of cross-linguistic activation is enough to explain the divergences. To be more precise: activation of abstract schemas of meaning packaging entrenched through the use of Dutch enhances the tendency to activate the same schemas when speaking Spanish, resulting in divergences which are only subtle extensions of the original semantic range of the VERB + *de vuelta* schema.

3.3.3.4 Other cases of 'deconflation'

A similar analysis in terms of 'separated' instead of 'conflated' packaging can apply to other observations in the corpus. The construction *NP se pone roto* 'NP becomes broken' in (40) is highly unconventional in Spanish. Conventional would be *NP se rompe* 'NP breaks'. Again, however, the underlying model seems to be the highly entrenched Dutch schema for expressing this proposition: *NP gaat kapot* 'NP goes broken'. Thus, we observe a separation of the event into an 'action' and a 'result' component, both in Dutch and in the bilingual's utterance, while both semantic components would be conflated in a single verb in conventional Spanish.

(40)	Pero	de repente,	la guitarra eh,	se	pone	roto
	but	of sudden	the guitar uh	INTRANS	puts	broken

'But suddenly, the guitar uh, broke.' (SeqG2G)

Similarly, the event of 'sneezing' in (41) is split up into a component of 'urge' and the actual action: *tenía que estornudar* 'had to sneeze.' Given the fact that the video shows the actual sneezing, and not only the urge, my intuition is that it would be more conventional in Spanish to say something like *estornudaba* 'sneezed'. This intuition is supported by informal inquiry among homeland speakers: many accepted *tenía que estornudar* 'had to sneeze', but only if it were to describe the urge without the actual sneezing. In Dutch, however, this way of putting it is actually quite common, even to describe the urge + the sneezing: *moest niezen* 'had to sneeze'. In fact, one participant who could not find the right word in Spanish, used the non-conflated Dutch construction *moet niezen* instead of simply *niest* 'sneezes' (42). There was one more instance of *tener que* + *estornudar* in the corpus, namely by a G1-participant, who nevertheless repaired her utterance (43).

(41)	En el segundo video	ví	a un hombre	que tenía	que estornudar	
	in the second video	I.saw	to a man	who had	to sneeze	

'In the second video I saw a man who sneezed.' (SimG2M)

(42) No sé cómo se dice, eh, *hij moet niezen*.
not I.know how INTRANS say.3S he must sneeze (in Dutch)
'I don't know what it's called, uh, he has to sneeze.' (SimG2N)

(43) Tiene que estornudar estornuda.
he.has to sneeze he.sneezes
'He has to sneeze, sneezes' (G1E)

Another example of separately encoding a semantic component in the realm of 'necessity' by means of *tener que* 'have to' is found in (44). The more conventional construction would be *no sabes qué hacer* 'you don't know what to do', but the utterance aligns with the most common way to put it in Dutch: *je weet niet wat je moet doen* 'you don't know what you have to do.'

(44) No sabes lo que tienes que hacer
not you.know what that you.have to do
'Yo don't know what to do.' (SeqG2K)

3.3.3.5 Single word calquing

Examples (45) and (46) give evidence of influence of Dutch meaning packaging concerning single words. Like English, Dutch does not require different verbs to carry the meaning of 'ask' when it concerns a question vs. a request. Both can be expressed by the word *vragen* 'to ask'. However, in Spanish, the word *pedir* 'to ask' would be used for requests, and *preguntar* 'to ask' for questions. In example (45) the word *pedir* would be needed, because the character in the video does not ask a question but a request for help from the elephant. Thus, we could say that *preguntar* has been semantically extended, by activation of the meaning structure of Dutch *vragen*, to include requesting. Similarly, example (46) gives evidence that the word *trabajar* 'to work', which in conventional Spanish can only be used with animate subjects, has been extended to inanimate subjects, where in conventional Spanish another verb would be in place: *funcionar* 'to function'. These two cases could be categorized as *relexification* (cf. Muysken, 1981): the importation of the semantic structure of a word from a model language into an existing word in the target language.

(45) Y ahora pregunta ayuda al elefante (SimG2N)
and now asks help to.the elephant
'And now he asks the elephant for help.'

(46) Explicaba cómo trabajaban las máquinas (SimG2S)
he.explained how worked the machines
'He explained how the machines worked.'

One could ask why one of the two Spanish alternatives is targeted for relexification, and not the other. That is, why does *preguntar* acquire the meaning 'ask a request' (which I informally know to be attested also in second language learners) and not *pedir* the meaning 'ask a question', and why does *trabajar* acquire the meaning 'to function' and not *funcionar* the meaning of 'to work'? Although nothing can be concluded from what is impressionistically attested in these data and what is not, I believe the answer has to do with frequency/entrenchment. *Preguntar* and *trabajar* are probably more frequently used words in colloquial speech than *pedir* and *funcionar*, and thus more highly entrenched in the speaker's mind. And a higher entrenched verb is more likely to be activated in the search for a suitable carrier for the intended meaning.

3.3.3.6 Lexical merging

To conclude this section, let me illustrate what I consider a related entrenchment effect, but where Dutch does not play a role. The speaker in (47) uses the word *pagar* 'to pay' where he clearly means *apagar* 'to extinguish, to turn off'. The speaker in (48) uses the word *aprender* 'to learn' where he clearly means *prender* 'to ignite, to turn on'. In both cases, I imagine that the limited exposure these speakers had to *apagar* and *prender* did not lead to firm enough entrenchment as form-meaning units separate from *pagar* and *aprender*, which are more firmly entrenched through their frequency. Also the absence of a salient difference in phonetic form does not trigger registration as separate phonetic strings. Instead, through registration of saliently different semantic contexts, the speakers erroneously registered that *pagar* and *aprender* not only mean 'to pay' and 'to learn' but also 'to turn off' and 'to turn on'. The phenomenon can be interpreted as a sort of semantic extension similar to the other cases described in this section: *pagar* and *aprender* acquire additional meanings, i.e. become applicable to new contexts. However, it is not the entrenchment of Dutch meaning packaging which drives the semantic extension, but the relative entrenchment levels of competing phonetic strings in Spanish itself.

(47) Cuando tú pagaste el fuego, tú olvidaste tus llaves.
when you paid the fire, you forgot your keys
'When you turned off the fire, you forgot your keys.' (SimG2N)

(48) Dejó el *fornuis* aprendido.
he.left the stove(Dutch) learned
'He left the stove turned on.' (SimG2S)

3.3.3.7 Summary

The data offer many cases which can be explained as pattern replication from Dutch, and I have discussed some, which could be classified into three different types. A first type concerned hybrids between pattern and matter replication: Spanish sounding words which reflect the phonological form of Dutch equivalents.

The second type, calqued constructions, was argued to reflect activation of Dutch meanings and their 'organization' or 'packaging' while still applying existing Spanish phonetic strings. An exhaustive analysis of all cases of the construction VERB + *de vuelta* 'back' in the corpus yielded support for the idea that pattern replication may cause this construction to become more used by bilingual speakers at the expense of constructions which conflate the verb and the 'back' component. Firstly, it was shown that the cases aligned neatly with Dutch translation equivalents in terms of 'meaning packaging'. Secondly, *de vuelta* turned out to occur also in the speech of the monolingual homeland speakers, but apparently only in combination with semantically more complex verbs. And thirdly, native speaker judgments were highly consistent in rejecting the variants produced by bilinguals and approving of those produced by the monolinguals. I also argued that, contrary to what some have argued for the similar construction VERB + *patrás* in Spanish-English bilinguals, the extension of *de vuelta* schemas to new verbs is rather subtle and non-salient and therefore not likely the focus of bilingual identity marking.

A third type concerned what I called single word calques or relexifications: the importation of the semantic structure of a word from Dutch into an existing word in Spanish. These importations led to the extension of the semantic applicability of the original Spanish word. I argued that degree of entrenchment determines which Spanish word receives the extension: the most entrenched word (e.g. *trabajar* 'to work') is extended with the meaning of the less entrenched word (*funcionar* 'to function'). I argued that the same principle applies in cases of semantic extension which are not driven by pattern replication, such as *pagar* 'to pay' extending to include the meaning of *apagar* 'to turn off'.

3.3.4 Mood

An often reported divergence in bilingual Spanish is the decline of the subjunctive mood, which instead makes place for the indicative mood (Lynch, 1999; Martínez-Mira, 2009; Mikulski, 2010; Montrul & Perpiñán, 2011; Montrul, 2007, 2009; Ocampo, 1990; Pascual y Cabo, Lingwall, & Rothman, 2012; Potowski, Jegerski, & Morgan-Short, 2009; Silva-Corvalán, 1994b). The present section will take a quantitative look at the distribution of subjunctive and indicative in the different participant groups and in different contexts.

3.3.4.1 Descriptive facts and previous research

The Spanish subjunctive mood occurs, with a few exceptions, only in adjunct, relative and complement clauses - exceptions being negative imperatives, plural imperatives and the imperative of the 2nd person formal (*Usted*), as well as predicates following words meaning 'perhaps', 'possibly' (Butt & Benjamin, 2010). Although the 'meaning' of the subjunctive is subject to much debate, it is often stated that in essence it is a verb form associated with non-assertion: for instance doubt, irreality, anticipation, desire, etc. In some contexts the subjunctive is obligatory, e.g. as the complement of a verb of volition (49), and sometimes it is 'optional', as in (50). The difference between (50a) and (50b). is very subtle: using the subjunctive implies more uncertainty than using the indicative.

(49) a. Quiero que venga
want.1P.SG that come.3P.SG.SUB
b. *Quiero que viene
want.1P.SG that come.3P.SG.IND
'I want him to come.'

(50) a. No creo que venga
not believe.1P.SG that come.3P.SG.SUB
b. No creo que viene
not believe.1P.SG that come.3P.SG.IND
'I don't believe he'll come.'

The subjunctive also has an imperfect past form, which is used, among others, when the matrix verb is in the past tense (51), and after conjunctions such as *como si* 'as if' (52).

(51) Quería que viniera
want.1P.SG.IMPF that come.3P.SG.IMPF.SUB
'I wanted him to come.'

(52) Actúa como si no pasara nada
act.3P.SG as if not happen.3P.SG.IMPF.SUB nothing
'He acts as if nothing were going on.'

Experimental studies found that heritage speakers, in elicited oral production tasks, had high error rates for obligatory subjunctive contexts: they tended to use the indicative instead (Montrul & Perpiñán, 2011; Montrul, 2007, 2009). In acceptability judgment tasks they showed poor understanding of the semantic and pragmatic implications of the subjunctive in optional contexts (Montrul & Perpiñán, 2011; Montrul, 2007, 2009;

Pascual y Cabo et al., 2012). For instance, in Montrul (2009) heritage speakers, unlike monolinguals, sometimes considered the use of the subjunctive in clauses following *cuando* 'when' with habitual meanings 'logical' (the phrasing used in the acceptability judgment task). They also considered the use of indicative in relative clauses with no presupposition logical almost as often as subjunctive. Monolinguals only found the use of subjunctive logical in this context.

Studies investigating the naturalistic conversational speech of Spanish-English bilinguals in the U.S. (Lynch, 1999; Ocampo, 1990; Silva-Corvalán, 1994b) found that the subjunctive is replaced often by the indicative. However, these studies also showed that the subjunctive is not a monolithic phenomenon that retreats as a whole, but it is affected differentially according to syntactic, pragmatic and semantic context. Table 3.3, taken from Silva-Corvalán (1994b), shows that the subjunctive is not only gradually less used across generations, but also differentially across lexico-syntactic contexts. The subjunctive as complement to volitional verbs, an obligatory context, seems the least divergent of this dataset, while the subjunctive in optional clauses expressing uncertainty is the most divergent.

Table 3.3 Occurrence of subjunctive in six contexts in each group, in a study by Silva-Corvalán (1994: 266). Group 1, 2 and 3 stand for first, second and third generation.

	Group 1		Group 2		Group 3	
Matrix	*N*	%	*N*	%	*N*	%
Volitional	81/82	98.8	32/36	88.9	46/63	73.0
Purpose clause	45/45	100.0	20/25	80.0	15/35	42.9
Temporal clause	24/62	38.7	25/65	38.5	21/125	16.8
Apodosis	20/95	21.1	25/91	27.5	25/84	29.8
Protasis	49/113	43.4	16/85	18.8	14/108	13.0
Uncertainty	37/104	35.6	25/145	17.2	16/144	11.1

3.3.4.2 Design and method

The present data were investigated under the hypothesis that the subjunctive will show gradual decline across the four subgroups (G0 > G1 > SeqG2 > SimG2), as well as across contexts. The rationale is that a lower degree of exposure to subjunctives in certain contexts, and/or a lower general degree of exposure of an individual to Spanish, leads to a lower entrenchment level of subjunctive forms, and thus a higher chance that their activation will be overruled by activation of indicative forms. In line with Silva-Corvalán's (1994b) views, I consider this a Spanish-internal process, eventually leading to a reduced or simplified system.

Based on what was available in the data, and aiming at comparability to contexts investigated by others, the following selection was made of *obligatory* contexts for the subjunctive according to the norms of spoken Spanish:

I. Subordinations of verbs of influence

The following matrix verbs were included:

- *querer* 'to want', e.g. *Quiero que tú lo sepas* 'I want that you know.SUB it' (G0F)
- *pedir* 'to request', e.g. *Un profe le pide a su alumno que toque un poco de piano* 'A teacher asks his student to play.SUB a bit the piano.' (SimG2S)
- *decir,* only when meaning 'to tell to', e.g. *Un profe le dice a su alumno que se siente* 'A teacher tells his student to sit.SUB down' (SeqG2H)
- *esperar,* only when meaning 'to hope', e.g. *Espero que no haya sido el computador* 'I hope it wasn't.SUB the computer.' (G1B)

Since cases in which the subject of the subordinated and matrix verb are the same require an infinitive (e.g. *Pedro quiere ir* 'Pedro wants to.go'), only constructions in which the subject of the subordinated verb was different than that of the matrix verb were valid contexts for evaluating the mood selection -, e.g. *Pedro quiere que vayas* 'Pedro wants you to go'; *Le dije que fuera* 'I told him to go.'[i]

II. Purpose clauses with *para que* 'so that.'

Example:

- *Una puertita que sirve para que salga el gato* 'A little door that is for the cat to go.SUB out.' (SeqG2F)

[i] The English translation may be misleading in that it contains a non-finite subordinated verb. In the Spanish version, the subordinated verb is finite and in subjunctive mood: '... that X go.SUB'.

III. Hypothetical manner clauses with *como si* 'as if.'

Example:

- *Un chico hace como si estuviera lavando su ropa* 'A boy plays as if he were.IMPF.SUB washing his clothes.' (SeqG2K)

Silva-Corvalán (1994b) and Lynch (1999) both include a *volitional* category in their studies, which is a subcategory of *verbs of influence*, according to Butt and Benjamin (2010). As can be seen in Table 3.3 above, Silva-Corvalán (1994b) found this to be the least divergent category. Lynch (1999), who investigated three generations of Cuban heritage speakers in Miami, and included *querer* 'to want' and *esperar* 'to hope' in his *volitional* category, found similar high levels of non-divergence with this context. Purpose clauses were found to be unstable particularly in Silva-Corvalán's third group (Table 3.3). Lynch (1999) found this context to be quite non-divergent in all speakers, however. Finally, hypothetical manner clauses with *como si* were not discussed separately in Silva-Corvalán's study, but in Lynch (1999) they were highly stable. However, because of the low number of tokens (4 or 5 per group), the latter author did not draw any firm conclusions. Whereas this concise review of previous studies comparing the above contexts leads me to expect that the first two contexts will show some, but no dramatical decline, I expect the *como si* clauses to be the most divergent, since they require the *past imperfect* of the subjunctive, a conjugation which I hypothesize to be low entrenched for the average heritage speaker because of relatively rare occurrence in the input.

The data were obtained in several ways. The *para que* constructions were especially elicited with a specific procedure (see also section 3.2), in which participants were presented with pictures of objects, shown one at a time in a powerpoint presentation. Their task was to tell what the object's purpose was, i.e., the answer to the question *¿para qué sirve?* 'what is it for?' Other constructions were extracted from the corpus in its entirety, through automatic search of the above subordinators. At a later stage in the fieldwork, I added a few stimuli to elicit more utterances with *querer* 'to want', *pedir* 'to request', *decir* 'to tell to', and *como si* 'as if' (see also section 3.2). These consisted of a short clip accompanied by a written phrase to be completed, such as *Una chica le pide a la otra que...* 'One girl asks the other to...' (clip of a girl gesturing to another girl to come to see something through the window). These additional stimuli were elicited among eight G2 participants.

3.3.4.3 Results: Groups and contexts

Table 3.4 shows that the expectations were confirmed: there is a decline in the use of the subjunctive across the generation continuum, as well as across the three contexts. As to the generational decline, just as in Silva-Corvalán's (1994b) and Lynch's (1999) findings, the first generation in my study shows non-divergence with regard to the use of

the subjunctive. However, the second generation speakers, both SimG2 and SeqG2, showed a more drastic decline in use of the subjunctive.

Table 3.4 Occurrences of subjunctive mood in three contexts in each group.

	G0		G1		SeqG2		SimG2	
	N	%	N	%	N	%	N	%
Influence	23/23	100	25/26	98	31/53	62	21/31	61
Para que	86/88	97.7	38/39	97.4	42/57	73.7	14/39	35.9
Como si	14/14	100	1/1	100	7/13	53.8	3/8	37.5
TOTAL	128/130	98.5	67/69	97.1	82/126	65.1	39/80	48.8

As to contexts, the greatest decline is found, as expected, with *como si* 'as if.' However, it is not as dramatic as I perhaps had expected. Some of the speakers who were among the least fluent and most divergent on diverse linguistic assessments, still produced the normatively correct imperfect subjunctive form of the verb after *como si*, as exemplified in (53). Contrary to what would be a logical possibility, the imperfect subjunctive was not often replaced by the more common present subjunctive. In fact, this was attested only once in the data, namely (54). In all other cases, the alternative to the normatively correct verb form was an indicative mood, as illustrated in (55).

(53) Un chico hace como si estuviera limpiando.
a boy does as if he.were.IMPF.SUB cleaning
'A boy pretends to be cleaning.' (SimG2Q)

(54) Una chica hace como si no vea [...] el aviso.
a girl does as if not see.PRES.SUB the warning.sign
'A girl acts as if she doesn't see the warning sign.' (SeqG2J)

(55) Un chico hace como si está lavando ropa.
a boy does as if is.IND washing clothes
'A boy pretends to be washing clothes.' (SeqG2F)

The *para que* constructions were especially unstable in the SimG2, where only about a third of the cases was realized with subjunctive mood. An example of the use of indicative in an elicited purpose clause is given in (56).

(56) para que sale el humo
so that go.out.IND the smoke
'...for the smoke to go out.' (describing an extractor hood) (SimG2L)

3.3.4.4 Zooming in: verbs of influence

Subordinations of verbs of influence were surprisingly unstable in both G2-subgroups. An example of the use of indicative in this type of context is given in (57). When we take a closer look at the different verbs included in this category, it becomes clear that there are some interesting differences as to their strength of association with the subjunctive (Table 3.5).

(57) Un hombre quiere que un gato juega
a man wants that a cat plays.IND
'A man wants a cat to play.' (SeqG2G)

Table 3.5 Occurrences of subjunctive with different verbs of influence, across groups.

	G0		G1		SeqG2		SimG2	
	N	%	N	%	N	%	N	%
Querer que	2/2	100%	11/12	91.7%	13/16	81.3%	9/11	81.8%
Esperar que	8/8	100%	7/7	100.0%	4/5	80.0%	1/3	33.3%
Pedir que	4/4	100%	4/4	100.0%	8/16	50.0%	6/8	75.0%
Decir que	9/9	100%	3/3	100.0%	6/16	37.5%	5/9	55.6%

In line with usage-based work on variation and grammaticalization (e.g. Bybee, 2006; Poplack, 1997; Torres Cacoullos, 2011) I hypothesize that the relative strength of association between a matrix verb and the mood of the subordinated verb has to do with the relative entrenchment of schemas. On the one hand, some schemas of MATRIX VERB + SUBORDINATE VERB may be used in colloquial speech more often than others, and thus become more strongly entrenched, and thus more resistant to divergence. A query in the online Corpus del Español (Davies, 2002-), section '1900s-Oral' (5,113,249 words) shows that indeed, '*querer que* + ANY VERB FORM within 4 words to the right' yields many more results (487) than, for instance, the same parameters for *pedir que* (134).

On the other hand, not only the frequency of the matrix verb with any subordinated verb is important, but also the frequency of that matrix verb *in combination with subordinated verbs in subjunctive mood.* Thus, although *decir que* + ANY VERB FORM is nearly ten times as frequent as *querer que* + ANY VERB FORM, the fact that

decir que is least often combined with the subjunctive in the present data, has to do with its relatively infrequent occurrence with subordinated verbs in subjunctive mood in the input. As can be seen in Table 3.6, while the first three matrix verbs are combined with subjunctive most often, *decir que* is combined with the *indicative* in an overwhelming number of cases, both relatively and absolutely. This overwhelming entrenchment effect may overrule the fact that the meaning of *decir que* in combination with indicative ('to say that', i.e. reporting) is entirely different from when it is combined with subjunctive ('to tell to', i.e. requesting). In other words, I hypothesize that in the mind of a speaker who has an overall lower entrenchment of linguistic units, the unit *decir que + INDICATIVE* may simply exert much more pressure towards activation than *decir + SUBJUNCTIVE*, irrespective of what the intended meaning is of *decir que*.

Table 3.6 Query results in Corpus del Español, 1900s, Oral: occurrences of matrix verbs + subordinated verbs.

	With any subordinated verb	With subordinated verb in Indicative mood	With subordinated verb in Subjunctive mood	Relative proportion of Subjunctive mood subordinations
Querer que	487	56	431	88.5%
Esperar que	318	79	239	75.2%
Pedir que	134	16	118	88.1%
Decir que	4274	3938	336	7.9%

3.3.4.5 Zooming in: Individual behavior

Another interesting view of the data is obtained when we look at the individual performances (Table 3.7). Whereas in the G0 and G1 there are only a few individuals who used an indicative, and each in only one of the selected obligatory contexts, there is a cline across the G2-groups from 100% to 0% subjunctive. This cline seems to correlate only partially with the fact of having a simultaneous or sequential onset of bilingualism. For instance, within the SeqG2, there are two who showed particularly low rates of subjunctive use: SeqG2K and SeqG2G. These two had indicated in the sociolinguistic interview that during long periods of their childhood they had heard, but not actively spoken Spanish. While their parents addressed them in Spanish, they would speak Dutch to their parents. This points to the possibly important role of not only input, but also output in Spanish for reaching high levels of attainment. In the general discussion of this chapter (section 3.4), I will return to observations about individual outliers, including other performances across this chapter.

Table 3.7 Use of subjunctive across all contexts in the study, per individual.

Group	Participant	Use of Subjunctive				Group	Participant	Use of Subjunctive			
G0	G0A	4	/	4	100%	SeqG2	SeqG2A	7	/	7	100%
	G0B	11	/	11	100%		SeqG2D	5	/	5	100%
	G0C	9	/	9	100%		SeqG2B	8	/	9	89%
	G0D	2	/	2	100%		SeqG2E	11	/	14	79%
	G0E	9	/	9	100%		SeqG2H	14	/	18	78%
	G0F	10	/	10	100%		SeqG2J	16	/	22	73%
	G0G	9	/	9	100%		SeqG2F	11	/	17	65%
	G0H	7	/	7	100%		SeqG2K	6	/	17	35%
	G0J	8	/	8	100%		SeqG2G	4	/	17	24%
	G0K	6	/	6	100%	SimG2	SimG2R	16	/	17	94%
	G0L	12	/	12	100%		SimG2P	3	/	5	60%
	G0M	8	/	8	100%		SimG2Q	11	/	19	58%
	G0Q	7	/	7	100%		SimG2S	6	/	18	33%
	G0R	11	/	11	100%		SimG2M	2	/	10	20%
	G0P	10	/	11	91%		SimG2L	1	/	6	17%
	G0N	5	/	6	83%		SimG2N	0	/	5	0%
G1	G1B	6	/	6	100%						
	G1F	8	/	8	100%						
	G1G	4	/	4	100%						
	G1E	8	/	8	100%						
	G1C	12	/	12	100%						
	G1D	17	/	18	94%						
	G1A	12	/	13	92%						

3.3.4.6 Summary

To sum up the findings in this section, there is a decline in use of the subjunctive, which is differential across participant groups, and across contexts. Like in Silva-Corvalán's (1994b) and Lynch's (1999) studies, the first generation shows non-divergent use of the subjunctive in nearly all cases. However, the second generation speakers, both SimG2 and SeqG2, showed a more drastic decline compared to the aforementioned studies. I have found additional indications that the extent of the retreat of the subjunctive is related to the history of Spanish exposure of an individual, as well as to the relative

entrenchment of the subjunctive with a certain schema. These findings are congruent with an account in terms of Spanish-internal reduction processes, as a consequence of low entrenchment.

3.3.5 Differential Object Marking

The grammatical phenomenon called in Spanish *a personal* 'personal a', i.e. the preposition which marks specific human direct objects, has been found to be subject to divergence in heritage speakers of Spanish (Di Venanzio et al., 2012; Girard, 1995; Grosjean & Py, 1991; Montrul & Bowles, 2009; Montrul & Sánchez-Walker, 2013; Montrul, 2004a; Schmitz, submitted; Silva-Corvalán, 1994a). The present section is a quantitative investigation of this topic in the present data. Section 3.3.5.1 presents the grammatical phenomenon, 3.3.5.2 discusses previous research with heritage speakers of Spanish. Section 3.3.5.3 presents the design and method of the present study, which investigates effects of the animacy and definiteness/specificity of the object, as well as semantic and formal properties of the verb, on the realization of *a*-marking. The results are presented in 3.3.5.4. The discussion section 3.3.5.5 will outline explanatory approaches in line with the cognitive linguistic framework, including priming effects, conceptual and acoustic salience and cross-language activation.

3.3.5.1 DOM in monolingual Spanish

Spanish is one of many languages with differential object marking (DOM), meaning that some direct objects get a different marking than others. In Spanish, the alternation is between marking the direct object NP with the preposition *a* (which in most other contexts would be translatable as 'to') and zero-marking. Two factors are most ostensibly associated with the regulation of this alternation: the *animacy* and the *specificity* of the direct object. To be precise, the marking with *a* occurs on *human* direct objects which are *specific* (Aissen, 2003). This includes all human-referring definite NPs, as in (58), but also indefinite ones, if the referent is a specific person, known to the speaker[i], as in (59). Zero-marking occurs in all other cases, including indefinite non-specific human objects (60) and inanimate objects (61).

[i] Butt and Benjamin (2010) speak of 'identified' or 'particularized', rather than 'specific' human direct objects.

(58) Busco al estudiante que habla italiano
I.search DOM.the student that speaks Italian
'I'm looking for the student who speaks Italian.'

(59) Busco a un estudiante que habla italiano
I.search DOM a student that speaks Italian
'I'm looking for a student who speaks Italian.' (a particular student, known to the speaker)

(60) Busco ø un estudiante que hable italiano
I.search a student that speaks Italian
'I'm looking for a student who speaks Italian.' (any student)

(61) Busco ø mi libro
I.search my book
'I'm looking for my book.'

The above regularities with respect to animacy and specificity cover the vast majority of observations, but there are also fuzzy border areas. Whether or not to use *a* with animal referents depends on the degree to which the speaker humanizes the creature. Thus, a pet may well get the marking *a*, whereas an insect may not (Butt & Benjamin, 2010, p. 328). Conversely, some inanimate nouns may get the marking *a* when they are metaphorically personified, such as *desafiar al azar* 'to challenge fate' (Butt & Benjamin, 2010, p. 331). Furthermore, there are idiosyncratic exceptions, such as verbs that always take objects without *a* (e.g. *tengo un amigo* 'I have a friend'), indefinite pronouns which take *a* even with non-specific reference (e.g. *alguien* 'somebody') and a syntactic configuration whereby both the subject and the object of a sentence are inanimate, often triggers *a*-marking (Butt & Benjamin, 2010).

Studies on diachronic variation with respect to differential object marking in Spanish have revealed that the range of contexts in which *a*-marking applies, has expanded over the ages. After the Latin case system broke down, Spanish developed the differential object marking with the preposition *a*. In Medieval Spanish this marking was obligatory for (among others) direct object pronouns and proper names referring to humans, but optional for, among others, *definite* and *indefinite specific* object NPs referring to humans (Aissen, 2003). Example (62) from the 12th century Spanish epic *Cantar de Mío Cid* shows a Human Definite object without *a*-marking. Whereas in 12th century Spanish it would have been optional to replace the ø with *a*, in modern Spanish *a* is obligatory in this context.

(62) quando dexaron **ø** mis fijas en el rrobredo de Corpes
when they.left my daughters in the oak.forest of Corpes
'When they left my daughters in the oak forest of Corpes.' (CMC 3151)
(Example taken from Aissen, 2003, p. 362)

Figure 3.2, taken from Aissen (2003, p. 463), serves to illustrate the diachronic expansion of *a*-marking. The schema shows the categories of direct objects which received obligatory case marking (= *a*-marking), and those for which it was optional, in the 12th century (corpus data based on the epic *Cantar de Mío Cid*). Over the centuries, the boundaries of obligatory case marking have extended, so that in present day Spanish much of the formerly 'optional' area is now included in the 'obligatory' area. *Human definite* and *human specific* objects now receive *a*-marking obligatorily, and for *animate definite* and *animate specific* we may posit 'optionality' or 'fuzziness' because of the earlier observation that their marking depends on a subjective degree of humanization.

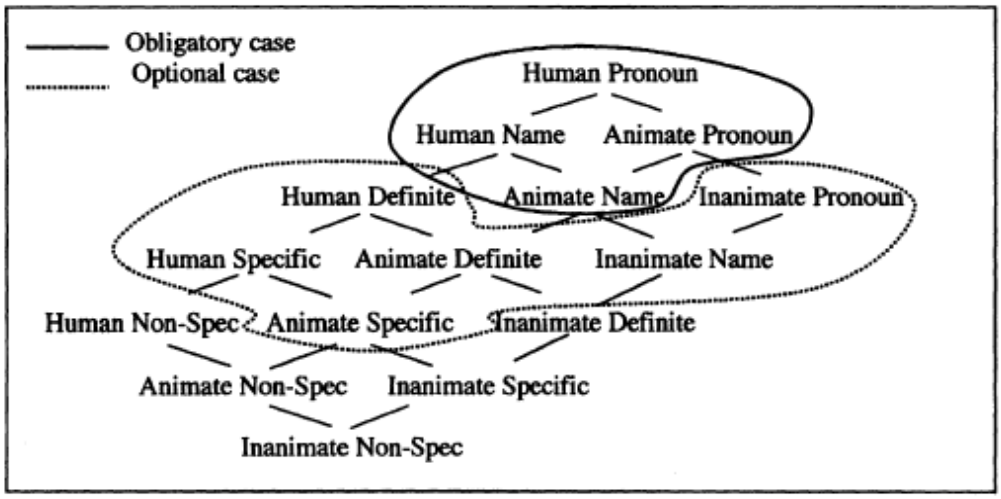

Figure 3.2 Two-dimensional markedness hierarchy, with boundaries of DOM in 12th century Spanish (taken from Aissen, 2003: 463)

Company's (2001, 2002) synchronic corpus studies suggest that the range of contexts where *a*-marking is found, is more advanced in some varieties of Spanish than in others. Example (63) shows *a*-marking on definite NPs referring to inanimate entities in Mexican Spanish, so far not attested in other varieties.

(63) a. Después de conocer mucho ***a* la vida**, ya no me interesa el teatro.
'After knowing **life** too much, I am no longer interested in theater.'
(*Proceso*, May 1999)

b. Para que no nos peleemos, puse ***a* la silla** en el medio.
'So that we do not fight, I put **the chair** in the middle.'
(Mexico, spoken Spanish)

(Examples from Company, 2002, p. 147)

Whereas the importance of the factors *animacy* and *specificity* is hard to ignore, it has been shown that other factors should also be taken into account in explaining synchronic, diachronic and typological variation in differential object marking. For instance, von Heusinger (2008) showed that *a*-marking is associated to different degrees with different verbs across diachronic corpus data of Spanish. Human direct objects of verbs with a strong bias for taking an animate direct object (e.g. *matar* 'to kill' or *herir* 'to wound') are *a*-marked relatively more often than those of verbs with an indeterminate or weak bias for animate direct objects (e.g. *considerar* 'to consider' or *poner* 'to put'). This illustrates the need for a perspective which recognizes a constellation of many factors in the regulation of DOM, including not only properties of the direct object, but also properties of the subject and the verb. In approaches departing from *Transitivity Theory* (Hopper & Thompson, 1980), the likelihood of an argument receiving a certain marking depends on the degree of transitivity of the entire semantic event and the salience or strength of the particular argument within it (e.g. De Hoop & Narasimhan, 2005).

3.3.5.2 DOM in heritage Spanish

Studies of DOM in heritage Spanish have generally focused on the most typical obligatory contexts for *a*-marking, namely direct objects with specific human referents. Acceptability judgment tasks show that HS in contact with non-DOM languages on average judge zero-marked specific human direct objects much more acceptable than monolinguals, and also sometimes reject those which are correctly *a*-marked (Francophone Switzerland: Girard, 1995; Grosjean & Py, 1991; U.S.: Montrul & Bowles, 2009). Montrul's (2014) findings suggest that HS in the U.S. sometimes do not recognize *a*-marking as a cue for disambiguating sentences in comprehension.

With respect to spontaneous oral production, HS have been found to omit more normatively expected *a*-markings on human direct objects than baseline speakers (Di Venanzio, Schmitz, & Rumpf, 2012; Montrul & Bowles, 2009; Montrul & Sánchez-Walker, 2013; Montrul, 2004; Schmitz, submitted.; Silva-Corvalán, 1994a). Montrul (2004) and Montrul and Bowles (2009) report on heritage speakers who were grouped for proficiency and asked to re-tell the fairy tale *Little Red Riding Hood* with the help of

pictures. The HS groups were found to produce on average between 50% (lowest proficient group) and 94% (advanced group) of the required *a*-markings on specific human direct objects. An example of omission of *a* by a heritage speaker is given in (64).

(64)	Entonces	el lobo	trató de atacar	ø	la niña
	then	the wolf	tried to attack		the girl

(adapted from Montrul, 2004: 134)

Montrul and Sánchez-Walker (2013) administered the same story-retelling task and found that young adult HS had average rates of *a*-marking around 80%. A subdivision into sequential and simultaneous bilinguals yielded no statistical difference in performance. However, the same study found considerable inter-individual variability within the entire group, with about half of the HS realizing 100% of the obligatory *a*-markings.

The reported average rates of obligatory *a*-marking on the same story re-telling task by the monolingual control groups ranged between 96.7% (Montrul & Sánchez-Walker, 2013) and 100% (Montrul, 2004a). Montrul and Sánchez-Walker (2013) also administered the task to first generation immigrants, who turned out also to realize less obligatory *a*-markings than the controls: 87.2%. The latter study also included a picture description task, which found slightly lower average rates of *a*-marking on human direct objects by all participants: 77% for young adult heritage speakers, 81.3% for first generation immigrants, 93.8% for young adult monolinguals and 95.4% for older monolinguals.

The contexts in which zero-marking is required seem to be much less of a problem for HS. Although occasional (normatively divergent) *a*-marking of inanimate direct objects is reported, the HS' rates of (normatively expected) zero-marking in production tasks are very close to those of monolingual baseline speakers and no significant differences have been reported. Montrul (2014) reports that all groups had zero-marking rates on inanimate direct objects of close to or above 90% in a fill-in-the-gap written production task and a very similar picture was found on the picture description task of Montrul and Sánchez-Walker (2013). In the story-retelling tasks, all groups exhibited close to 100% zero-marking on inanimates (Montrul & Bowles, 2009; Montrul & Sánchez-Walker, 2013).

No systematic research on the effect of verbs has been reported in the heritage field, to my knowledge. Reported observations are scarce and idiosyncratic, as yet preventing generalization. Montrul (2004) looked at differential effects according to the lexical aspect type of the verb, but found no patterns. Montrul and Sánchez Walker (2013) report from post-hoc analysis of the oral production tasks that verbs which can take both animate and inanimate objects (e.g. 'to visit') led to more *a*-marking of inanimate objects (= divergent), while verbs which can only take inanimate objects (e.g. 'to fix') did not lead to such divergent markings. This is in accordance with von Heusinger's

(2008) earlier mentioned diachronic corpus finding that the more a verb is biased towards taking an inanimate direct object, the more it will also be biased towards combination with zero-marking. However, at the same time Montrul and Sánchez-Walker (2013) observed a pattern contrary to this, namely that verbs taking animate objects only (e.g. 'to hug') led to *less a*-marking with animate objects than verbs taking both types of objects.[i]

The observed divergences in the studies receive diverse explanations. Some argue for phenomena pertaining to the realm of 'incompleteness', such as incomplete acquisition leading to 'linguistic gaps' (Montrul & Bowles, 2009) or 'structural simplification' (Montrul, 2004a). Others argue that rather than something incomplete, the phenomena should primarily be interpreted as properties of a bilingual variety (Di Venanzio et al., 2012; Schmitz, submitted). Again others see it as a consequence of the transmission of attrited input from the first to the second generation (Grosjean, 2001; Montrul, 2014). Finally, many also consider a role for influence from English, which does not mark direct objects (Montrul & Bowles, 2009; Montrul & Sánchez-Walker, 2013; Montrul, 2004a, 2014).

There generally remains a lack of concrete proposals as to the psycholinguistic mechanisms of divergence associated with the above directions of explanation. The present study, apart from providing a first exploration of DOM in heritage Spanish in the Netherlands, proposes psycholinguistic mechanisms that can explain both omissions and overgeneralizations of *a*-marking from a cognitive linguistic perspective. In essence, the idea that will be outlined is that some schemas are not sufficiently entrenched with *a* because the acoustically low salient phoneme is often not perceived in the input (cf. Montrul & Sánchez-Walker, 2013, p. 128), leading to omissions in the HSs' output, and others are wrongly entrenched with *a* because of an overgeneralization based on conceptually or phonetically similar schemas, and all this is not countered by enough normatively accurate alternative schemas because of limited exposure. This means that the nature of the Spanish input is seen as the primary factor, rather than pattern replication from Dutch. The fact that Dutch generally leaves all direct objects unmarked

[i] This pattern is, however, in accordance with Aristar's (1997) proposal that markers such as *a* signal some form of expectational incongruence between the verb and the object. In other words, when a verb such as 'to hug' is accompanied by a type of object which is highly expected, in this case a human object, the marking would become superfluous. However, Montrul and Sánchez Walker (2013) do not report the other pattern which would be expected on the basis of Aristar's (1997) proposal, namely more *a*-marking when the verb is inanimate-biased but combined with a human object.

may also play a role in shaping DOM-patterns, but in a more subtle way which the present data cannot tap into.

3.3.5.3 Design and method

For investigating DOM in the present data, it was necessary to obtain a body of cases in which an active transitive verb was combined with a direct object NP (not pronoun). This was best found in the transcriptions of the visual elicitation part of the interview. The choice for this part of the corpus meant that reference to direct objects, whether definite or indefinite, was always specific, since participants were describing scenes which both speaker and hearer were observing. (One case of generic reference will be discussed separately.)

The heritage literature suggests that first and foremost omission of *a*-marking on human direct objects may be expected, but to different degrees according to the sort of heritage speaker. In order to investigate this, cases with **human direct objects** were exhaustively identified and coded for ***a*-marking**. I also coded for **definiteness**, a factor which is expected to be of influence (3.3.5.1) on *a*-marking but which has not been explored in the heritage literature. The accompanying verb was also coded, in order to investigate possible effects of the **semantics** and **phonological form of the verb**. The latter was not done before, but if it is true that low acoustic salience of the marker *a* in the input hinders its entrenchment, we may expect that this is even more valid if it follows a verb form ending in /a/ in fluent speech, which is likely to further obscure the salience of the marker (an idea also hinted at by Montrul and Bowles, 2009, p. 380).

Finally, this study also explores an area which has not been central to the investigations with heritage speakers, namely the marking of **non-human direct objects**. After discussing some observations of *a*-marking on non-human direct objects in he main dataset, the relative occurrence of the phenomenon is analysed in a sample of data from 8 participants, obtained through an additional elicitation procedure.

3.3.5.4 Results

Table 3.8 shows the numbers and percentages of *a*-marking on definite or indefinite-specific human direct objects (i.e. all cases where *a*-marking is normatively expected) per participant grouping.[i] While there are a few unclear cases, there is a clear decline of *a*-marking across the groups, with the SimG2 omitting more than a third of the *a*-

[i] Note that 8 of the G2 had completed an additional set of elicitation stimuli. The responses on these were, however, left out of the analysis at this point, to avoid a skewing of the number and content of cases in one group within the G2.

markings for specific human direct objects. These figures seem close to those of the previous research on oral production. However, whereas previous research could not find differences between simultaneous and sequential bilinguals, the present data show a large difference between SeqG2 and SimG2.

Table 3.8 A-marking on human direct objects (definite or indefinite-specific) per group.

	Total cases	ø		unclear		a	
	N	N	%	N	%	N	%
G0	52	1	2%	2	4%	49	94%
G1	19	3	16%		0%	16	84%
SeqG2	48	8	17%	1	2%	39	81%
SimG2	24	7	29%	2	8%	15	63%
Grand Total	143	19	13%	5	3%	119	83%

Examples of zero-marking are given in (65) and (66). Examples of 'unclear' are given in (67) and (68). In the latter two cases, it was impossible to determine from the audio recording whether the connected speech contained a separate /a/ following the /a/ of the verb ending.

(65) Un joven está abrazando ø una niña
a young.man is hugging a girl
'A young man is hugging a girl.' (SeqG2G)

(66) Habían dos hombres y... uno empujaba ø el otro
there.were two men and one pushed the other.one
'There were two men, and one pushed the other one.' (SimG2M)

(67) El hombre abraza (a) la mujer.
the man hugs (DOM) the woman
'The man hugs the woman.' (SeqG2B)

(68) Llama (al/el) elefante
he.calls (DOM.the/the) elephant
'He calls the elephant.' (G0J)

Table 3.9 represents the total numbers and average percentages of *a*-markings according to whether the direct object NP was definite (e.g. 'He hugs the woman') or indefinite

(e.g. 'He hugs a woman'). It becomes clear that with indefinite NPs the tendency is much higher to omit *a*-marking. In fact indefinite NPs seem to account for the bulk of the shift away from *a*-marking. This would be in accordance with a retreat across the typological path proposed by Aissen (2003), as given in Figure 3.2, with definite human direct objects being more stable, and indefinite (but specific) human direct objects being more towards the periphery and therefore more unstable.

Table 3.9 A-marking on human direct objects, per group and per definiteness category.

		a-marked		Total human direct objects
		N	%	N
Definite NPs	G0	21	91.3%	23
	G1	9	100.0%	9
	SeqG2	19	95.0%	20
	SimG2	8	72.7%	11
Indefinite NPs	G0	28	96.6%	29
	G1	7	70.0%	10
	SeqG2	20	71.4%	28
	SimG2	7	53.8%	13
	Grand Total	119	83.2%	143

To investigate an effect of the semantic class of verb, such as found in von Heusinger (2008), I made the following division into two classes on the basis of collocation searches in the online Corpus del Español (Davies, 2002-): verbs with a bias towards combination with animate direct objects were *abrazar* 'to hug', *besar* 'to kiss', *llamar* 'to call', *perseguir* 'to chase', *seguir* 'to follow' and *saludar* 'to greet'; verbs with a bias towards combination with inanimate direct objects were *empujar* 'to push', *agarrar* 'to grab' and *descubrir* 'to discover'. However, I could find no clear indication that one class was combined relatively more often with *a*-marking than the other. Overall, the animate-biased verbs were followed by *a*-marking 82% of the time (75/92), and inanimate-biased verbs 85% (44/51).

A division of the verbs into form classes did yield a strong indication of an effect, namely all the cases of omission of *a*-marking were with verbs ending in *–ar* (94/118 = 80% *a*-marking). Although the number of verbs ending in *–ir* (there were none in *–er*) was rather small to draw firm conclusions (25/25 = 100% *a*-marking), this finding may nevertheless point to a possible factor to investigate in further research. The *–ar* conjugation produces, among others, the third person singular present in *–a* (*María*

abraza a Juan 'Maria hugs Juan') as well as the imperative singular in *–a* (*¡Abraza a Juan!* 'Hug Juan!'). These endings may make it harder to perceive whether the following phoneme is the DOM-marker *a* or not. Verbs of the *–ir* and *–er* conjugation do not end in *–a* in these cases. They do lead to *–a* in the first and third person singular of the imperfect past, but so do the *–ar* verbs. Only in the first and third person singular of the present *subjunctive* do we find the reverse pattern, with *–ir* and *–er* verbs having endings in *–a*, and *–ar* verbs ending in *–e*. However, these subjunctive forms can be assumed to be much less frequent. It seems safe to assume that the *–ar* verbs are responsible for more tokens in *–a* in the input, and thus to a higher occurrence of synalepha with *a*-markings following them.

Although this was not systematically coded across the entire corpus, there were some observations of *a*-marking with non-human direct objects (= divergent). In response to a picture with a scarecrow, where the task was to tell what it is for, many participants answered something like *para espantar a los pájaros* 'to scare off birds', with the birds *a*-marked. This was found in exactly a third of the cases (9/27): 2 in the SimG2, 1 in the SeqG2, 1 in the G1 and 5 in the G0. Examples are given in (69) and (70).

(69) Sirve para espantar a los pájaros.
it.serves to scare DOM the birds
'It serves to scare off birds.' (G0M)

(70) Es para *empantar* a los, a los eh... a los pájaros.
it.is for scare.INF DOM.the DOM.the DOM the birds
'It's for scaring off birds.' (SeqG2D)

All responses to this stimulus referred to birds generically and there were different encodings, namely with a definite article as in (71), or without article, as in (72). The *a*-markings all occurred in combination with the definite article, which may be an indication that the definite article also attracts the *a*-marker without there being reference to a definite set of individual beings.

(71) para espantar ø los pájaros
for scare.INF the birds
'...for scaring off birds.' (G1B)

(72) para espantar ø pájaros
for scare.INF birds
'...for scaring off birds.' (G0H)

Examples (73) - (75) show divergent *a*-marking on direct objects which refer to inanimate entities. The person who uttered (74) *a*-marked inanimate direct objects at least 6 more times following *ví* 'I saw'. Since the description of a stimulus often involved the same or highly similar formula with *ví* 'I saw', one possible factor at play may be self-priming of the combination *ví a*, possibly from previous utterance of this string correctly preceding a human direct object.

Another interesting finding is that no less than 6 out of the 17 G2-participants *a*-marked the flower in their description of a scene in which a person smelled a flower. An example is given in (75). I speculate that this may be an effect of the additional entrenchment of a phonetically identical schema *oler* + *a* 'to smell like'. This would be in accordance with a cognitive linguistic account by which entrenchment can be driven at least in part by purely phonetic information. This entrenchment may have overruled the differentiation of homophonous intransitive and transitive constructions.

(73) Pesca al almohadón.
he.grabs DOM.the pillow
'He grabs the pillow.' (SimG2S)

(74) En el primer video vi a un tronco de un árbol.
in the first video I.saw DOM a stump of a tree
'In the first video I saw a tree stump.' (SimG2M)

(75) Está... eh... oliendo ... a un, un flor.
he.is smelling DOM a a flower
'He's smelling a flower.' (SimG2N)

Table 3.10 represents *a*-marking in a small subset of descriptions of events which occurred once with a human and once with an inanimate direct object (no animals) - e.g. 'hugging a woman' vs. 'hugging a tiny airplane'; 'biting a person' vs. 'biting a rope'. This dataset was obtained through stimuli which were added at a later stage in the investigation, to elicit specifically DOM constructions, and were only described by 5 of the SeqG2 and 3 of the SimG2 participants (see 3.2). The stimuli were preceded by preambles to be read aloud and completed, such as 'A vampire is biting ...' This strategy led to the successful elicitation of only *indefinite* specific direct object NPs. This is likely to account for the overall lower rate of *a*-marking, since we have seen above that indefinite NPs attract less *a*-marking. The most notable result is, however, the fact that *a*-marking turns out to occur with a non-negligible number of *inanimates*, in all heritage speakers.

Table 3.10 A-marking on human and inanimate direct objects in a subset of the data.

	Human	Thing
SeqG2	76% (38/50)	21% (11/53)
SimG2	31% (9/29)	24% (8/33)
Total G2	59% (47/79)	22% (19/86)

3.3.5.5 Discussion

The rates of omission of *a*-marking on specific human direct objects found in this study were similar to those of previous studies on heritage Spanish in contact with English, with the decline in *a*-marking apparently starting in the G1 and further increasing along the group continuum towards the 'weaker' speakers. However, a difference is that previous work could not link the decline to the onset of bilingualism (sequential vs. simultaneous), which the present data do, as there is a large difference between the SeqG2 and the SimG2, who are distinguished by onset of bilingualism.

The fact that there was a clear difference between definite and indefinite direct object NPs, the former attracting more *a*-marking than the latter, is consistent with frameworks which assume that *a*-marking is associated with (some form of) conceptual salience. An example is the framework of Aissen (2003), whose semantic map (Figure 3.2) can accommodate well the present findings. My cognitive linguistically framed explanation would be that this is because *a*-marking becomes more stably associated, or more entrenched, with direct objects as they are higher on Aissen's 'prominence scale', determined by the combination of animacy and referentiality (i.e. higher on the semantic map).

However, I would propose that 'conceptual salience' is only one pole which determines the degree of association between *a*-marking and direct objects. Observations from the present data illustrate the need to complement it with another pole, namely 'acoustic salience'. It was observed that when referring to birds in a generic (so non-specific) sense, participants tended to use *a*-marking, but only in combination with the definite article *los.* This may indicate influence from a strongly entrenched association between *a* and *los.* This may lead for instance to priming of *a* during the planning of *los,* or the other way around, or to a complex interaction of primes such as *espantar* 'to scare' priming *a* (because of the animate bias of this verb) and *a* priming *los.* However, since the referent in these cases is not definite, the priming only concerns the phonetic form of *los*, not the conceptualization of 'definite group of X'. Another indication of entrenchment of a purely phonetic association is the schema *huele a X* 'he smells X' for which I argued that its activation may be triggered by entrenchment of a phonetically identical string with a rather different meaning, namely the intransitive *huele a X* 'it smells like X'. Again, the precise conceptualization of 'it smells like X' is not activated,

but rather its phonetic form, which is then applied to the intended conceptualization 'he smells X'.

The more 'acoustically salient' a schema is (e.g. because of relative frequency of occurrence or perceptual salience) the more it becomes entrenched and the more likely it will be selected as suitable phonetic output for a particular conceptualization. This principle applies both to baseline speakers and to heritage speakers, only in heritage speakers the output may be more often the matching of a certain conceptualization (e.g. 'he smells inanimate-X') with a normatively divergent phonetic string (e.g. *huele a X* instead of *huele X*), because the normatively accurate alternative may be less entrenched than for the much more exposed baseline speakers.

Acoustic salience is also important to explain the fact that *a*-marking is so often omitted in heritage speakers. While building a store of schemas such as '*empujar* 'push' + HUMAN', '*abrazar* 'hug' + HUMAN', 'TRANSITIVE + HUMAN', heritage speakers may have often missed the /a/ in between the verb and the object because of its low acoustic salience. Of course, monolingual children can also fail to register this /a/, but their remedy is that they have many more repeated opportunities and eventually reach high entrenchment of the /a/ in these schemas. This explains why there is a cline among the groups in the present study with respect to *a*-marking on human direct objects: the more exposure in childhood, the more often the *a*-marking is actually in place. The acoustic salience principle would also account for the observed differences according to verb conjugation (*-ar* verbs vs. *–ir/-er* verbs): an /a/ following another /a/ in a fluent speech stream can become even less salient and therefore easier to miss.

Studies often seem to assume that omission of *a*-marking is the most 'natural' form of divergence to be expected in heritage speakers, whether they depart from the perspective of 'internal reduction/simplification' or from 'convergence towards the zero-marking property of the contact language'. However, the G2 do not only divergently omit many *a*-markings, the impressionistic observation and small scale sampling of the present data suggests that they also overgeneralize *a*-marking on inanimate direct objects to a higher extent than found in previous research. To explain this tendency of overgeneralization, I have proposed different mechanisms, namely self-priming on the basis of recency, such as the participant who repeatedly uttered the sequence *ví a* + NP 'I saw + NP, and the triggering of phonetically highly entrenched schemas such as *huele* + *a* and *a* + *los*. Other cases may be explained by other factors and combinations of factors.

Thus, in my view, each case can come about by idiosyncratic effects, and this goes for the omissions as well as the overgeneralizations of *a*-marking. In other words, the complex DOM patterns observed are not *motivated* by unitary notions such as 'reduction', 'extension', 'simplification' or 'convergence'. Rather, these notions are descriptive *outcomes* of complex experiential patterns. Our minds register memory traces of concepts which were encountered together in the input, but also of sounds which were encountered together in the input. The more often particular combinations are registered, the more they get entrenched, i.e. the stronger their association and

consequently the likelihood that the activation of one unit will trigger the other. The particular qualitative and quantitative exposure history of individuals can lead to more or less divergent outputs – sometimes overgeneralizations, sometimes omissions of the /a/. The fact that overall, omissions are much more frequent than overgeneralizations, has to do with properties of the input. One such property is that there are around ten times more opportunities to entrench normatively accurate schemas involving inanimate direct objects, than animate direct objects (cf. Schmitz, submitted). Another property may be that /a/ is more likely to be subject to synalepha in connected speech than to be stressed or in another way made acoustically more salient.

No patterns could be discerned regarding the animacy bias of verbs, and this may be due to the small number of tokens. With more participants describing a stimulus set such as the 'added procedure' in the present study, it may become possible to better investigate the different sorts of verbs and their conceptual associations.

Another aim for future research would be to investigate possible cross-language activation from Dutch constructions. Although Dutch is considered a language without DOM, pattern replication need not involve omission of *a*-marking. De Swart (2011) points to a set of verbs of physical contact in Dutch which exhibit what he argues is a form of DOM. Verbs such as *schoppen* 'to kick' or *bijten* 'to bite', encode the undergoer as a bare direct object if it is human – *hij schopt de man* 'he kicks the man'; *hij bijt de man* 'he bites the man'– but as a PP if it is inanimate – *hij schopt tegen de tafel* = literally 'he kicks against the table'; *hij bijt in de appel* = literally 'he bites into the apple'. This DOM-subsystem could be viewed as diametrically opposite to the general Spanish system, which leaves inanimate objects unmarked, and marks human objects with a preposition. It would be interesting to further investigate whether possible cross-language activation effects would somehow counter the Spanish encoding tendency in the description of this type of physical contact events. The additional stimuli presented to the 8 G2 included some of this type of event, and perhaps the results for *patear* 'to kick' are worth mentioning: 4 out of the 15 descriptions of someone kicking an inanimate entity (table or flower pot) included *a*-marking. Examples are given in (76) and (77).

(76) Un hombre pateó a una mesa.
a man kicked DOM a table
'A man kicked a table.' (SeqG2J)

(77) Un hombre pateó a una maceta.
a man kicked DOM a flower.pot
'A man kicked a flower pot.' (SimG2R)

The finding that in the scene where a boy smelled a flower there were relatively many cases of *a*-marking on the flower, may also be explained in terms of Dutch influence. In

Dutch the verb *ruiken* 'to smell', at least when an agentive meaning is intended (which is the case in the visual scene in question[i]), requires the object to be marked by the proposition *aan* 'to': *Hij ruikt aan de bloem* 'He smells to the flower'. The activation of prepositional marking on the flower may spill over cross-linguistically, perhaps even more so because of the phonetic closeness of Dutch *aan* and Spanish *a*. Such an explanation should not necessarily exclude the earlier proposed explanation that the schema of *oler a* 'to smell like' is generalized to acquire a transitive meaning 'to smell'. As stated in Chapter 1, section 1.2.4, *multiple causation* should often be considered as an explanation, i.e. different mechanisms may work together. Thus, future research may not only include the question whether or not cross-linguistic activation can be revealed in the domain of DOM, but also to what extent this mechanism interacts with Spanish-internal effects.

3.3.6 Measuring cognitive fluency

In Chapter 1 I formulated the idea that divergence regarding a particular linguistic structure can be related to the entrenchment level of that particular structure, but also to low availability of attentional resources. This availability depends on the concurrent processing of other structures and procedures: the lower their entrenchment, the less automatized their execution, the more attentional resources their processing will cost. It can be assumed that heritage speakers have to deal more often with low resource availability because they have a lower degree of entrenchment of HL structures overall. In the framework of Segalowitz (Segalowitz, 2010) they can be said to have a lower degree of *cognitive fluency* than baseline speakers. Segalowitz (2010: 48) defines this notion as follows: 'Cognitive fluency has to do with the speaker's ability to efficiently mobilize and integrate the underlying cognitive processes responsible for producing utterances with the characteristics that they have.' As examples of the underlying processes to be mobilized, he mentions 'mechanisms for planning the utterance, for lexical search, for packaging the information into a grammatically appropriate form, for generating an articulatory script for speaking the utterance, etc.' (p. 48). An indication of cognitive fluency would be valuable information to test the idea that linguistic divergence can be related to the global state of the system. In the present section I will discuss an operationalization of cognitive fluency in the present data and present the individual outcomes.

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[i] If the scene would depict an experiencer-event, such as when the boy smells the flower accidentally (which is not the case), Dutch would use an unmarked direct object: *hij ruikt de bloem* 'he smells the flower'.

3.3.6.1 Operationalizing cognitive fluency

Although experiments tapping into psycholinguistic processes such as lexical access, attention control, etc. can be one way of assessing aspects of cognitive fluency, another efficient way, particularly when investigating oral production, is to look at *utterance fluency*, i.e. phenomena in naturalistic utterance production such as filled and silent pauses, speech rate, repetitions, corrections, etc. (cf. Bosker, 2014; De Jong et al. 2012). This approach will be taken here, as such phenomena can be readily assessed from the corpus.

Utterance fluency is commonly categorized into three dimensions: *speed fluency*, i.e. the rate of speech delivery; *breakdown fluency*, i.e. silent pauses and filled pauses; and *repair fluency*, i.e. corrections and repetitions (Skehan, 2003, 2009; Tavakoli & Skehan, 2005). All three types are generally found to correlate in complex ways with experimental measures of cognitive fluency, with linguistic assessments and with each other (e.g. De Jong et al., 2012; Derwing et al., 2009; Iwashita et al., 2008; Lennon, 2000; Riggenbach, 1991; Segalowitz & Freed, 2004; Towell & Dewaele, 2005; Towell et al., 1996). Although there are many methodological differences and hence much variability in outcomes, Segalowitz (2010: 39) observes that 'speech rate and silent pause phenomena seem to be emerging as significantly associated with proficiency more often than some of the other measures' (p. 39). For the present study, two measures will be used, namely the speech rate in words per minute, which is the more general of the two because it captures aspects of both *speed fluency* and *breakdown fluency* (cf. Bosker, 2014, p. 7), and the proportion of filled pauses ('uh'), which pertains to the domain of *breakdown fluency*. I did not obtain a separate measure of *repair fluency*, but it does play a role in Chapter 4, where self-corrections with gender agreement are systematically included in the analyses.

The speech rate in words per minute has recently gained terrain in heritage language research. Polinsky (2008a) claims that, while speakers' speech rate in their heritage language does not correlate with their speech rate in English (the majority language), it does with 'proximity to the baseline' (Polinsky, 2008a). In other words, she argues that it can be an adequate reflection of general proficiency. The rationale is that speech rate reflects speed of lexical access, grammatical encoding, and other aspects of processing: 'More proficient speakers seem to have less of a problem with lexical access and general construction of the clause. This in turn accounts for a faster speech rate.' (Polinsky, 2008: 60).

The speech rate measured in words per minute has been shown to be one of the best correlating factors when attempting to define fluency in second language acquisition (Riggenbach, 1991) and for evaluating the HL proficiency level of heritage speakers (Kagan & Friedman, 2003). Polinsky (2008a) shows how it correlates with a specific linguistic trait in heritage speakers, namely gender marking in Russian. She found that those speakers who radically reanalyzed the Russian gender system, reducing it basically to two genders, were also the ones with the lowest speech rates.

In the present study, the speech rate measure, abbreviated WPM (words per minute), was obtained by dividing a person's total number of words by the total duration of speech in minutes, in the 'personal interview' - the part of the procedure which consisted of natural, connected discourse and lasted around 30-45 minutes per person. The speech during the description of the videos was not used, because the speech rate there was constrained by the rate at which the events unfolded in the videos. The software package ELAN (Brugman & Russel, 2004), which aligns transcription with the audio file, permitted to isolate only the stretches of consecutive speech, and filter out stretches of silence as well as the speech of the interviewer. Note that stretches of consecutive speech were not further 'pruned', i.e. they could include micro-pauses, repetitions, asides and self-corrections, making the WPM measure a relatively global measure of utterance fluency. Only filled pauses, which were transcribed most commonly in Spanish as *eh, ehm, ah,* and similar forms, were filtered out of the wordlists.

Since the transcriptions also represented filled pauses in the form of 'uh' and similar sounds, I was able to calculate a measure which I will coin the *uh-rate*. This was the total number of tokens which indicated 'uh'-like sounds divided by the total number of words, in the entire recording of a participant (including the videos). Another study applying such a measure is Riggenbach (1991), who found hesitation phenomena to be 'salient in determining fluency level' (p. 438) of Chinese second language learners of English.

The expectations regarding the fluency measures are as follows. First of all, they are expected to correlate with each other, as they are both indicators of (i.e. different aspects of) cognitive fluency. Furthermore, in bilinguals lower rates on both measures are expected as a consequence of less practice and exposure to Spanish. However, the first generation is expected to be better on both measures than the second, because of their history of full, monolingual exposure in childhood and high current use of Spanish. The second generation with Hispanic parents is expected to have an advantage over their mixed-marriage peers because of having had 'double' the exposure to Spanish, so to say, while living with their parents. Also, an initial period of monolingual Spanish exposure in the highly language-sensitive time as an infant, no matter how short, may make a big difference for the degree of entrenchment of the language. The SimG2 did not have such a period, while the SeqG2 did.

3.3.6.2 Results and discussion

Table 3.11 presents the two measures alongside other relevant measures obtained from the corpus.[i] The total number of words uttered in the entire corpus (not represented in the table) is 259,501.

Across the four groups, the average WPM rate goes down, and the uh-rate goes up, which is in accordance with my expectation. With regard to the WPM, the differences between the group averages are significant (One-Way ANOVA: p = .016, df = 2, 39; F = 4.641). Comparing pairwise, the difference between G1 and G0 is non-significant (p = .210, df = 1, 22; F = 1.675), as is the difference between SimG2 and SeqG2 (p = .305, df = 1, 16; F = 1.128). The SeqG2 is significantly slower in WPM than the G0 (p = .034, df = 1, 25; F = 5.046), as is the SimG2 (p = .005; df = 1, 22; F = 9.694). However, neither of the G2-groups is significantly slower than the G1 (SimG2: p = .207, df = 1, 13; F = 1.778; SeqG2: p = .808, df = 1, 16; F = .275).

As to the uh-rate, here too the differences between group averages are significant (p = .000, df = 2, 39; F = 21.165). In pairwise comparison to the G0, the G1 hesitated significantly more often (p = .024; df = 1, 22; F = 5.993), as did the SeqG2 (p = .000; df = 1, 25; F = 27.348) and the SimG2 (p = .000; df = 1, 22; F = 41.519). In comparison to the G1, the SeqG2 hesitated significantly more often (p = .021; df = 1, 16; F = 6.607) as did the SimG2 (p = .003; df = 1, 13; F = 13.465). The difference in uh-rate between SeqG2 and SimG2 is non-significant (p = .136, df = 1, 16; F = 2.489).

[i] The number of words uttered by each individual throughout the procedure varies considerably, mainly because of the earlier mentioned differences in talkativeness during the personal interviews (section 3.2). There are also differences as to the average number of words between the groups. The controls uttered fewer words on average than the participants in the Netherlands, which may be a consequence of parts of the interview necessarily being different in content. For instance, in Chile participants were not asked to tell about 'how they ended up in the Netherlands', and what they had to say about languages, bilingualism, etc. was naturally much less than in the Netherlands, where this was a relevant part of the participants' life. Also, note that 8 of the G2-participants completed an extra elicitation component of around 8 minutes, i.e. the sentence-completion items mentioned in 3.2. Group differences in number of words may also have to do with differences in average proficiency. The second generation may be less proficient than the G1 or G0, and consequently be less talkative.

Table 3.11 Participants and their various indices of speech production throughout the recordings.

Participant	Total words uttered	Uh-like tokens	Uh-rate	Words in interview	Words per minute
G0A	6036	56	.0093	1927	139.7
G0B	4157	17	.0041	1038	162.8
G0C	5646	135	.0239	2139	167.8
G0D	5156	40	.0078	2843	185.0
G0E	3328	9	.0027	461	147.7
G0F	8434	39	.0046	4233	128.5
G0G	4511	32	.0071	1116	195.2
G0H	8313	93	.0112	4659	162.2
G0J	4181	9	.0022	1100	146.9
G0K	4139	42	.0102	1889	197.2
G0L	6330	82	.0130	2885	158.3
G0M	4603	89	.0193	1931	113.5
G0N	5694	35	.0062	2102	184.4
G0P	6113	92	.0151	3168	151.8
G0Q	8493	21	.0025	5254	174.0
G0R	5489	20	.0036	1434	178.9
Average G0	**5664**	**51**	**.0089**	**2386**	**162.1**
St. Dev. G0	**1602**	**37**	**.0063**	**1375**	**23.6**
G1A	10,220	189	.0185	6266	115.2
G1B	5967	58	.0097	3328	153.7
G1C	7998	110	.0138	4824	181.2
G1D	8725	187	.0214	9968	175.0
G1E	9977	167	.0167	5517	147.1
G1F	9390	94	.0100	5560	156.6
G1G	7825	136	.0174	1990	102.0
Average G1	**8586**	**134**	**.0154**	**5350**	**147.2**
St. Dev. G1	**1475**	**50**	**.0044**	**2513**	**29.2**

Participant	Total words uttered	Uh-like tokens	Uh-rate	Words in interview	Words per minute
SeqG2A	9239	177	.0192	5194	161.0
SeqG2B	10,204	407	.0399	5796	127.4
SeqG2C	6338	169	.0267	3165	141.2
SeqG2D	5429	87	.0160	1899	163.3
SeqG2E	8099	83	.0103	5512	153.1
SeqG2F	5583	171	.0306	2144	165.8
SeqG2G	3322	167	.0503	291	96.2
SeqG2H	6739	153	.0227	1933	144.6
SeqG2J	5777	208	.0360	1166	149.5
SeqG2K	3598	88	.0245	582	101.8
Average SeqG2	**6433**	**171**	**.0276**	**2768**	**140.4**
St. Dev. SeqG2	**2232**	**94**	**.0119**	**2057**	**24.7**
SimG2L	4365	168	.0385	1890	111.0
SimG2M	6678	360	.0539	2946	84.1
SimG2N	6217	342	.0550	3129	107.2
SimG2P	7225	362	.0501	3096	162.2
SimG2Q	5959	92	.0154	2131	137.0
SimG2R	10,859	224	.0206	7098	160.8
SimG2S	3145	107	.0340	539	123.7
Average SimG2	**6350**	**236**	**.0382**	**2976**	**126.6**
St. Dev. SimG2	**2435**	**119**	**.0159**	**2036**	**28.8**
Average all	**6488**	**128**	**.0198**	**3104**	**147.8**
St. Dev. all	**2111**	**101**	**.0148**	**2112**	**28.2**

In other words, the best way to characterize the WPM data would be as a subtle gradient decrease, in which differences between directly adjacent groups are not significant. Regarding the uh-rate, the situation is a little less gradient and two 'thresholds' can be distinguished: from G0 to G1 there's a significant increase in hesitations, and also from G1 to G2.

The overall correlation between both measures is highly significant (Pearson Correlation: -.577; p = .000). This is in accordance with other research (e.g. Bosker et al., 2013). The correlation between WPM and uh-rate is visualized in a scatterplot of the individual rates in Figure 3.3, showing also the four subgroups. The correlation was found to be non-significant within any of the four subgroups. This is rather trivial, as the numbers of data points have become too small for any correlation to be informative. However, the collapsing of the groups into two larger groups (Table 3.12) yields an informative picture, consistent with expectations. The correlation is strong and significant within the second generation (SeqG2 + SimG2; Pearson Correlation -.590; p = .013), while in the combined G0 and G1 the correlation is non-significant.

Table 3.12 Correlations between WPM and uh-rate, within different groupings of speakers.

G1 + G0	Pearson Correlation	-.294
	Sig. (2-tailed)	.173
	N	23
G2	Pearson Correlation	-.590*
	Sig. (2-tailed)	.013
	N	17
All together	Pearson Correlation	-.577*
	Sig. (2-tailed)	.000
	N	40

The correlations suggest that the high variance among the heritage speakers (G2) is not independent on either measure, thus justifying the assumption that both are related to a common underlying factor, i.e. the lower degree of cognitive fluency as a consequence of the history of exposure to Spanish. The fact that there is no significant correlation between WPM and uh-rate within the combined G1 + G0 suggests the possibility that in these monolingually raised participants, one or both measures do not reflect differences in cognitive fluency to the same extent as in the G2. Rather, we could imagine that global entrenchment levels have reached a ceiling in G1 and G0-speakers, and that any remaining variance in WPM and/or uh-rate is due to factors such as general cognitive abilities or ‘personal speaking style’ (cf. De Jong et al. 2012).

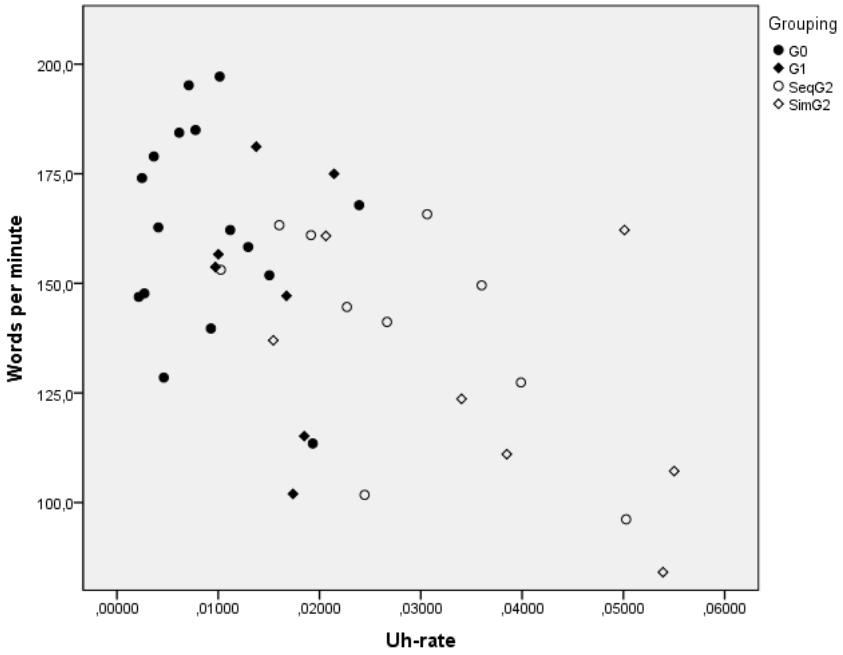

Figure 3.3 Individual scores on the WPM and uh-rate measures. Each dot represents an individual.

To speculate whether the WPM, the uh-rate, or none of the two are associated with global entrenchment levels in the monolingually raised group, we should look again at the difference between G0 and G1. If a measure is sensitive to differences in entrenchment, the G1 should have lower rates on it, since they use Spanish less than the G0 and can be subject to attrition effects. As mentioned, the G1's WPM was not significantly lower than that of the G0, suggesting that the extent of attrition in the G1 is not enough to affect their speech rate in a salient manner. But it may affect the uh-rate saliently, since the G1 hesitate significantly more than the G0.

In sum, the findings in this section indicate that the groups show a decline in speech rate and an increase in filled pauses according to the level of exposure to Spanish, which is in accordance with expectation. There is a significant correlation between the measures within the second generation, further supporting the idea that they are reflective of a common underlying factor, i.e. cognitive fluency. In the monolingually raised group (G0+G1) this correlation is absent, and it can be hypothesized that in this group, attrition effects on cognitive fluency only visibly surface in a significantly increased *uh*-rate. The two measures described here, labeled together the 'fluency

measures', will be employed throughout the remainder of this book to investigate relations between particular linguistic divergences and cognitive fluency.

3.3.7 The progressive construction *estar + -ndo*

The Spanish progressive construction has been found to undergo shifts in usage patterns in bilingual populations. In contact with English, studies report an increase in the use of this construction (Klein, 1980; Pousada & Poplack, 1982; Sánchez-Muñoz, 2004; Torres Cacoullos, 2000), while in Sweden, heritage speakers were found to use it less (Bylund & Jarvis, 2010). Some scholars attribute the increase or decrease in the use of this construction to the influence of the contact language (Bylund & Jarvis, 2010; Klein, 1980; Koontz-Garboden, 2004). Put very bluntly: If encoding of progressive aspect is a more frequent (i.e. more entrenched) cognitive routine in the contact language in question than in Spanish, such as is the case with English, this will lead heritage Spanish to converge towards more progressive encoding. If the contact language in question uses less progressives, such as Swedish, the convergence will be towards less progressives in heritage Spanish.

In this section I will present the first investigation of the Spanish progressive in contact with Dutch, a language in which progressive encoding is less grammaticalized, and thus less frequent, than in English, but more than in Swedish (Flecken, 2010). Furthermore, the present study will explore, apart from the earlier mentioned *CLI*-related explanations for shifts in use of the progressive construction, an *incompleteness*-related explanation: under low cognitive fluency these constructions may be favored because they are lower in cognitive load. This line of explanation has not been explicitly adopted before with respect to Spanish as a heritage language (but for other heritage languages see e.g. Aalberse & Moro, 2014; Shi, 2011). In the following sections I will first discuss how the progressive construction is defined, then investigate the overall rate of these constructions in the corpus, then look at the distribution of progressive encoding across semantic contexts, and end with a discussion of the findings and their possible explanations.

3.3.7.1 Delimitation of the domain of study

The Spanish progressive construction is formed by combining a gerund (*gerundio)* with an inflected form of *estar* 'to be', as exemplified in (78). The applicability of this construction is a little more limited than its English counterpart. Butt and Benjamin's (2010) reference grammar mentions that 'it can only refer to an action which is actually in progress at the time of the sentence.' (p. 215) and that it cannot be combined with verbs referring to states. Moreover, it is important to note that this progressive construction, which the authors call *continuous*, 'extends, but does not substantially alter the meaning of the non-continuous verb form, so that the continuous and non-continuous are sometimes virtually interchangeable.' (p. 215). Example (79) illustrates what Butt and Benjamin refer to as the non-continuous verb form. As Koontz-Garboden (2004)

views it, this latter form is unspecified for progressivity, and can be used to express progressive as well as non-progressive events, while the '*estar* + gerund' form is specified for and limited to expressing progressivity. The relative 'interchangeability' between both forms may underlie the reported increase or decrease in use of the progressive under contact, which is always found to be to the detriment, or in favor – respectively – of the use of simple verb forms expressing the same meaning, such as exemplified in (79).

(78) Estoy cantando
I.am singing
'I'm singing.'

(79) Canto
I.sing
'I sing/I'm singing'

To clearly delimit the object of this investigation, it must be noted that the gerund participle, apart from the type of construction exemplified in (78), can also function as a modifier to a lexical verb but as such does not express progressivity, but rather *simultaneity*: *se fué saltando* 'he left, jumping'. It can also occur in other more or less grammaticalized combinations with inflected verbs (e.g. *sigue cantando* 'he keeps singing'), yielding other principal meanings than progressivity. The gerund is also often used in spoken Spanish without accompanying finite verb (hereafter called 'non-finite gerund.') This use was regularly found in all speakers in the present data - see e.g. example (3) at the beginning of 3.3, where the participant utters three non-finite gerunds in a row: *La laucha [...] caminando y tocando la guitarra, mirando feliz* 'The mouse [...] walking and playing the guitar, looking happy.' The non-finite gerund may or may not carry progressive meaning (rather, it seems to acquire its interpretation from the context). The present study focuses only on the '*estar* + gerund' construction, hereafter simply referred to as *progressive construction*.

3.3.7.2 Overall progressive rate in corpus

In order to investigate the proportion of progressive constructions in the speech of the participants, the entire corpus was first tokenized into words, which were then annotated by a part-of-speech tagger available on the internet (H. Schmid, 1994). This made it possible to identify and count the sequences of *estar* followed by a gerund.

In order to determine the relative progressive rate, it was needed to have also an indication of the number of other predicates which would be theoretically 'interchangeable', i.e. yield the same meaning if rephrased into a progressive construction. A search of the corpus confirmed what was already deemed most likely, namely that the constructions 'interchangeable' with progressive constructions were

only lexical verbs in simple present, simple past or in the form of a non-finite gerund. This is illustrated with the examples in (80). The right version gives the rephrasing into a progressive construction to show that it is semantically 'interchangeable.'

(80) Interchangeable constructions

Caminabas.		↔	Estabas	caminando.
walk.2p.past.impf			be.2p.past.impf	walk.gerund
'You walked.'			'You were walking.'	
Le pega.		↔	Está pegándo-le.	
him hit.3P			be.3P hit.GERUND-him	
'He hits him.'			'He's hitting him.'	
un niño	corriendo	↔	un niño (que) está	corriendo
a child	run.GERUND		a child (who) be.3P	run.GERUND
'a child running'			'a child (who) is running'	

Other forms such as compound past, modal verbs, the auxiliary *haber,* and the copula/auxiliaries *ser* and *estar* are rarely part of an '*estar* + gerund' construction, and more importantly, if they do, the result is not 'interchangeable' with another construction with progressive interpretation. This is illustrated in (81). For instance, the clearly resultative interpretation of the compound past in the last example conflicts with an interpretation of progressiveness – i.e. the construction informs that the drinking is finished, and cannot at the same time inform that it is ongoing.

(81) Non-interchangeable constructions

Puede X.	?Está podiendo X.
can.3P	be.3P can.GERUND
'he can X'	?'He's being able to X.'

Es X.	Está siendo X.
be.3P	be.3P be.GERUND
'he is X'	'He's being X'

Ha tomado .	Estaba/estuvo tomando.
have.3p drink.past.participle	be.3p.past.impf/pret drink.gerund
'He has drunk'	'He was drinking'

Table 3.13 represents the progressive rates in each subgroup of participants, obtained by dividing the total number of progressive constructions by the total number of 'interchangeable' constructions. Differences between group averages are significant according to One-Way ANOVA (p = .023; df = 3, 39; F = 3.569). Whereas both G2-groups show an increase in the average progressive rate, only the SimG2 is significantly higher than the G0 (p = .004; df = 1, 22; F = 10.435) and the G1 (p = .017; df = 1, 13; F = 7.740). Other differences between pairs of groups are non-significant (G1 vs. G0: p = .273; df = 1, 22; F = 1.268; G1 vs. SeqG2: p = .132; df = 1, 16; F = 2.451; SimG2 vs. SeqG2: p = .497; df = 1, 16; F = .485). We can also observe that the variation is high in both G2-groups. A scatter plot (Figure 3.4) helps to see what is in fact going on: a subset of individuals within both G2-groups show a notably higher rate, while the others seem more within the range of variation of G0 and G1.

Table 3.13 Proportion of progressive constructions of total 'interchangeable' predicates

Grouping	Mean	N	Std. Deviation
G0	3.77%	16	1.66%
G1	2.95%	7	1.46%
SeqG2	6.07%	10	4.99%
SimG2	7.70%	7	4.27%
Total	4.88%	40	3.60%

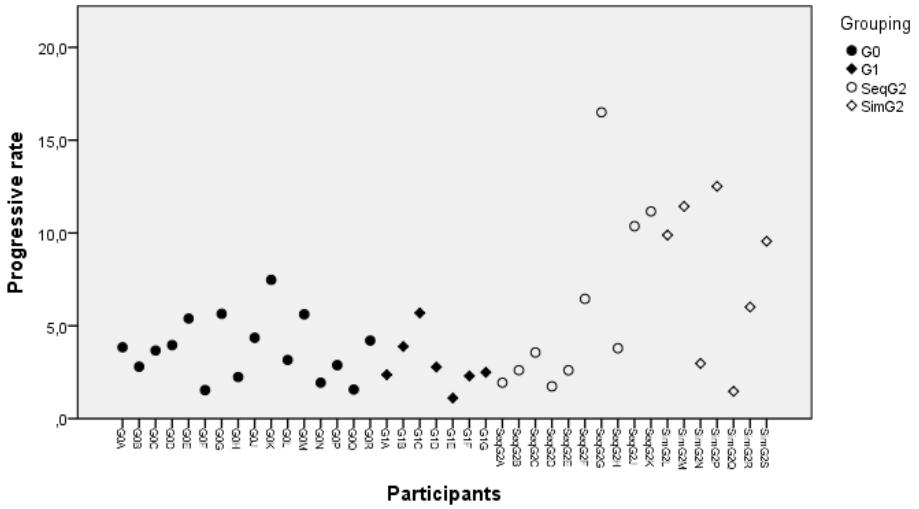

Figure 3.4 Scatter plot of invididual progressive rates. Each dot represents an individual.

When looking at correlations between progressive rate and the fluency measures (*uh*-rate and WPM) it turns out that low fluency is what sets apart the subset of individuals in the G2 with high progressive rates. There are significant correlations within the combined G2 (WPM: Pearson -.352; *p = .026;* Uh-rate: Pearson .625; *p = .000)* but not in the combined G0 + G1.

3.3.7.3 Progressive rate per semantic context

It has been found that the encoding of progressive constructions is correlated with the inherent (lexical) aspect of semantic propositions in different patterns in different languages, and that the patterns of one language can influence those of another language in the case of bilingual speakers (Flecken, 2010). In this section I aim to obtain a more fine-grained, qualitative picture of the semantic applicability of the progressive construction in the present data, in order to see whether there are also notable changes across the groups which suggest pattern replication from Dutch patterns.

Behrens et al. (2013) showed that Dutch speakers encode activities (i.e. processes with no endpoint; cf. Vendler, 1957), such as '*someone playing the piano',* more often in progressive constructions than accomplishments (processes with an endpoint), such as '*someone folding a paper airplane'* in elicited oral production. Also, propositions involving (translational) motion were found to attract progressive encoding *less* often than those not involving motion.

To obtain a comparable sample of contexts to the one of Behrens et al. (2013), I examined a selection of specific scene descriptions from the visual elicitation, divided

into six categories. The delimitation between the six categories was based on whether the event leads to an endpoint (telicity) or not, whether it could be divided into stages, and whether it involved translational motion or not, as can be seen in Table 3.14. The selected descriptions were of two types. As described in section 3.2, in the 'story videos' participants described what was going on while watching the video unfold. Each video contained a logical, story-like progression of events. The 'clips', on the other hand were not embedded in a story, but isolated events, which were described after watching.

Table 3.14 Classification of selected scene descriptions according to lexical aspect.

	Activities [-telic] [+stages] [-motion]	**Motion Activities** [-telic] [+stages] [+motion]	**Accomp-lishments** [+telic] [+stages] [-motion]	**Motion Accomp-lishments** [+telic] [+stages] [+motion]	**Punctual events** [+telic] [-stages] [-motion]	**States** [-telic] [-stages] [-motion]
Story videos	Character cooking	Character walking in circles	Character washing hands	Character climbing ladder	Guitar string snapping	Character happy about cake/ hungry
	Character playing guitar	Character walking along	Character putting on sweater	Character pushing box out of screen	Fruit falling from tree	Character having toothache
Clips	Person sleeping	Toy boat sailing along	Person cutting off branch	Person swimming to shore	Person sneezing once	Table standing on balloons
	Person writing	Person swimming along	Person tearing piece of cloth	Person descending stairs	Person breaking pot	Books leaning against each other

The distribution of progressives across the event types is shown in Table 3.15. I chose not to divide the second generation along the simultaneous-sequential line anymore, but according to the progressive rates in the previous section, because this latter revealed a remarkable division into 'high' and 'low' progressive-users. 'HiProg' contains those seven individuals which clearly stand out in Figure 3.4 as having the highest progressive rates of all participants. 'LoProg' contains the rest of the G2, with progressive rates in the range of G1 and G0.

It can be observed that in all groups, the activities attract most often progressive encodings. The individuals with high overall rates of progressives, also considerably 'extend' the use of progressives to categories where the other groups use them less. What is perhaps even more interesting is the fact that the rest of the G2 also extends the

applicability of the progressive construction in some contexts, particularly when describing events containing motion.

Table 3.15 Ratios of progressives used to describe the selected events, per event type.

	Activi-ties	Motion Activities	Accomp-lishments	Motion Accomp-lishments	Punctual events	States	Total
G0	9/29	1/26	1/25	3/20	1/27	0/25	15/152
(N = 8)	31%	4%	4%	15%	4%	0%	10%
G1	8/28	2/23	4/27	1/21	0/28	0/25	15/152
(N = 7)	29%	9%	15%	5%	0%	0%	10%
LoProg-G2	13/40	9/36	6/39	7/32	0/40	0/31	35/218
(N = 10)	33%	25%	15%	22%	0%	0%	16%
HiProg-G2	23/28	11/21	15/26	6/25	3/29	1/20	59/149
(N = 7)	82%	52%	58%	24%	10%	5%	40%

Even punctual events and states, contexts which in Flecken's (2010) studies were shown highly resistant to attraction of progressives in both monolingual and bilingual speakers of different languages, show some examples of the use of progressives by the HiProg-speakers. They are presented below in (82)-(85). Note that (85) was counted as a progressive even though it consists of *estar* + a Dutch infinitive. By lack of a gerund in Dutch, this code-switched lexical item clearly takes the function of completing the Spanish progressive construction.

(82) En el primero hay seis libros que <u>están balanceando</u>.
'In the first one there are six books which <u>are balancing</u>.' (SeqG2K)

(83) un hombre que <u>está estornudando</u>
'a man who <u>is sneezing</u>.' (SeqG2K)

(84) El primero era una mujer que <u>está quebrando</u> un *pot*.
'The first one was a woman who <u>is breaking</u> a *pot* [this last word in Dutch].' (SeqG2J)

(85) En el primer clip se ve alguien que <u>estaba ... *niezen*</u>.
'In the first clip there's someone who <u>was ... sneeze</u>.' (SimG2G)

3.3.7.4 Discussion

Summing up, the analysis of verbs in the entire corpus shows that there is a tendency for a subset of the G2 speakers to use more progressives. This is in line with studies on English-Spanish bilinguals (Klein, 1980; Koontz-Garboden, 2004). The analysis of selected scene descriptions according to aspectual category shows that the same subset of individuals shows considerable extension of the semantic contexts in which they apply the progressive construction. Interestingly, also the rest of the G2 showed some extension, despite their apparent non-divergence in the overall rate of progressives. A similar increase in general use, coupled with extension of semantic applicability of progressive encoding was found in studies on heritage Mandarin (Shi, 2011) and heritage Ambon Malay (Moro, 2015) in the Netherlands. It can also be noted that the extension of the range of the progressive seems to follow the lines of the Aspect Hypothesis, which accounts for developmental stages in first and second language acquisition (Andersen & Shirai, 1994; Shirai, 1991), in that progressive encoding seems most strongly associated with activities, followed by accomplishments and achievements. In the following I will argue that the present results are not likely to fit with an explanation in terms of pattern replication from Dutch, that there are, however, indications of a relation to processing optimization, and that accelerated internal change may be an additional factor at play, although this issue could not be addressed well with the present data.

To investigate the relation between the increased progressive rate and influence from Dutch, we would ideally have an indication of the progressive rates of these participants when performing the same tasks in Dutch. These data are not available. However, monolingual speakers of Dutch taking the same elicitation procedure, were found to have an average progressive rate of only 3.01% (Soolsma, 2013), which is lower than the rate of the monolinguals in Spanish in the present data. Flecken (2010), based on comparison of descriptive data, regards that indeed, progressive encoding in Dutch is less grammaticalized than in Spanish. In Dutch, she claims, progressive aspect is not obligatory and not morphologically encoded, while in Spanish this category 'although not (yet) obligatory, is used in the present tense on a productive basis' (p. 99). In other words, whereas a hypothesis of pattern replication would mean a *decrease* in use of the progressive encoding in Spanish, since the contact language makes less use of it, the present data show the opposite: an increase in progressive encoding.

Regarding the range of possible semantic contexts, the observed extension goes beyond the semantic range of Dutch. Behrens et al. (2013) showed that in Dutch the progressive is rarely used for motion events, and even less so if they are telic (cf. Flecken, 2010). Thus, the example of a Motion Accomplishment encoded as progressive in (86) is acceptable in Spanish, whereas a Dutch translation using a progressive would be rather odd. In the data we regularly see second generation speakers, irrespective of their overall progressive rates, using progressives for motion events, with and without endpoint. If pattern replication were playing a role, we would expect Spanish-Dutch bilinguals *not* to extend their progressives to motion events.

(86) Está llegando a la orilla de la piscina.
Dutch: ?Ze is aan het aankomen bij de rand van het zwembad.
'She's arriving at the edge of the pool.' (SeqG2H)

Alternatively, one may explain the higher rate of progressives in some speakers by assuming that the progressive is an easier form to process. Such an explanation would receive most evidential support from the present data, since there is a strong and significant correlation between progressive rate and the fluency measures. Why would more progressives be used by those exhibiting less fluent language processing? I propose that this is because the activation of an analytic verbal construction: *estar* + GERUND is cognitively less costly than a verb form with inflectional affixation. Preference for analytic over synthetic encoding is a widespread finding in language contact, and this is commonly argued to be a form of simplification (e.g. Boumans, 2006; Dorian, 1981; Johanson, 2002). From a cognitive linguistic point of view, I would argue that the simplification may lie in the fact that the inflection of *estar* 'to be' can be assumed to be highly entrenched, while the gerund is an invariant form, so presumably also easier to activate for production. Moreover, the analytic progressive construction may be a *longer* form to produce than a synthetic, inflected verb, which can actually become an advantage since it is at the same time not more costly – in fact even less costly, if the previous point proves correct. The combination of long duration and low processing cost may make it a time-gainer, similar in function to vocalizations such as 'uh' and the like. Production of phonetic matter with little semantic content and therefore little cognitive load, is not trivial, it serves to hold the floor despite processing problems (cf. Segalowitz, 2010).

Finally, although neither supported nor contradicted by the present data, it is important to note that the extension of the progressive is also congruent with the idea of replication of certain *variety properties*: Spanish shows a diachronic tendency for the progressive construction to increase and extend across semantic domains (Torres Cacoullos, 2000) and the present findings may be a reflection of the transmission of this tendency, coupled with acceleration due to the specific social circumstances of the bilingual variety. Torres Cacoullos (2000), found that in Spanish-English populations in New Mexico, the use of the *estar* + GERUND construction was higher than in monolingual Spanish, and that its semantic range had extended (among others to motion verbs). Based on extensive data and sophisticated corpus methods, she convincingly argues that there is an association between these increased frequencies and the higher prevalence of oral registers in bilingual populations, which generally contain more progressives than written registers. Something similar may be the case in our bilinguals. The G0 and G1 received many years of *formal schooling* in Spanish, including intensive exposure to written registers, whereas the G2 did not. This means that the G1 and G0 may have learned to master a formal register with lower progressive rates, and apply this register to the context of the linguistic interview in which they participated. The G2, on

the other hand, have not internalized this register and hence use the more informal register – the one they were almost exclusively exposed to – with its higher progressive rate.

In conclusion, the present exploration of progressive constructions has yielded some interesting findings, which seem to contradict a hypothesis of pattern replication from Dutch, are compatible with an explanation in terms of incompleteness-induced processing optimization, and leave open the possibility that accelerated variety change related to register-based frequency effects plays a role. The latter point could be an interesting direction for further research, for instance by looking at a larger sample of speakers with more detailed information on schooling, media consumption and other influences that relate to the command of formal and informal registers. Future studies could also further investigate the conceptual/semantic side. The progressive construction seems to extend to new semantic contexts even in those speakers who seem non-divergent as to their overall progressive rate, and the semantic extension seems to concern especially motion events. Further study could be directed at the mechanisms underlying this conceptual extension, and the question why Motion events seem susceptible to it specifically (something also reported by Torres-Cacoullos, 2000).

3.4 General discussion

The present section will discuss the content of this chapter according to its three main aims. The first main aim was to describe the selection of the participants and the data collection procedure. The selection of the participants was such that they can be grouped into monolingual and bilingual, the latter into first and second generation, and the latter in turn into sequential and simultaneous bilinguals. Yet another possible grouping of the participants is the monolingually raised (G0 + G1) versus the heritage speakers (G2). (The linguistic patterns found for the different groupings will be discussed below).

With regard to the data collection, the mix of visual elicitation and sociolinguistic interview yields a rich source for data mining, which permits to investigate specific hypotheses about the linguistic encodings in selected semantic contexts described by all speakers (e.g. the study of dative constructions in Chapter 5), as well as corpus investigation with a large quantity of data points and thus increased statistical power (e.g. the study of progressive constructions in this chapter, section 3.3.7; the study of grammatical gender in Chapter 4).

The second aim was to present a global impression of the data. This global impression is one of non-divergence in many general respects, i.e. a strong continuity in the large part of the linguistic system of the bilingual speakers *vis à vis* homeland speakers. Where divergences occur, they show to affect the speaker's system eclectically, rather than uniformly and pervasively across well-delimited domains of grammar in the traditional sense. For instance, the decline of the subjunctive showed to be not across-the-board but differential according to the semantic class of subordinating verb or conjunction, and even beyond that, according to specific subordinating verbs.

Another way in which divergence shows to be a subtle matter is its inter-individual variation. The quantitative studies (section 3.3.4 - 3.3.7) repeatedly show a divide between a rather non-divergent group consisting of the G0 and G1, versus a group where divergences occur, but differentially, with some individuals diverging more than others, and some in fact being at the level of the 'stable' G0 and G1. The grouping into SimG2 and SeqG2 captures a significant amount of this variation, in the sense that the SimG2, who grew up with Spanish and Dutch competing for exposure time in the home and from birth, are always more divergent than the SeqG2, who grew up with predominantly Spanish at home throughout childhood.

The third and final aim was to investigate how different mechanisms may contribute to divergence. The qualitative analyses in sections 3.3.2 and 3.3.3 pointed out some interesting ways in which Dutch can exert influence on the Spanish speech of the participants. Section 3.3.2 showed that matter replication is present in all bilinguals (G1 and G2) in the form of occasional Dutch word insertions, sometimes strategically to solve a communication problem, sometimes deliberately playful, sometimes apparently without awareness. To investigate matter replication (including code-switching) in a quantitative and ecologically valid way, an approach of more natural observation could be taken in future work.

The insight provided by section 3.3.3 is that pattern replication is present in all bilinguals, and heterogeneous in its appearances and the areas it affects. I distinguished three types, namely hybrid replication (a mixture of pattern and matter replication), calqued constructions (such as VERB + SATELLITE) and single word calques. The latter two types, which appear as the most frequent, ultimately boil down to the same principle: The activation of abstract schemas of meaning packaging entrenched through the use of Dutch enhances the tendency to activate the same schemas of meaning packaging when speaking Spanish, resulting in divergences which are subtle extensions of the original semantic range of the Spanish schema. I hypothesized that the question *which* competing Spanish schemas receive the cross-language activation is determined by their entrenchment level: if two or more linguistic units are equally suitable to cover the conceptual content of a Dutch unit, the most frequent one becomes semantically extended to match the Dutch equivalent.

The qualitative approach taken in sections 3.3.2 and 3.3.3 does not assess the *extent* of cross-linguistic influence as a source of divergence in the systems of these speakers. The investigation of the progressive construction *estar* + *-ndo* in section 3.3.7 departed from the idea that as a result of extensive pattern replication there may be an across-the-board, and therefore quantitatively measurable tendency towards extension of the usage of this construction or, instead, of its alternative, the simple present. However, even though the data showed a considerable extension of the usage of the progressive construction in the Spanish of the heritage speakers, this extension did not seem to follow Dutch patterns. On the contrary, Dutch monolingual speakers use progressive constructions even less than the Chilean monolinguals. So, if pattern replication were a force at play, we would expect it to lead to the opposite pattern, namely the extension of

the semantic applicability of the *simple present*. Moreover, the HS were found to use the progressive constructions in contexts which were clearly far removed from what would be possible in Dutch.

The quantitative studies (section 3.3.4 - 3.3.7) all showed that the sequential bilinguals were divergent from the G0 and G1, and the simultaneous bilinguals even more so. In other words, the present data give evidence that the less an individual is exposed to Spanish in childhood, the more divergences they have in their heritage language system. This would be in accordance with an explanation in terms of 'incompleteness'. In the following I will discuss four observations arising from the studies which can add important insight into the nature of 'incompleteness' as a factor shaping the heritage language system.

First of all, I posit that incompleteness should not be seen as necessarily involving 'absence' of things. The study of differential object marking (3.3.5) showed that there are cases of absence of *a*-marking where it should be present, as well as presence where it should be absent. In the discussion of this study (3.3.5.5) I mentioned several idiosyncratic factors which can lead to either omission or overgeneralization, such as activation of acoustic or conceptual schemas. In other words, there is no motivation which would lead to a single direction of the incompleteness effect, e.g. 'gaps' or 'absences'. Instead, both types of cases should be analyzed as instances of overgeneralization, namely either of *a*-marking, or of zero-marking.

Thus, an important aspect of incompleteness is that its manifestations are shaped by generalization, a mechanism which is not unique to heritage speakers. All language users form schemas (linguistic units consisting of other linguistic units, such as *a* + NOUN, *a* + HUMAN, *a* + DEFINITE, *a* + HUMAN DEFINITE, etc.) through generalization on the basis of available memory traces. However, these memory traces are less rich in heritage speakers, because of their history of lower exposure, and therefore the outcomes of their generalizations are less often conventional than those of baseline speakers. Thus, to give an example from section 3.3.4 on verbal mood, due to a lack of sufficient exposure to instances of *decir que (meaning TELL TO)* + SUBJUNCTIVE, the HS may not have entrenched a clear differentiation of two schemas *decir que (meaning SAY THAT)* + INDICATIVE and *decir que (meaning TELL TO)* + SUBJUNCTIVE. Instead, the HS may have entrenched a generalized, less specified schema *decir que (meaning SAY THAT or TELL TO)* + INDICATIVE, because that is the most often encountered combination in the input.

A second important aspect of incompleteness, namely that of system-internal interdependence (Chapter 1, section 1.3.2.5), is reflected in the finding that there is an intercorrelation between exposure history, fluency and linguistic performance. Sections 3.3.4, 3.3.5 and 3.3.7 showed that the fourfold participant groupings according to exposure history (i.e. G0 - G1 - SeqG2 - SimG2) correlated with linguistic outcomes (respectively, rates of use of subjunctive, *a*-marking, and progressive constructions). Section 3.3.6 found that both devised measures of fluency (WPM and *uh*-rate) were correlated with the exposure groupings. Finally, section 3.3.7 showed that there was also

a significant correlation between the fluency measures and the linguistic performance, i.e. the rate of use of progressive constructions. All of this confirms the idea that, in a cognitive linguistic approach, incompleteness should be seen not only as a consequence of low entrenchment of the linguistic units in focus, but also of low availability of attentional resources due to low entrenchment levels in the large part of the system.

A third important observation about incompleteness regards the fact that it correlates with the grouping according to onset of bilingualism (OB), but not perfectly. SeqG2G and SeqG2K had grown up, like the rest of the SeqG2, with two Spanish speaking parents who spoke Spanish with each other as well as with the children, and had gone through a period of monolingual Spanish exposure up their first socialization in a Dutch speaking environment. However, these two individuals showed rates of subjunctive use in required contexts (section 3.3.4.5, Table 3.7) which were lower than the average even of the simultaneous bilinguals. If we take a look at these participants' performances regarding fluency, they also turn out to be the slowest speakers of the SeqG2, with WPM rates even below the average of the SimG2 (section 3.3.6, Table 3.11). SeqG2G is also the speaker uttering most *uh* of the SeqG2, even more than the average of the SimG2. As mentioned in section 3.3.4.5, these two individuals had spent long periods of their childhood in a 'receptive Spanish' mode, i.e. they were addressed in Spanish by the parents, but they themselves spoke only Dutch. The divergent performance of these two in the current data suggests that the notion *exposure* should not be equated with *input*, i.e. receptive language use, but that *output*, i.e. productive language use, is an important part of it. In the concluding chapter, we will return to the comparison of the exposure profiles of individuals and their performances across all the quantitative studies.

A fourth and final observation relating to the incompleteness factor is that it does not seem to affect the G1 to any substantial extent. In the quantitative studies (except for differential object marking), the G0 and G1 patterned so consistently together in their non-divergence, that they could as well be collapsed into one *baseline group*. The fact that the G1, like the G0, were raised monolingually at least up to adolescence seems to have been crucial in stabilizing their systems to such a degree, that they are not affected by attrition leading to divergences similar to the heritage speakers, at least not in the areas investigated here. This is also in accordance with the expectation formulated on the basis of the findings in Chapter 2, that the intensive current use of Spanish in the first generation leaves little room for attrition to take place. Only with respect to differential object marking, the G1 raised suspicion of some divergence relative to the G0, i.e. they showed to omit the *a*-marking on human direct objects more often. However, the modest number of tokens did not permit to test for statistical significance, making the investigation of a possible decline of obligatory *a*-marking in this group a matter for future research.

Apart from cross-linguistic influence from Dutch and incompleteness, other factors have been explored in the present chapter. Section 3.3.1 on *chilenismos* showed that the use of specifically Chilean language forms acquires new, extended usage patterns in some of the second generation speakers, compared to the G1 and G0. These findings can

be grouped under the macro-factor *variety properties* (section 1.2.4). An important observation is that the adoption of specific variety properties can have an *intentional* drive, i.e. when it is used to express identification with a certain group (in this case fellow Chileans), as well as an *unintentional* drive. Unintentional replication of variety properties can lead to unconventional language use when it is coupled with a lack of awareness of alternative forms, or awareness of alternative forms but not of their semantic/pragmatic differences. This is due to restricted exposure to the alternative forms, since it can be assumed that parents use only informal Chilean Spanish at home.

In sum, the present chapter presents findings which shed light on the workings of all three factors discussed in section 1.2.4, namely influence from Dutch, incompleteness effects, and effects brought about by specific variety properties. I assume that most often, these factors act together in *multiple causation*. An example may be found in the extended use of progressive constructions. This was argued to be theoretically compatible with all three explanatory factors, but empirically, the *pattern replication* explanation received counter-evidence from the fact that the arising usage patterns were quite incompatible with Dutch usage patterns, and *incompleteness* received supporting evidence, namely from the correlation between higher progressive rates on the one hand, and lower fluency and earlier onset of bilingualism on the other. The explanation of extended progressive use through the replication of exclusively informal registers by the second generation, i.e. an explanation in the realm of *variety properties*, simply lacked data to recieve support or counter-evidence. This leaves open the possibility that an *incompleteness*-effect pushes together with a *variety*-effect in the same direction (while the *CLI*-effect for some reason may not be strong enough to push the outcome in the other direction).

In order to make stronger arguments for the relative contributions of different mechanisms to divergent linguistic patterns, the mechanisms themselves must be better understood. This is what the following two chapters aim at. Chapter 4 investigates the nature of incompleteness by way of an exhaustive and sophisticated statistical analysis of gender agreement throughout the entire corpus. It examines a range of explanatory variables, including the fluency measures and exposure groupings. This leads to a more fine-grained understanding of the workings of, among others, the earlier mentioned phenomena of generalization, system-internal interdependence and differences between individuals. In Chapter 5 on dative constructions, the issue of the identification of pattern replication and its relationship with HL-internal mechanisms will be addressed more in depth by looking whether the G1 diverges from the G0 (suggesting a bilingualism effect), whether divergences are correlated with the fluency measures in Spanish (suggesting an effect of HL-internal entrenchment) and whether there are good analytical/theoretical arguments in favour of an explanation in terms of CLI.

Chapter 4 Gender
The nature of incompleteness[i,ii]

4.1 Introduction

Gender systems have been argued to be particularly susceptible to incompleteness in heritage speakers (Albirini et al., 2011; Montrul et al., 2008; Polinsky, 2008a). The system-pervasiveness of gender, i.e. the fact that it is a feature present in virtually any Spanish sentence, makes it a promising area for investigating the nature of incompleteness in a quantiative, fine-grained way – the aim of the present chapter.

The term incompleteness, as used by many, can refer to a situation whereby linguistic aspects, elements or features present in the input have never been acquired (incomplete acquisition) or have been lost after once having been in place (attrition; cf. Meisel, 2014). An important question is how the incomplete systems of heritage speakers relate to the systems of monolingual children and adults. While many believe that, naturally, incomplete systems are reflective of some stage in child language development which has been fossilized or fallen-back-into, Polinsky (2008), in her study on gender in heritage Russian, argues that heritage speakers display traits which Russian children never display (see Chapter 1, section 1.2.4). In her view, heritage speakers do not just fossilize, they reanalyze the system. One of the unsolved questions, then, concerns the extent to which heritage speakers differ from baseline speakers quantitatively (i.e. just more 'processing lapses' or 'knowledge gaps') and to what extent qualitatively (i.e. *different* processing patterns or representational systems).

Another issue with respect to incompleteness calling for further articulation, I believe, concerns its intra-individual nature. Is it a matter of 'representational gaps', i.e.

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[i] I am heavily indebted to Roeland van Hout for his invaluable contribution to the statistical analyses in this chapter. Without his intensive and thorough assistance, this study would not have been possible.

[ii] A subset of the present data (agreement with predicative adjectives and pronouns) was studied in Van Osch, Hulk, Sleeman and Irizarri van Suchtelen (2014), using a different statistical method (Backward Binary Logistic Regression).

a problem of missing features or rules? Or a consequence of some form of instability in performance? Gender incompleteness from the first perspective would take the form of consistent inaccuracy at some generalized level (agreement problems), or at the level of individual lemmas (assignment problems). However, as we will see, speakers can apply the correct gender at one time, and the incorrect one at another time, with the same lemma (Montrul & Potowski, 2007). There must be an important performance factor to incompleteness, a fact which is receiving attention in studies which include general processing measures as factors (e.g. the words-per-minute rate by Polinsky, 2008), and report significant correlations with gender accuracy.

The present study aims to shed light on these inter-individual and intra-individual issues, by asking what an incomplete system is like, when we take it out of the laboratory. That is, when we study it comprehensively and on the basis of more or less natural production data, instead of isolating aspects of it in an experimental setting, which up to now has been the source of information about gender incompleteness in heritage Spanish. The current approach is new in so far as it considers a corpus of semi-spontaneous and spontaneous speech, and looks at all types of agreement together, including anaphoric agreement, which has not been studied before in heritage Spanish. Also, whereas most studies have looked at the correlation with limited ranges of linguistic variables such as animacy or morphology of the controller, the present study aims to explore a comprehensive range of variables shown to be relevant in previous research, including some which have not been investigated before in studies of heritage Spanish gender, such as individual fluency and lemma frequency.

Furthermore, I aim to answer the question 'what an incomplete system is like' from a cognitive linguistic perspective. The gradient, rather than categorical inter- and intra-individual performance with gender agreement reported in the literature is also found in the present data. I will argue that such a picture cannot be accounted for in terms of presence or absence of features and rules, but rather, in a cognitive linguistic framework, in terms of gradient entrenchment of associations. Thus, the present study contributes to a different perspective on 'incompleteness', one which may eventually challenge the term altogether and advocate its rephrasing.

The next section will give a descriptive overview of the Spanish gender system and discuss research on the acquisition and processing of Spanish gender in heritage speakers, adult baseline speakers and children. This will lead to the formulation of the research problem (4.3). After that, sections 4.4 and 4.5 present the investigation of the heritage Chileans' performance on gender agreement, compared to that of baseline speakers. Section 4.6 provides a discussion and proposal for a cognitive linguistic approach to gender incompleteness, followed by the conclusion in section 4.7.

4.2 Gender in Spanish

4.2.1 Descriptive facts

Corbett (1991) provides some basic tools necessary to describe phenomena of gender, which I will make use of throughout this study. The noun which carries the actual gender feature and with it determines the morphological realization of other elements, is called the *controller* - exemplified by the underlined nouns in Table 4.1. The elements which stand in agreement relation with it, i.e. of which the morphological form is determined by the controller's gender, are called *targets.* In Spanish, gender agreement applies to targets within the same noun phrase of which the controller noun is the head, such as determiners and adjectives (numbers 1-3 in Table 4.1), and to targets beyond it such as predicatively used adjectives (number 4) and pronouns and nominalizations which stand in an anaphoric relationship to the controller (numbers 5 and 6).

Table 4.1 Types of gender agreement targets in Spanish.

Target type	Examples	
	Masculine	Feminine
Articles	**el** hombre **the** man	**la** mujer the woman
	un libro **a** book	**una** campana **a** bell
Other determiners	**este** hombre **this** man	**esta** mujer **this** woman
	nuestro libro **our** book	**nuestra** campana **our** bell
	muchos autos **many** cars	***muchas*** *casas* **many** houses
Attributive adjectives	un hombre **alto** a **tall** man	una mujer **alta** a **tall** woman
	el ***otro*** *auto* the **other** car	*la* ***otra*** *casa* the **other** house

Predicative adjectives	El hombre es **alto.** The man is **tall**.	*La mujer es **alta.*** The woman is **tall**.
	El auto se ve **pequeño.** The car looks **small**.	La casa se ve **pequeña.** The house looks **small**.
Nominalizations	Veo dos hombres. U**no** le da una mochila **al otro**. I am seeing two men. **One** gives a backpack to **the other**.	Veo dos mujeres. U**na** le da una mochila **a la otra**. I am seeing two women. **One** gives a backpack to **the other**.
Pronouns	El ratón tira el plátano. Se **lo** tiran de vuelta. The mouse throws away the banana. They throw **it** back at him.	El ratón tira la cáscara. Se **la** tiran de vuelta. The mouse throws away the peel. They throw **it** back at him.

Spanish has two genders: masculine and feminine. In the case of nouns with animate referents it is often predictable whether they belong to one or the other on the basis of their sex: *el gato, la gata* 'the male cat, the female cat'; *el hombre, la mujer* 'the man, the woman'. In the present study I will refer to the real life sex of animates as *semantic gender* (other terms used throughout the literature include conceptual gender, natural gender). Not all animate nouns, however, follow the correspondence rule masculine-male/feminine-female: *persona* 'person', for instance, is grammatically feminine, but can refer to males or females, e.g. *El Sr. Ramírez es una persona culta* 'Mr. Ramírez is an educated person' (ex. taken from Teschner & Russel, 1984).

As for nouns with inanimate referents, semantic correlates to grammatical gender are largely absent. Nevertheless, Smith et al. (2003) give some interesting examples of semantic categories predictive of gender: E.g. trees are always masculine, except *haya, higuera, palmera* (I hypothesize this is because the phonological property *–a* overrules the semantic property); Letters of the alphabet are always feminine (*la a, la be*) but numbers (*el uno, el dos*), musical notes (*el do, el re*), days of the week (*el lunes, el martes*), months (*un octubre caluroso* 'a hot october') and years (*el 1978*) are masculine.

Notwithstanding the above semantic categories, the gender of a large part of the nouns in the Spanish lexicon does not seem to correlate with semantic properties. Something similar goes for the morphophonological properties of nouns: their predictability of a certain gender is a matter of degree. For instance, the ending *–a* correlates with feminine gender in 96.3% of the Spanish lexicon, while the ending *–d* correlates even more often with feminine gender (97.6%; Teschner & Russel, 1984). Smith et al. (2003) argue that when interested in the reliability of morphophonological properties for the acquisition of gender, it may be useful to look not at types in a dictionary, but at tokens in actual input. They show that tokens of feminine nouns in *–a*

are much more frequent than tokens of masculine nouns in *–o* in the speech directed to an infant in her first three years of life. The reliability of correlations would be ranked the other way around if we based it on the dictionary method: according to Teschner and Russel's (1984) count, *–o* is more typical of masculine (99.9% of cases) than *–a* is of feminine (96.3%).

In the literature on Spanish SLA, FLA and heritage speakers, often a simplified distinction of morphological categories is made for methodological purposes, of which I will present a version here so that it will be clear what is discussed throughout the following sections. Feminine nouns ending in *–a* and masculine nouns ending in *–o* are called *canonical*. Nouns ending in any other phoneme are called *non-canonical*. Finally, masculine nouns ending in *–a* and feminine nouns ending in *–o* are called *deceptive*, since they have the opposite gender of what one would expect on the basis of their ending. Table 4.2 presents examples of the different morphological types.

Table 4.2 Types of noun endings in Spanish in relation to gender.

	Masculine	Feminine
Canonical (C)	*zapato* 'shoe'	*mesa* 'table'
Non-canonical (NC)	*coche* 'car'	*leche* 'milk'
Deceptive (D)	*idioma* 'language'	*mano* 'hand'

As for the form of Spanish targets, a few broad categories can be distinguished. In most cases, especially adjectives, the masculine version ends in *–o* and the feminine in *–a* (*blanco, blanca* 'white'; *nuestro, nuestra* 'our'). In other cases, the feminine version can be regarded as an extension of a non-canonical masculine version with *–a* (*un, una* 'a/an'; *aquel, aquella* 'that'). A minority of adjectives is invariant in form, i.e. do not agree overtly with the controller (e.g. *un auto grande, una casa grande* 'a large car, a large house'; *un hombre inteligente, una mujer inteligente* 'an intelligent man, an intelligent woman').

Having outlined the principal characteristics of the Spanish gender system, the next section will discuss what is known about its functioning in different types of speakers. We will see that certain characteristics of the gender system discussed above are regularly identified as factors underlying variability in performance, namely: (i) The inherent *gender* of the controller, i.e. the division between masculine and feminine (with the latter being often more prone to errors); (ii) The division between nouns for which grammatical and semantic gender correlate, and those for which this is not the case (the latter most often producing more problems than the former; this factor is often referred to as controller *animacy*); (iii) The *morphology* of the controller, i.e. the division into classes of word endings that correlate to different extents with a certain gender (and thus

to different degrees of error probability); (iv) The different *types of target* (which appear to correlate with different degrees of susceptibility to agreement errors); (v) The number[i] of linguistic elements between controller and target – often referred to with the term *distance* (generally, longer distance means higher chance of error).

In the following sections, I will first give a comprehensive overview of research into gender in adult heritage speakers of Spanish (section 4.2.2). After that, I will discuss what is known about gender in adult baseline speakers (section 4.2.3), and in children (monolingual and bilingual; section 4.2.4). The aim of the latter sections, which sometimes also covers other languages than Spanish, is not to be comprehensive, but to fill in gaps and provide additional insight about the factors that may play a role in phenomena regarding gender. The present study does not include discussion of the vast literature on gender in second language learners in a separate section. Observations on second language learners will occasionally be part of the discussion when relevant.

4.2.2 Adult heritage speakers

Early reference to gender agreement in adult 'transitional bilinguals' – an earlier term denominating more or less the same as 'heritage speakers' - of Spanish in the U.S. is made by Lipski (1999), who lists some examples of gender errors from a corpus of 15 sociolinguistic interviews. Thereafter, all previous research on Spanish gender involving adult heritage speakers (hereafter AHS) which I am aware of, has centered around the comparison with second language learners of Spanish (Alarcón, 2011; Foote, 2010; Martinez-Gibson, 2011; Montrul, et al. 2013a; Montrul et al. 2013b; Montrul et al., 2008). The central issues in these studies are whether the differences between these two groups regarding the age of onset of bilingualism, the quantity of exposure, and the predominant type of exposure (implicit/oral in a family setting vs. explicit/written in a school setting), lead to differences as to the command of the gender system. On the whole, the heritage speakers in these studies outperformed the second language learners but were themselves outperformed by the baseline speakers. However, when the experimental task required skills which are typically trained in the school setting but not in the average heritage household, such as Spanish reading and writing or explicit

[i] Actually, also the *type* of intervening elements plays a role. Although the reviewed studies in section 2.2 sometimes manipulate or control for a specific type of intervening elements (most notably nouns, because they can compete as candidate controllers with the original one), for practical reasons the factor distance in the present study simply represents the *number* of words between controller and target.

knowledge of grammar, second language learners obtained an advantage in some studies (Montrul et al., 2013a; Montrul et al., 2008).

Beyond the issue with academic skills and task requirements, the AHS studies clearly confirm that the earlier one starts to acquire Spanish, and the more one is exposed to it, the better the performance with gender (the possibly confounding factor of attrition will be discussed in 4.2.4). The authors are much concerned with interpreting this finding in terms of fundamental qualitative differences between populations. A returning question is whether imperfect command of gender is a consequence of a representational deficit – as advocated by, for instance, Hawkins and Chan (1997). All AHS studies of gender agree that representational deficit-accounts cannot hold, because the high overall accuracy of heritage speakers as well as second language learners shows that they 'have gender in their underlying grammars' (in the words of Alarcón, 2011, p. 344). Instead, authors are inclined towards explaining gender errors in terms of problems with executing the procedures necessary to access gender representations, particularly as proposed by Prévost and White (2000).

As to the main linguistic variables investigated - gender, target type and morphology -, the AHS studies also converge on the same outcomes. With the exception of Foote (2010) and Montrul et al. (2013a), who did not report on it, all studies found that more errors were made with feminine than with masculine nouns. Those studies which compared performance on articles and adjectives, found that accuracy was higher with articles than with adjectives (Alarcón, 2011; Martinez-Gibson, 2011; Montrul et al., 2008). Finally, in those studies which reported on it, performance was always better with canonical than non-canonical nouns (Alarcón, 2011; Montrul et al., 2013a; Montrul et al., 2013b; Montrul et al., 2008).

Foote (2010), investigated another linguistic variable, which she calls *distance*. On a moving window word-by-word sentence reading task, she measured subjects' reading times with grammatical and ungrammatical noun-adjective combinations. In the 'adjacent' condition, the noun was immediately followed by the adjective (e.g. *el libro blanco* 'the white book'). In the 'separated' condition, noun and adjective were separated by intervening words (e.g. *el pollo del taco está rico* 'the chicken of the taco is tasty'). She found that subjects' reading time increased with the ungrammatical combinations and this effect was stronger in the adjacent than the separated condition, suggesting that sensitivity to errors decreases as the controller is further back in discourse (and is followed by elements such as another noun, the processing of which potentially interferes with the maintenance of the agreement relationship in working memory). However, her example sentences (those above as well as all others) show that the separation between noun and adjective may not be the only variable she manipulated, but also the target type, because the adjective changes from attributive to predicative. Thus, we may be witnessing an effect of target type, instead of, or in addition to the increased linear distance.

Another interesting result from Foote (2010) is that she apparently did not find significant differences between groups. She reports that all groups - heritage speakers

(whom she called early bilinguals), second language learners (her late bilinguals) and baseline speakers (native speakers) – were sensitive to ungrammatical gender agreement, and were more so in the adjacent conditions. This hints at the possibility that the weaknesses of the heritage speakers and second language learners may be the same as those of baseline speakers. Another one of the heritage studies revealed a significant effect of canonicity on the performance of all groups, including the baseline speakers (Montrul et al., 2013a), only to a different degree. The remaining heritage studies either had no baseline group (Martinez-Gibson, 2011) or showed ceiling performances in the baseline groups (Alarcón, 2011; Montrul et al., 2013b; Montrul et al., 2008).

The observed ceiling effects raise the question whether baseline speakers are immune to any effects in gender performance or that the experimental tasks were simply not difficult enough to elicit effects. The next section discusses some studies outside the heritage field which managed to tap into monolingual adults' weak points in gender processing and thus induce error patterns which shed light on the linguistic factors at play.

4.2.3 Adult baseline speakers

Much work has addressed mechanisms of gender selection in baseline language users using ingenious experimental paradigms (For a general overview of issues and findings concerning gender in experimental psycholinguistics, see: Schriefers & Jescheniak, 1999; For Spanish, see e.g.: Costa et al., 1999; Finocchiaro et al., 2011; Paolieri et al., 2010). The present section will focus on those studies which have investigated Spanish and can inform specifically about the impact of the linguistic factors identified in 4.2.1. The studies provide evidence about effects of controller morphology, controller animacy, type of target and distance between controller and target.

Evidence for an effect of morphological canonicity on agreement in monolingual adult speakers of Spanish, in combination with other interesting findings and interpretations, comes from Franck et al. (2008). They conducted a series of four experiments in which they presented participants with a sentence preamble containing a controller phrase (e.g. *el castillo* 'the castle') and an intervening modifying phrase (e.g. *de la aldea* 'of the village') and were asked to complete them with a predicative adjective (e.g. *está viejo* 'is old'). In the first experiment, it was found that when the intervening phrase contained a noun of different gender than the actual controller noun, this often led subjects to make agreement errors. However, the number of errors was higher when the actual controller was non-canonical than when it was canonical (the noun in the intervening phrase was always canonical).

The second experiment showed that Italian speakers too have a disadvantage with non-canonical controllers, and more interestingly, it also turned out that they were not influenced by the form of the article accompanying the controller. That is, when the article was morphophonologically marked for gender (*la, lo* or *il*) it did not lead to more accurate agreement than when it did not provide a gender cue (*l'*). The third and fourth experiment investigated whether the same asymmetry between noun- and article-

marking would arise in French and Spanish, which was not the case. French speakers, unlike the Italians, were sensitive to gender cues provided by the article, as well as by the noun itself – both cues played a role in the agreement accuracy. For the Spanish speakers, deceptive articles (e.g. *el agua* 'the water') were statistically more disturbing to the agreement system than deceptive endings (e.g. *el tema* 'the topic'). That is, they were more likely to be attracted by the conflicting gender of the modifying phrase when the original controller had a deceptive article, than when it had a deceptive ending.

The differences between French, Spanish and Italian speakers as to their sensitivity to morphophonological gender cues on articles and nouns were explained by the authors on the basis of the relative frequency and reliability of these cues in either language. For example, according to the authors, in Italian all nouns ending in *–o* are masculine and all nouns in *–a* feminine[i], and these two endings occur on 80% of the nouns. However, the proportion between nouns which get consistently gender-marked (*la, lo* or *il*) and unmarked definite articles (*l'*) is about 75%-25%. This makes noun endings in Italian a statistically more valid cue to gender than articles. In Spanish, on the other hand, nouns ending in *–o* or *–a* do not give as strong a guarantee for gender as in Italian, because of the existence of a minority of deceptively marked nouns (e.g. *mano* 'hand(f)'), and only 68% of Spanish nouns is canonical. At the same time, Spanish has no ambiguous articles like Italian, and deceptive articles accompany only 0.1% of nouns[ii]. Thus, for a speaker of Spanish it makes more sense to pay attention to articles than to noun endings, because articles are more reliable cues for gender than endings in this language, while for Italians it is the other way around.

Another issue which has been investigated outside the heritage field is the distance effect. Alemán Bañón et al. (2012) made a distinction between linear distance (simply the number of intervening words between controller and target) and structural distance (the number of syntactic phrases between them). In their ERP experiment with Spanish speakers, they aimed to study the effect of varying structural distance, while keeping linear distance constant. However, despite their claim that also the syntactic category of the agreeing elements was kept constant, they used adjectives which changed from

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[i] This claim is not true. Counterexamples in Italian are e.g. feminine *radio* 'radio' and masculine *cinema* 'cinema'. In the absence of knowledge what the true percentage is of such deceptive nouns in the Italian lexicon, we may give the authors the benefit of the doubt and follow them in their general assumption that noun endings in Italian are a statistically more valid gender cue than the form of articles.

[ii] The authors seem to refer to types (dictionary-wise), not tokens (corpus-wise).

attributive to predicative as structural distance increased. Thus a similar problem of interpretation arises as with Foote (2010) (see previous section), namely whether an effect has to do with the intervening structures, or with the structural relation between the agreeing elements.

Setting aside these caveats, Alemán Bañón et al. (2012) found that when having to read and judge Spanish sentences in which gender agreement was violated, participants exhibited robust P600 waveforms, which are associated with morphosyntactic processing. Furthermore, the within-phrase condition (attributive adjective) yielded more positive waveforms than across-phrase (predicative adjective), both for agreement violations and for grammatical sentences. Thus, hearers show more advertency of the incoming signal when processing attributive than predicative adjectives, giving evidence that the latter is 'easier' to process than the former.

Whereas in heritage speakers animacy as a factor in gender agreement has not been subject of investigation, there is evidence that monolingual agreement processing is influenced by whether a noun has a referent with semantic gender or not. In a series of experiments, Vigliocco and Franck (1999, 2001) investigated productive gender agreement between a noun and a predicative adjective in Italian and French, and found that if a noun has a referent with clear semantic gender congruent with its grammatical gender, such as French feminine *soeur* 'sister', it improves agreement accuracy as opposed to inanimate nouns, which lack this backing by semantic gender. They also found that animate nouns which are neutral as to semantic gender (absent explicitly clarifying context), such as Italian feminine *talpa* 'mole', did not show such an advantage. I follow the authors in interpreting this as evidence that we should not speak of animacy *per se* as affecting gender agreement performance, but the backing of grammatical gender by clear semantic gender – which is a property of many, but not all animate nouns.

Alarcón (2009), using a similar paradigm as the earlier mentioned Franck et al. (2008) - i.e. having to pick a correct target for a controller, which is followed by an intervening noun potentially competing for the control of agreement –found a similar enhancing effect of semantic gender in Spanish. Her baseline speakers, as well as second language learners, were significantly faster in picking the correctly agreeing target (a predicative adjective) when the original controller referred to an animate with semantic gender than when it referred to an inanimate (her stimuli did not include animate referents for which semantic gender was neutral or unspecified).

However, there are also seemingly contradictory results as to semantic gender. Sagarra and Herschensohn (2013), using an experiment with grammatical judgment and comprehension questions, found that baseline speakers as well as second language learners of Spanish were *slower* and *less accurate* on sentences containing animate nouns, as opposed to inanimate nouns. The authors base their explanation on the idea that animate nouns of one gender (e.g. *esposo* 'husband') may prime their counterpart of the other gender (e.g. *esposa* 'wife'), which may cause some interference in the selection

process of the target's gender. This would not be the case with inanimates, since 'mesa *'table$_{fem, sing}$' does not prime* *meso' (Sagarra and Herschensohn, 2013, p. 618).

The contradictory results between studies may lie in the type of animate nouns used – Sagarra and Herschensohn (2013) suggest that at least a large numer of their animate stimuli had a phonologically similar counterpart of the other gender, which does not seem to be the case in the other studies. If this is true, then the inhibiting effect found by Sagarra and Herschensohn may be attributed to priming through phonological similarity, and not to priming of the counterpart of the other gender *per se*. In the other studies this latter kind of priming should also have affected performance, which it did not - on the contrary, nouns with semantic gender showed *enhanced* performance. Another difference which might have some influence on the results is that the studies by Alarcón (2009) and Vigliocco and Franck (1999, 2001) investigated predicative adjective agreement, whereas Sagarra and Herschensohn (2013) looked at attributive adjectives.

Summing up the findings on adult baseline speakers, we see that the factorial patterns responsible for problems in gender processing are similar to those of the heritage speakers. Non-canonical morphology poses more challenges to processing than canonical, while it was also shown that word endings are but one of the phonological cues hearers rely on, another cue being the article. The degree to which the different cues modulate receptive processing performance was shown to vary from language to language as a function of their statistical reliability as gender-predictors. Like adult heritage speakers, adult baseline speakers were found to process agreement of attributive adjectives easier than predicative adjectives, which could be interpreted as an effect of target type, of distance, or both. Finally, whereas this was not investigated in adult heritage speakers, baseline speakers were found to process a controller easier if it refers to an animate being with semantic gender, unless it has a phonologically similar counterpart to refer to the opposite gender.

4.2.4 Child language acquisition

It is a common and logical idea that the linguistic features of heritage speakers are a reflection of the developmental stage at which their acquisition was interrupted. In order to evaluate this idea, let us review what is known about the development of the Spanish gender system in children.

Some studies point out that the road to acquisition of gender agreement is relatively error-free in comparison to other morphological domains (Clark, 1985; Eichler et al., 2012; Mariscal, 1997). Early findings on monolingual acquisition of Spanish from longitudinal studies of a handful of children (Clark, 1985; Hernández-Pina, 1984; Soler, 1984), as well as the experimental study of Pérez-Pereira (1991) showed that children combine nouns with the correct gender form of adjectives and articles to a substantial degree before age four. A later set of studies based on extensive longitudinal data from a child called María (López Ornat et al., 1994; Mariscal, 1997) as well as an additional mixed longitudinal-experimental study of four children (Mariscal, 2009) provides an interesting overview of the acquisition process. They show how the system gradually

unfolds, from bare nouns, to combinations of nouns with so-called 'fillers' or 'proto-articles', to combinations with an increasing variety of phonologically more specified targets, which in turn develop from unanalyzed chunks to productive, gender-agreeing elements. It is not the case that these stages follow up on each other discretely, but rather, phenomena from previous and following stages co-exist. For instance, Mariscal (2009) writes that in the same recording session, a child referred to the same noun *pies* 'feet', with the forms *apes*, *pes* and *epes*, i.e. bare noun as well as filler + noun realizations.

An important characteristic found in Spanish speaking children is that most of their errors concern the use of masculine targets with feminine nouns. The fact that this is a much more common type of error than the use of feminine targets with masculine nouns leads some authors to regard the masculine as a default or unmarked form (e.g. Pérez-Pereira, 1991). However, Smith et al., (2003), using a connectionist model, show how gender assignment can be explained as a probabilistic generalization based on evidence about the frequency and distribution of forms in the input. Thus, if the output over-represents masculine targets, this is a reflection of an overrepresentation of masculine in the input (which is true: masculine targets are overall more frequent). However, children also compute over morphological subsets. For instance, words in *–a* are overwhelmingly feminine, words in *–o* overwhelmingly masculine, while words with other endings are ambiguous with a slight majority of masculine, and children are found to assign gender according to these probabilities.

A finding by Karmiloff-Smith (1981) in an experimental study with French children having to assign gender to nonsense words, and replicated in other languages, including Spanish (Pérez-Pereira, 1991), is that young children rely on formal cues, such as the morphology of the noun, and disregard semantic properties, such as whether the referent is evidently male or female. This is viewed by some in relation to their general cognitive development: children simply have to develop an understanding of what and who is male and female, in order to be able to use it as a cue for grammatical gender assignment. The cross-linguistic finding is that eventually, as children become older, semantic gender starts to play a role in grammatical gender processing (Bosworth Andrews, 2004).

Another interesting finding from the experiments with nonsense words is that the younger the child, the more likely it is to decide for a feminine or masculine target on the basis of the ending of the noun itself, even if the noun is presented already with a

feminine or masculine target (Pérez-Pereira, 1991)[i]. Pérez-Pereira (1991), in a nonsense word experiment with children from 4 to 11 years old, found that the tendency to give priority to morphology over syntax decreases gradually as children become older. In fact, as we have observed in the previous section, adult speakers of Spanish seem to be more sensitive to articles, if present, than to noun morphology. An interesting explanation for this changing sensitivity is hinted at by Bosworth Andrews (2004): '[I]t is worth noting this might support Newport's (1988, 1990) theory that younger children can attend to only very small pieces of information (such as, perhaps, morphophonological endings), whereas older children can attend to larger chunks of information (such as, perhaps, agreement markers across word boundaries).' (p. 68).[ii]

Research so far has not found evidence for a different course of development with respect to Spanish gender in bilingual children (e.g. Silva-Corvalán, 2014). The only difference seems to lie in slower rates of development (e.g. Larrañaga & Guijarro-Fuentes, 2013; Mueller Gathercole, 2002), although language dominance can modulate this, i.e. acquisition rate can be influenced by whether Spanish is the dominant or the weaker language (Eichler et al., 2012).

Research with bilingual children is also important in that it shows that the gender performance of heritage speakers is not necessarily the result of incomplete acquisition, but that the gender system is also prone to attrition in childhood. This is particularly clear from a longitudinal study by Anderson (1999) of two sisters in the U.S. who spoke Spanish with their Puerto Rican parents at home. At the time of the first recording, the children were age 6;7 and 4;7, respectively and they spoke Spanish and English with each other (and of course English in school and other environments). Over the course of 22 months, with recording sessions every 1-2 months, the production of agreement by

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[i] An anecdotal example of morphology overruling other cues comes from my own childhood. Despite knowing that my father's girlfriend was a woman, and having heard others speak of her as *la Loreto* (in colloquial Chilean it is common to use the definite article with proper names) I famously referred to her as *el Loreto*.

[ii] As discussed in previous paragraphs, very young children seem to show evidence of processing article + noun combinations as unanalyzed chunks (e.g., *apies* for *los pies* 'the feet'). This type of cases washes away the distinction between morphological (word ending) and syntactic cues (article). I suggest that the explanation could go more in the direction of the *location* of the formal cue: sounds before the noun stem (i.e. articles, or in earlier stages the prefixed 'proto-articles') may receive less of the child's attention than sounds following it (i.e. noun ending). Perhaps this idea can be related to the fact that suffixation has a higher prevalence than prefixation across the world's languages, which has been explained by some in terms of cognitive salience - see for a discussion Stump (2001).

the older child was reported to go from 100% accurate in the first, to 94.2% accurate in the last recording. The younger child dropped from 100% to 81.8%. Additional evidence of gender attrition comes from the cross-sectional study of Sánchez-Sadek, Kiraithe and Villareal (1975; cited in Montrul and Potowski, 2007). On a gender assignment task with nonsense nouns, they found no difference between Spanish dominant bilingual children and Spanish monolingual children in the lower grades of a Los Angeles school. However, the bilingual children in the lower grades outperformed the bilingual children in the higher grades.

A study by Montrul and Potowski (2007) suggests that bilingual education can halt, or even counter attrition in the gender system, depending on the state of acquisition at the start – with the less exposed children apparently obtaining the greater benefit. They studied children in different grades of a dual Spanish-English immersion school. Simultaneous bilingual heritage children (having been exposed to Spanish and English since birth) were generally outperformed by sequential bilingual heritage children (i.e. those who went through an initial monolingual period before being exposed to English outside the home)[i]. However, accuracy with gender increased cross-sectionally with age in the simultaneous bilinguals (as well as in their non-heritage classmates), while there was a stagnation in the sequential bilinguals.

With respect to factorial patterns, Montrul and Potowski (2007), found that all children performed better with masculine than with feminine, and better with articles than with adjectives, as was also reported with regard to adult heritage speakers. Thus, the combined findings regarding monolingual and bilingual children reported in this section indicate that children and adult heritage speakers are similar with respect to the effects of controller gender, target type. Regarding the factor morphology, although researchers of child Spanish did not use the terms canonical and non-canonical nor directly address the comparison, it can be deduced from the reports that children do have fewer problems with canonical than with non-canonical word endings (Pérez-Pereira, 1991; Smith et al., 2003). Regarding other factors, the comparison cannot be made because they were investigated in one population, but not the other.

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[i] This was the case on the experimental tasks, but it is noteworthy that the difference between the simultaneous and sequential bilnguals' gender performance seemed to fade on narrative tasks. As in the present study, narrative discourse gives more freedom to avoid words whose gender one does not know or is not sure about.

4.3 The research problem

Table 4.3 gives a schematic overview of the reviewed findings for the three populations. The 'greater than' symbol (>) indicates that there is evidence that the category on the left is cognitively 'easier to process' (e.g. leading to fewer errors in production, better judgment in comprehension) than the one on the right. Empty cells indicate that I have not found information on that factor in that population. With the exception of animacy in children (to which I will turn below), the review points at the same patterns for young and old, monolingual and bilingual, regarding all five factors (gender, animacy, morphology, target type, distance). In some AHS studies the baseline controls may have seemed qualitatively different, because they show no signs of having any weaknesses at all. However, research outside the heritage field, using more difficult tasks, uncovered that adult baseline speakers have the same weak spots as adult heritage speakers, only to a lower degree. In other words, the same effects apply in the different groups, but to different degrees, indicating that the differences are quantitative, rather than qualitative.

Table 4.3 Overview of factor effects in the literature on Spanish gender in different populations.

	Effect in Adult Baseline speakers	Effect in Adult Heritage speakers	Effect in mono-/ bilingual children
Gender		Masculine > Feminine	Masculine > Feminine
Animacy	Animate > Inanimate		insensitivity
Morphology	Canonical > Non-Can.	Canonical > Non-Can.	Canonical > Non-Can.
Target type	Attributive > Predicative	Attributive > Predicative Article > Adjective	Article > Adjective
Distance	Short > Long	Short > Long	
Factor ranking	Syntax > Morphology		Morphology > Syntax > Animacy

More convincing evidence of qualitative differences seems to be present in child learners of Spanish. As Pérez-Pereira's (1991) experiments with the nonsense-words suggest, young children seem to gradually evolve from a strong sensitivity to morphophonological gender cues (Table 4.3, last row) and an insensitivity to animacy information (Table 4.3, second row), to the 'adult state' which is primarily sensitive to syntactic cues (i.e. accompanying targets), while also integrating semantic cues on the way.

Thus, if incompleteness is really reflective of some stage in first language acquisition, we may hypothesize that (part of) the factorial patterns of the heritage speakers may differ in a qualitative manner, like the patterns of children do, from those of baseline speakers (cf. Polinsky, 2011). More specifically, the performance of adult heritage speakers may be more strongly affected by morphological properties of controllers than that of baseline speakers, and/or HS performance patterns may show no effect of animacy.

The first aim of the present study is:

I. To characterize gender (in)completeness inter-individually.
- *a. To what extent do heritage speakers and baseline speakers differ quantitatively (different rates of accuracy)?;*
- *b. and to what extent qualitatively (different factorial patterns causing inaccuracy)?*

Rather than picking out certain aspects or mechanisms to test experimentally, running the risk that the task is too easy or difficult for a certain group and no patterns become visible, the present study takes the approach of studying the *general* functioning of the gender system – including all five linguistic factors (**gender, animacy, morphology, target type, distance**) - and in a natural activity: spontaneous oral production. Apart from including the broadest range of linguistic factors up to now in heritage Spanish research, the present study is also new in that it investigates *all forms* of gender agreement, namely with articles, other determiners, adjectives, predicative adjectives, nominalizations and pronouns.

One observation from the reviewed studies, namely from the researchers at the immersion school (Montrul and Potowski, 2007), raises issues which connect to a second central question guiding the present study, namely how to identify the locus or loci of 'gender incompleteness' intra-individually. The researchers report, contrary to other heritage studies reviewed, that they could not distinguish error patterns according to canonicity or word frequency, and instead, found intra-individual variability across tokens of the same lemma:

*'[T]he same children who produced *el niña ['the(m) girl(f)'], *el mamá ['the(m) mom(f)'], *la perro ['the(f) dog(m)'] also produced these words with correct agreement in the same narrative. In other words, it was not the case that a child produced all tokens of niña ['girl(f)'], consistently with a masculine determiner[...]' (p. 322; translations are mine).*

This suggests that when looking at gender performance within one individual, it is not necessarily the case that the loci of 'gender incompleteness' are lemmas, in the sense that they categorically lack the correct gender assignment, nor that certain rules or regularities, such as that canonical words in *–a* should take feminine, are the locus of

incompleteness. In the following paragraphs I will review two theoretical views of how gender and gender agreement are acquired and represented in an individual mind, and what their expectations would be regarding the loci.

First, most classical, formal approaches assume that gender is a *feature* of lexical items and gender agreement is a syntactic *rule*. For instance, in a generative view controller nouns obtain, through a mechanism of *assignment*, 'intrinsic gender values that can be copied onto other lexical items, namely targets, which are not inherently marked for gender and receive this via syntactic agreement.' (Franceschina, 2005, p. 72). Thus, assignment and agreement are seen as distinct psycholinguistic operations, and empirical studies are often interested in finding out whether gender errors are the result of problems with assignment, agreement, or both (cf. Alarcón, 2011; Montrul et al., 2008; Montrul & Potowski, 2007). With respect to acquisition, one assumption often adhered to is that the gender feature of each lemma (assignment), as well as the general agreement rule, are somehow 'triggered' by evidence (E.g. Carroll, 1989; Franceschina, 2005). In other words, in a strictly rule-based view features and rules are either present or absent, operative or non-operative.

Such accounts in terms of absence or presence of rules and features would predict rather categoric behavior, at different levels. Absence of a gender agreement rule altogether (however unlikely the scenario) should cause an individual's gender agreement to be at chance level overall. At a less general level, if an account assumes the existence of *rules* that cause certain features of nouns, e.g. the ending *-a*, to trigger agreement (in this case generate feminine targets), absence of the rule should lead to chance level performance with all nouns carrying this feature. Another possibility is that the rules at these levels are not absent, but incorrectly set, so that for instance always masculine targets are generated. Finally, at the lemma level, in the above formal approaches, *assignment* problems should lead to variation in accuracy between lemmas which have the correct gender feature 'set' and those that have not, but not across tokens of the same lemma.

I propose a second way of looking for the loci of 'incompleteness', combining insights from cognitive linguistic approaches. A unified cognitive linguistic theory of gender agreement, its acquisition and 'incompleteness' is not yet formulated, but there is work in different fields which offers building blocks. While the classical, rule-based view of above is well-known and prevalent in the literature on gender. its acquisition and 'incompleteness', I find it necessary to elaborate a bit more on the cognitive linguistic views to clarify them.

Essentially, in cognitive linguistic approaches, linguistic representation should not be conceived of as a system of features and rules, but as a network of linguistic elements, networks of associated elements, associations between networks of associated elements, and so on. Utterance of well-formed combinations between elements is the product of the activation of a memory trace of earlier association between these elements and/or the networks they are part of. Langacker (2002), who actually uses Spanish gender agreement as an example, outlines how syntactic operations such as agreement, which

sometimes involves non-adjacent elements, can be conceived of too in terms of the activation of associations.

For a usage-based view of how gender agreement comes about in child development, I connect to the findings and interpretations of the earlier mentioned Mariscal (2009). Illustrating the phase past the earlier mentioned 'filler + noun' combinations, she discusses the utterance *nene* **mala* 'child(m) *bad(f)': 'Children tend to learn their first adjectives linked to particular nouns – in the example, *mala* used for stepmother was learned in the context of the Snow White tale. During initial phases, these forms are only used as non-analyzed units [...]' (p. 168). This provides a point of departure for explaining further steps in the development from a cognitive linguistic perspective, which I will attempt here on my own account, also drawing on connectionist models of gender acquisition (Maratsos, 1988; Maratsos & Chalkley, 1980).

At some point, the child will encounter enough examples of *mala* 'bad(f)' and *malo* 'bad(m)' to conclude that some nouns combine with *malo* and others with *mala*. It may also discover that the nouns which combine with *malo* can also combine with other targets in *–o*, while the other set of nouns combines with a range of targets in *–a*. Soon the two target sets themselves become part of two larger networks, which we may as well label *masculine* and *feminine*, including not only the targets in *–o* and *–a*, but also targets with other forms and functions, such as the article *un* 'a', belonging to the first network. In other words, the emergence of the abstract genders feminine and masculine can be regarded as the result of accumulated storage of noun + target combinations and the formation of networks between these stored combinations, which in turn permit generalization, facilitating the correct formation of new combinations.

The emergence of gender thus means that words are no longer stored simply as 'words' or 'nouns', but as 'nouns-taking-targets-from-network-X', or in short as 'masculine nouns' and 'feminine nouns'. As the number of masculine and feminine nouns increases in the child's lexicon, commonalities between nouns within each set permit new generalizations. For instance, almost all words ending in *–d* (e.g. *ciudad* 'city', *pared* 'wall', *sed* 'thirst') fall within the set of feminine nouns, so that if a child were to learn a new word *mitad* 'half', it would not need much additional evidence (i.e. targets accompanying this word) to categorize it as feminine.

This means that gender agreement in a cognitive linguistic approach should be a matter of associations between linguistic elements, organized in networks - at any point of development, including the 'adult' state. Such approaches would consider 'incompleteness' not a matter of absent *features*, but of certain lemmas being less *entrenched* with certain genders through experience with the input. Instead of failing *rules*, in this perspective one would think in terms of divergent outcomes of probabilistic generalizations regarding cues, i.e. shared properties of lemmas, such as animacy or morphological shape, or regarding different types of agreement, such as determiner-noun, anaphoric agreement, and so on. The outcome is determined by the relative strength (in more cognitive terms: *entrenchment*) of the different cues, which in turn is

determined by earlier experience. Connectionist computer modeling of gender processing which shows that it can work this way has been undertaken by Smith et al. (2003) for Spanish, MacWhinney et al. (1989) for German and Taraban and Kempe (1999) for Russian.

Thus, contrary to a strictly rule-based view of 'incompleteness', which predicts *categoric inaccuracy* with gender agreement performance overall, for certain paradigmatic sets of lemmas, and/or for certain lemmas, a cognitive linguistic view would lead to an expectation of *variable inaccuracy* across instances of processing involving the same lemma, target or paradigmatic set thereof. In order to shed light on the nature of gender agreement and the possible problems intra-individually, the present study includes analyses of variation in performance across the same **lemma**.

Frequency was not included as a factor in the reviewed studies on Spanish (but see Jescheniak & Levelt, 1994 for evidence of controller frequency facilitating retrieval of its gender in Dutch). However, the hypothesis that the level of entrenchment of elements is crucial to performance, is central to usage-based views. Since entrenchment is to a large extent a function of how often one is exposed to a certain element, the present study approaches this factor by operationalising an indication of the **frequency** of lemmas in the input through a corpus frequency list.

As mentioned above, Montrul and Potowski's (2007) study did apparently explore the possibility of a word frequency effect, which they could not find, however. I hypothesize that this is because the likelihood of agreement accuracy is not only a function of how entrenched the associations to be processed are, but also of the availability of attentional resources, which is related to the general state of processing activity (see also Chapter 1, section 1.3.2.5). That is, inaccurate agreement can also be caused by having to deploy attentional resources elsewhere – say, to the search for a certain preposition, verb conjugation or idiomatic expression. The more problems are encountered 'elsewhere', the more likely problems will occur with agreement. This effect may modulate (e.g. overrule, enhance) the effects of frequency and other factors. Therefore the present study includes examination of correlations between **measures of general fluency** and performance.

The second main aim, then, can be formulated as follows:

II. To characterize gender (in)completeness intra-individually.
- *a. To what extent does it relate to 'problems' at the global level of language processing (i.e. correlation with fluency measures),*
- *b. at the level of the specific linguistic subsystem of gender agreement (i.e. effects of the five linguistic variables),*
- *c. at the level of entrenchment of gender with particular lemmas (i.e. frequency effects),*
- *d. or at the level of instances of processing of certain lemmas (i.e. inconsistent performance with the same lemma across contexts)?*

4.4 Method

4.4.1 Corpus selection and annotation

The complete recordings of all of the G1 and G2 speakers were included for analysis, and of half of the G0, i.e. 8 speakers, which were selected at random (see for general information about the participants Chapter 3, section 3.1). As will be accounted for in section 4.5.1.1, the first two groups were collapsed into 'Baseline' and the second two into 'Heritage' for the analyses.

The total corpus of speech transcripts that was analyzed for this study consisted of 213.000 words. It contains speech from both the connected discourse in the personal interviews, as well as from the visual elicitation parts.

Within this corpus selection, all cases where gender agreement should occur were annotated first of all for *accuracy* of gender agreement. 'Accurate' were all those cases where agreement was realized correctly, according to normative Spanish grammar. That is, accurate meant the application of Masculine targets with Masculine controller nouns, and Feminine targets with Feminine controller nouns. Since gender is a straightforward phenomenon in monolingual Spanish, this was generally unproblematic. The only cases for which it was problematic to establish the gender of the noun, were words created by the participant, such as *brancha* ('branch' – instead of *rama*), Dutch insertions and other foreign nonce borrowings, and the very sporadic words which in Spanish itself can appear with either gender, such as *sartén* 'frying pan', which according to the dictionary of the Real Academía Española is feminine, but 'is used as masculine in many parts of the Americas and Spain' (RAE, 2014; translation from Spanish by the author). These cases were excluded from the analyses.

Anything that did not conform to the above accuracy definition was coded as 'inaccurate'. This included the use of targets of the opposite gender than the controller noun, but also immediately repaired errors, as well as realizations which were not actually the opposite gender but some unclear or idiosyncratic form. This severe criterion was used because any irregularity was believed to be informative about some gender agreement processing problem. However, since for the present study it is also important to obtain insight into the *nature* of these processing problems, section 4.5.3 is dedicated to the closer examination of the different types of outcome categorized under 'inaccurate'.

Note that I did not take into account accuracy of *number* agreement. There were occasional instances of number discord, in these cases only the gender agreement was coded. If, for instance, the gender was accurate and the number not - as in *turistas alemán* 'german.M.SG tourists.M.PL' (SimG2N) - then it was still coded as an accurately realized target.

Apart from accuracy (the dependent variable), all cases of gender agreement were also coded for a range of explanatory variables, including properties of the controller (animacy, morphology, gender, corpus frequency), of the target (its distance to the controller, as well as whether it was an article, other determiner, predicative adjective,

attributive adjective or anaphor) and the speaker (generational grouping, WPM rate, hesitation rate). The operationalizations for these variables will be discussed in the following sections, which examine the effect patterns and interactions of the variables.

4.5 Results

There were 30,192 agreement cases in total, of which 29,088 were accurate (96.3%).

Section 4.5.1 will examine the different groups of speakers' relative accuracy rates, as well as the correlation between individuals' accuracy rates and fluency measures. Section 4.5.2 will analyze the relative impact of the linguistic variables on the accuracy of agreement, using Generalized Linear Mixed Effects Regression (GLMER) with a logit link function. Section 4.5.3 will examine more closely the nature of the inaccurate cases, which provides evidence about the extent to which inaccuracies are caused by consistently incorrect or lacking assignment of gender to certain lemmas.

4.5.1 Effect of speaker variables

4.5.1.1 Language exposure grouping

Figure 4.1 visualizes the *absolute* count of agreement cases, across the four participant groupings according to the history of language exposure (see Chapter 3, section 3.1). Grey indicates cases with accurate agreement, whereas the black on top of each bar contains all inaccuracies.

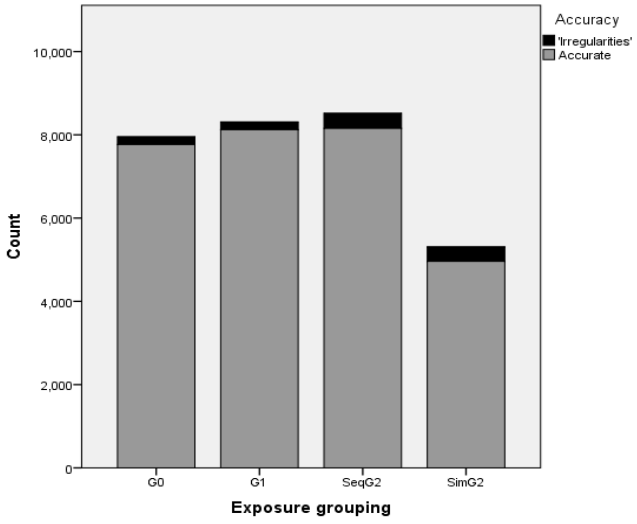

Figure 4.1 Absolute counts of agreement cases per participant group, split out for accurate and inaccurate occurrences.

Table 4.4 presents the average accuracy rates of the groups and their standard deviations. Figure 4.2 visualizes the averages per speaker split out for the four groups. A One-Way ANOVA indicated that differences between the four groups are significant. (F = 4.388; df = 3, 31; p = .012). One-Way ANOVAs comparing the groups pairwise indicates that the only pair with a significant difference in accuracy are the SimG2 and G0 (F = 11.444; df = 1, 14; p = .005).

Table 4.4 Mean accuracy in gender agreement per participant group.

Grouping	Mean	N	Std. Deviation
G0	.976	8	.011
G1	.977	7	.010
SeqG2	.949	10	.042
SimG2	.927	7	.039
Total	.957	32	.035

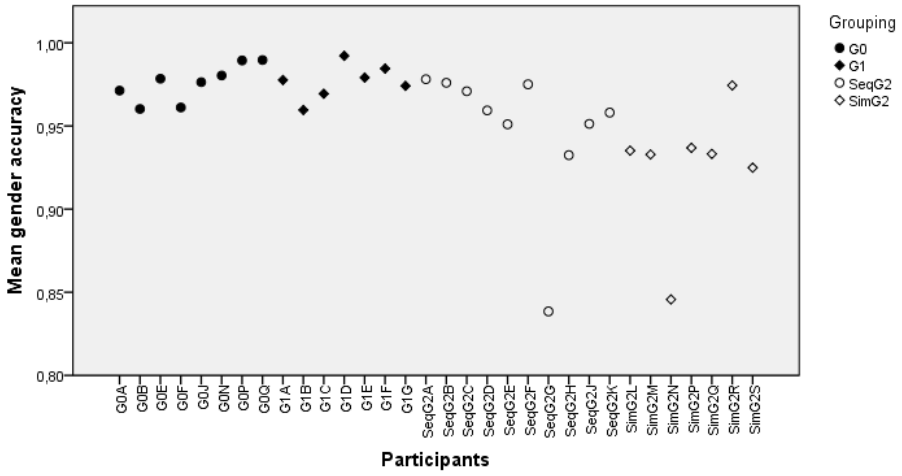

Figure 4.2 Scatter plot of overall accuracy rates with gender agreement. Each dot represents an individual.

The accuracy rate of the G1 (97.65%) is extremely close to that of the G0 (97.6%). The standard deviation is also similar and low. The difference between these two groups is non-significant according to a One-Way ANOVA (F = .009; df = 1, 14; p = .928). The less accurate SeqG2 (94.9%) and SimG2 (92.7%) groups are not significantly different from each other either (F = 1.199; df = 1, 16; p = .291), having comparable, higher standard deviations.

Modeling the data with Generalized Linear Mixed Effects Regression, testing the effects of all the linguistic variables, indicated that a collapsing into two groups (G0+G1 vs. G2) yielded the best model, over divisions into four (G0 vs. G1 vs. SeqG2 vs. SimG2) or three (e.g. G0 vs. G1 vs. G2). These observations suggest that with respect to the present range of data and variables, the main behavioral divide was between two main groups, which will be the objects of comparison throughout the remainder of this study. Thus, the collapsed G1 and G0 will be referred to together as the *Baseline* group, while the SeqG2 and SimG2 are together labeled the *Heritage* group.

Table 4.5 summarizes the statistics for the two groups. The accuracy rate of the Heritage group is significantly lower than that of the Baseline group (One-Way ANOVA: F = 11.012; df = 1, 31; p = .002). A Levene's Test of Equality of Error Variances indicates that inter-individual variation in performance in the Heritage group is significantly larger than in the Baseline group (F = 6.325; df = 1, 30; p = .017). When filtering out SeqG2G and SimG2N, the two individuals which to the eye seem 'outliers' at the bottom of the scatter plot (Figure 4.2)[i], the Levene's test still indicates that the Heritage group is significantly more heterogeneous than the Baseline group (F = 8.693; df = 1, 28; p = .006).

[i] No obvious explanation could be found for the fact that SeqG2G and SimG2N were somewhat out of the range of the others with respect to overall gender accuracy, except for their consistently high rate of divergence across all studies. In fact, when taking together all linguistic measures, these two individuals end up as the most linguistically divergent of all participants (see Chapter 6, section 6.2).

Table 4.5 Mean accuracy with gender agreement, Baseline vs. Heritage group.

Group	Mean	N	Std. Deviation
Baseline	.976	15	.010
Heritage	.940	17	.041
Total	.957	32	.035

4.5.1.2 Fluency measures

To investigate possible relations of the gender agreement accuracy with cognitive fluency, Pearson correlations were examined between accuracy and the two measures described in Chapter 3, section 3.3.6, namely the words-per-minute (WPM) and uh-rate. Table 4.6 shows the results. At the bottom, it can be seen that across all participants, gender agreement performance correlates substantially with the fluency measures. There is a positive correlation of accuracy with WPM (more words per minute means higher accuracy) and a negative correlation with uh-rate (more 'uh' means lower accuracy). Interestingly, the correlations do not hold when the analysis is restricted to the Baseline group, while still holding for the Heritage group. This indicates that there is relevant variation between the speakers in the Heritage group for the measures involved, but not in the Baseline group. This is not an unexpected finding, as will be argued in the General Discussion section.

Table 4.6 Pearson correlations of accuracy rate with processing measures

	WPM	*uh*-rate
Baseline	.248	.304
Heritage	.588*	-.600*
All participants	.552**	-.674**

4.5.2 Effect of linguistic variables

To investigate the patterns of effects of linguistic variables on gender agreement accuracy, Generalized Linear Mixed Effects Regressions (GLMER) were performed, with Participants and Lemmas as random effects (intercepts) and the fixed effects of Group and the linguistic variables. Akaike Information Criterion (AIC) was used to select the best models.

In the following, I will first introduce how the six linguistic variables included in the modeling were operationalized (4.5.2.1), namely the gender, animacy, morphology and frequency of the controller noun, the type of agreement (or target type), and the distance

between controller and target. As we will see in 4.5.2.2, all variables made it to the best GLMER model for the entire data, indicating that these were required for optimally explaining the outcomes - except for the morphology of the controller, which had a non-significant contribution. After the descriptions of the variables, the actual models will be described in 4.5.2.2. For ease of reading, variables and values will start with a capital letter (e.g. Animacy, Human, Thing, etc.).

4.5.2.1 Operationalizing the variables

4.5.2.1.1 Gender

The gender of a controller (hence simply: Gender) was coded as either Masculine or Feminine. On the basis of previous research (see section 4.2) the expectation is that Feminine controllers will be more susceptible to inaccuracies than Masculine controllers.

4.5.2.1.2 Animacy

As we have seen in section 4.2, animacy is among the factors which in previous research showed to have effects on gender agreement in adult baseline speakers. For optimal GLMER modeling two values were applied for the animacy of the controller (hence: Animacy): Person and Thing. The latter category includes a small number of cases of reference to *non-personified* animals appearing in the interviews and the stimuli descriptions, such as (generic) birds or a dead fish. Such reference was very rare throughout the corpus, but not reference to *personified* animals, such as the mouse and the elephant acting as persons in many described cartoons. These were included in the category Person. Words denoting groups of people, such as *gente* 'people', also belong to the category Person.

The factor Animacy has not been examined in adult heritage speakers before. Whereas we can expect the Baseline to be sensitive to Animacy, the question is whether the Heritage group will be too, or will show an insensitivity similar to that found in young children who acquire Spanish. In the case of sensitivity, the expectation is that accuracy with the category Human will be higher than with Thing, as was observed in the populations examined in previous research.

4.5.2.1.3 Morphology

The factor Morphology refers to the phoneme or phonemes that constitute the word ending of the controlling noun. As discussed in section 4.2, it has often been found that the ending serves as a cue to language users for gender agreement and can thus influence its accuracy. However, of all the linguistic variables tested, Morphology was the only one which did not make it to the best models, despite several operationalizations which were tested.

In a first operationalization, Masculine controllers ending in *–o* as well as feminine controllers in *–a* were coded as Canonical. All other controller nouns were coded as Non-Canonical. A second operationalization was a classification including, apart from Canonical and Non-Canonical, an additional *Deceptive* category, i.e. Masculine nouns ending in *–a* and Feminine nouns ending in *–o*. A third alternative was a classification which I designed to better reflect the predictability of gender on the basis of word endings. For instance, in this new classification, the endings *–d* and *–ión* were counted as *canonical* feminine endings, because they virtually always occur on feminine words (see also section 4.2.1). Calculations for this classification were based on the frequency index of lemmas in LIFCACH (see 4.5.2.1.4). In all operationalizations, extralinguistic controllers, such as the speakers referring to themselves (e.g. *estaba cansada* 'I was tired.f'), were coded for Morphology as '*N.A.*' ('Not Available') and were not included for analysis.

However, none of the operationalizations of Morphology could improve the model. In other words, the participants' performance is not affected by morphology, at least not sufficiently to surface in this dataset among the other factors.

As an illustration, Table 4.7 shows the mean accuracy rates per group for the two-fold classification of Morphology. In fact, the performance with Canonical is less accurate than with Non-Canonical, in both groups, which is contrary to expectation. A test of the interaction Group x Morphology (excluding other factors), using Two-Way ANOVA with Repeated Measures, indicated that the differences in performance with the different morphological classes were non-significant ($F = 3.974$; $df = 1, 30$; $p = .055$), as was the interaction between Group and Morphology ($F = .042$; $df = 1, 30$; $p = .838$).

Table 4.7 Accuracy per Morphology category, per group.

		Canonical	Non-canonical
Baseline	Mean	97.4%	98.1%
	Std. Deviation	1.3%	1.0%
Heritage	Mean	93.5%	94.5%
	Std. Deviation	4.9%	3.4%

4.5.2.1.4 Frequency

Apart from formal and semantic properties of targets and controllers, we may expect that the more often a controller has been encountered in input, with targets of the corresponding gender, the stronger the association between the controller and a certain gender will be. Ideally, therefore, one would have information about the frequency of controller-target collocations (e.g. *la imagen, una imagen bonita,* etc.) in a large corpus of speech highly similar to the input of children acquiring Spanish (assuming that the

associations between controllers and gender are first and foremost established in childhood). Not having access to such information, I tried a second best option: frequency lists for controllers in isolation.

LIFCACH (Sadowsky & Martínez Gamboa, 2012) is a set of word frequency lists extracted from an enormous source corpus of Chilean Spanish (CODICACH). With some 450 million words at the time of the frequency list extraction, CODICACH is the largest corpus of Spanish in the world, to the knowledge of its creator Scott Sadowsky. The rationale behind this 'second best option' is that the more often a controller can be found in a certain input, the more potential targets it has presumably been accompanied with. (Unfortunately, the lemmatization method of LIFCACH does not allow for obtaining frequencies of target forms.)

In order to approximate the type of input of child learners as much as possible, I compiled an *informal selection*, which was based on only those subcorpora which contained the most informal types of language: transcribed linguistic oral interviews, transcribed TV shows, children's and youth magazines, internet forums.[i] This subset of the LIFCACH proved indeed to lead to better models in GLMER than the complete LIFCACH or other selections I tried out.

For the GLMER modeling, the Frequency measure was converted from a gradient to a binary variable with values Low Frequent vs. High Frequent. The best model was obtained by including the third quartile of the Frequency value range of lemmas (i.e. between the median and the highest value) as the threshold for dividing Low and High Frequent.

To be sure, the expectation is that High Frequent controllers will lead to more accuracy than Low Frequent controllers.

4.5.2.1.5 Target type

As discussed in 4.2, some types of targets have been compared before in research, but never the full range, as in the present analyses. For this study, the six types of target mentioned in section 4.2.1 were collapsed into three major types: Phrasal (= articles,

[i] The following subcorpora of LIFCACH were used: ESPER_ForosInet (Personal Writings – Internet Site Forums); ESPER_ForosMedios (Personal Writings – Media Forums); ESPER_Usenet (Personal Writings – Usenet); ORAL_Entrevistas_Lgtcas (Oral – Linguistic Interviews); ORAL_TV (Oral – Television); PUB_Misc (Advertising – General 1); PUB_Publicidad (Advertising – General 2); REV_INF_Dirigible (Magazine – Children's – Dirigible); REV_INF_Icarito (Magazine – Children's – Icarito; REV_INF_Papas_Fritas (Magazine – Children's – Papas Fritas); REV_INF_Volare (Magazine – Children's – Volare); REV_JUV_All (Magazines – Youth)

other determiners and adjectives), Predicative (= predicative adjectives) and Anaphoric (= nominalizations and pronouns). This yielded a better model in GLMER than other divisions, such as the six types separately, or a simple dichotomy between Phrasal (= articles, other determiners and adjectives) and Inter-Phrasal ((= predicative adjectives, nominalizations and pronouns).

A few restrictions applied regarding target types. Target elements which do not change in form according to gender, such as the adjective *grande* (f/m) 'large' or the dative personal pronoun *le* (f/m), were excluded from analysis. The subject personal pronouns *él* 'he' and *ella* 'she' were not included for analysis, because there was no variation at all, i.e. they were always accurately realized, including the handful of cases where they were used to refer to an inanimate entity. Pronouns referring to propositions were also excluded from analysis, for the same reason: Spanish offers no other option than to use masculine forms such as *lo* 'it' and *eso* 'that', which was always accurately done throughout the corpus. Finally, it was decided to exclude reference to the stimulus in itself. This was because many participants started the description of each video or picture with phrases such as *en el primero* 'in the first one', *el segundo video muestra...* 'the second video shows...', etc. This led to an exceptionally high number of accurate cases of exactly the same type, which was considered a distortion of the results that could better be avoided.

The expectation on the basis of previous research is that Phrasal agreement will be more accurate than Predicative. There is no previous research on the performance with Anaphoric agreement relative to the other Target types.

4.5.2.1.6 Distance between controller and target

On the basis of the previous research, it is expected that for both Baseline and Heritage speakers, the further away a target is from its controller, the higher the chance that agreement will be inaccurate. The factor Distance was operationalized in this study as the number of intervening words between the controller and its target(s). For practical reasons it was only coded for pronouns and predicative adjectives. These two categories typically display variability in distance to the controller, contrary to intra-phrasal targets, which are most often immediately adjacent to their controller. In case a controller was antecedent for several predications or pronouns, only the distance to the first target was counted.

4.5.2.2 Modeling the variables

The Generalized Linear Mixed Effects Regression encountered difficulties with probability estimation because (i) the relative number of inaccuracies in the data is extremely low, causing often fairly extreme ceiling effects in specific contexts, (ii) there are many factors to be investigated, including the complex ways they may interact and the correlations between these factors, and (iii) there is an unbalanced distribution of the tokens over the many factor combinations (cells).

After applying several approaches and analyses, the most insightful one turned out to be to proceed in three steps. The first step was to examine the entire data set globally, including high level interactions. This first step, described in 4.5.2.2.1, indicated that five explanatory variables are required to explain the patterns of variation (all of the above except Morphology).

The second step, described in the six sections 4.5.2.2.2 - 4.5.2.2.7, was to break down the patterns by investigating subsets of the data formed by the two strongest factors: Group and Target type. For all six resulting combinations (two groups by three target types) the effects of the three other factors were tested (Gender, Animacy, Frequency).

The third step was to investigate the effect of Distance in relevant subsets (section 4.5.2.2.8). The factor Distance was not included in the first two steps because it was only coded for a rather small subset of the data.

4.5.2.2.1 All data

The best model for the entire data (*AIC* = 7182.6) contained the five-way interaction of the following fixed effects: Group, Gender, Target type, Animacy and Frequency. This model had only two significant main effects: Group (Heritage compared to Baseline: *B* = -1.70897; *SE* = .45274; *z* = -3.775; *p* = .000) and Target type (Predicative compared to Phrasal: *B* = -1.94053; *SE* = .69917; *z* = -2.775; *p* = .005; Anaphoric compared to Phrasal: *B* = -3.32731; *SE* = .42881; *z* = -7.759; *p* = .000; Predicative compared to Anaphoric was non-significant). The other three variables showed significant effects in interaction with one or both of these. Therefore, to effectively handle the complexity of the modeling, we will further examine the effects of Gender, Animacy and Frequency in subsets of the data according to Group by Target type in the following sections.

To better understand the effects of Target type, the models were consulted for each Group separately with Target type, Gender, Animacy and Frequency in a four-way interaction. This indicated only one main effect, namely Anaphoric agreement being significantly less accurate than Phrasal agreement in the Heritage group (*B* = -1.604; *SE* = .494; *z* = -3.247; *p* = .001). In the Baseline group, Anaphoric agreement only appeared in significant interactions with other variables, which can be interpreted as that *overall* there are not significantly more inaccuracies with Anaphoric agreement than with other Target types, but it can be the case for certain subsets of the data within this Group. It proved most insightful to look at the strongest of the interactions, namely with Gender. Indeed, within the Feminine subset of the Baseline group (with Target type, Animacy and Frequency in three-way interaction) Anaphoric agreement was significantly less accurate than Phrasal agreement (*B* = -3.482; *SE* = .455; *z* = -7.646; *p* = .000).

As to Predicative agreement, this category was significantly less accurate than Phrasal agreement in the subset of Feminine controllers, in the Heritage group (*B* = -3.500; *SE* = .523; *z* = -6.698; *p* = .000) as well as in the Baseline group (*B* = -1.761; *SE* = .718; *z* = -2.452; *p* = .014). Moreover, Predicative agreement was significantly more

accurate than Anaphoric agreement in the Baseline-Feminine subset (B = 1.6172; SE = .681; z = 2.375; p = .018), but there was no significant difference between Predicative and Anaphoric agreement in Heritage-Feminine.

In sum, at this highest level of analysis, an accumulation of effects is observed in accordance with the expectations on the basis of previous research. Thus, globally Target type is a strong factor in both groups, although sometimes the Target type effects only manage to surface in subsets which contain sufficient inaccurate cases (e.g. Feminine). Figure 4.3 visualizes the accuracy rates per Group, Gender and Target type.

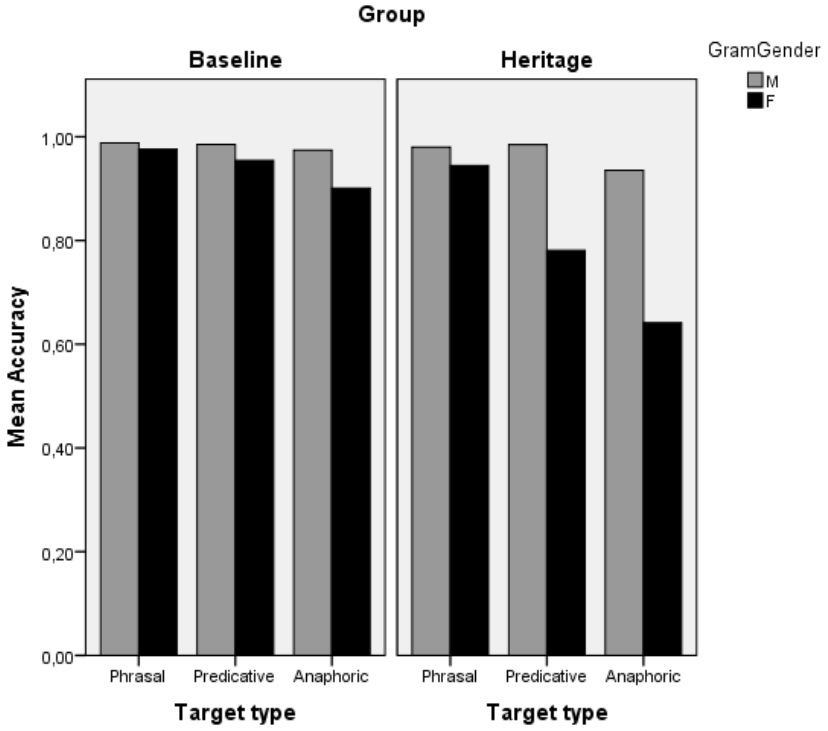

Figure 4.3 Mean accuracy with gender agreement, per group, target type and gender.

In the following sections we will look at the six subsets of Group x Target type, and what the GLMER analyses can tell about the effects of Gender, Animacy and Frequency within the subsets.

4.5.2.2.2 Phrasal agreement in the Baseline group

The Baseline produced 13,357 cases of Phrasal agreement, out of which 237 were inaccurate. Examples of inaccurate cases are given in (1) and (2). Figure 4.4 visualizes the proportional effects of different variables within the data subset Phrasal agreement in the Baseline. Effects appear to be small, which is confirmed by the GLMER results.

(1) una pareja sentados
a.F couple.F seated.M.PL
'a seated couple' (G0B)

(2) un(?)s[i] mesas
a.?.PL table.F.PL
'some tables' (G1E)

Within this selection of the data, the best model (AIC = 2120.8) is one with Animacy, Gender and Frequency (in order of decreasing magnitude) as main effects, all of which are significant, and no interactions. The effects were as expected, with Thing less accurate than Person (B = -1.088; SE = .311; z = -3.505; p = .000), Feminine less accurate than Masculine (B = -.611; SE = .186; z = -3.296; p = .001) and Low Frequent less accurate than High Frequent (B = -.588; SE = -.191; z = -3.072; p = .002).

[i] A question mark indicates that it was impossible to distinguish what the pronounced phoneme was.

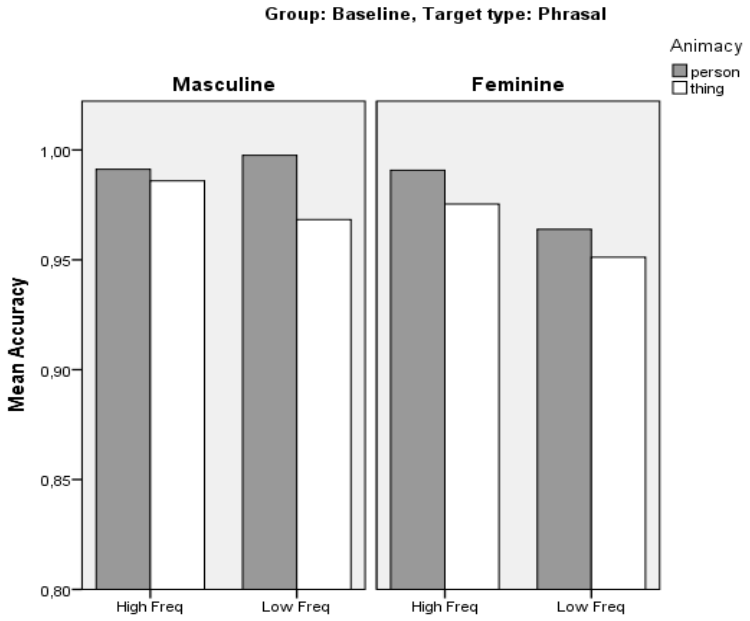

Figure 4.4 Mean accuracy with phrase-internal gender agreement in the Baseline group, by gender, animacy and frequency.

4.5.2.2.3 Phrasal agreement in the Heritage group

The Heritage speakers produced 11,812 cases of Phrasal agreement, out of which 433 were inaccurate. Examples of inaccurate cases are given in (3) and (4). Judging from Figure 4.5, patterns seem fairly according to expectation, with Masculine more accurate than Feminine, Person more accurate than Thing, and High frequent more accurate than Low frequent.

(3) una botella de vino vacío en la mesa
a.F bottle.F of wine.M empty.M on the table
'an empty wine bottle on the table' (LoG2L)

(4) Botó el, la cáscara.
he.threw the.M, the.F peel.F
'He threw away the, the peel.' (HiG2F)

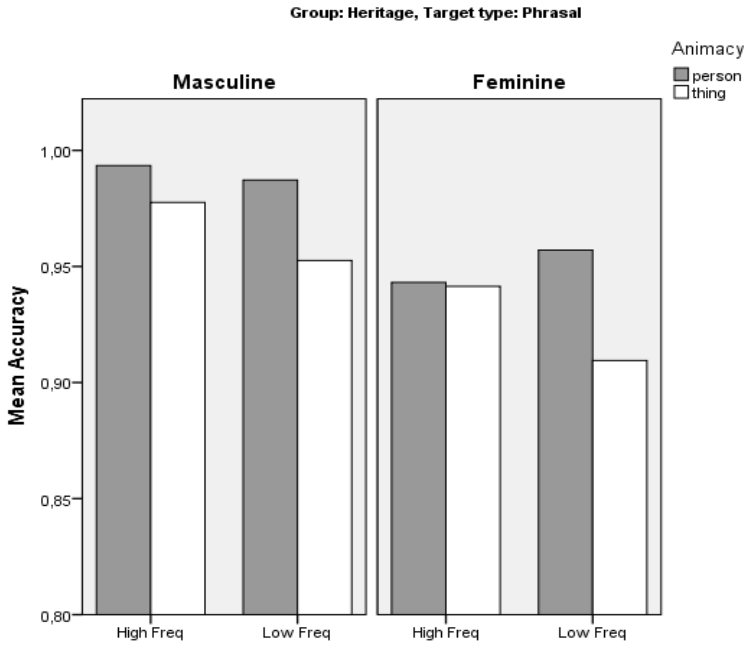

Figure 4.5 Mean accuracy with phrase-internal gender agreement in the Heritage group, by gender, animacy and frequency.

In the best model (AIC = 3097.0) there are, just like in the Baseline, significant main effects in the expected direction of Gender (Feminine less accurate than Masculine: *B* = -2.289; *SE* = .497; *z* = -4.609; *p* = .000), Animacy (Thing less accurate than Person: *B* = -1.321; *SE* = .399; *z* = -3.308; *p* = .001) and Frequency (Low Frequent less accurate than High Frequent: *B* = -.641; *SE* = .197; *z* = -3.255; *p* = .001). However, additionally, there is a significant interaction effect of Gender by Animacy (*B* = 1.414; *SE* = .534; *z* = 2.651; *p* = .008).

By zooming in on further subsets, we found that the best explanation for the significant interaction between Gender and Animacy seems to be that, whereas usually Person-referents lead to more accuracy than Thing-referents, GLMER showed that this was not the case in Heritage-Phrasal-Feminine – i.e. their difference was non-significant. As can be seen in the graph (Figure 4.5), this may be because of lower accuracy than normal with Feminine, Person-referring controllers (especially High Frequent ones, but

GLMER does not indicate Frequency to matter here). I extensively examined whether I could observe peculiarities with the lemmas or the types of errors, but could not find an obvious explanation for this slightly unexpected segment of the data.

4.5.2.2.4 Predicative agreement in the Baseline group

The Baseline Group produced 941 cases of Predicative agreement, out of which 26 were inaccurate. Examples of inaccurate cases are given in (5) and (6). Figure 4.6 visualizes the effects of different variables within the data subset Predicative agreement.

(5) la laucha [...][i] y quedó muy contento
the.F mouse.F and remained very happy.M
'the mouse [...] and he ended up very happy.' (G1A)

(6) la gente [...] todavía no están listos
the.F people.F yet not are ready.M.PL
'the people [...] they aren't ready yet' (G0J)

After testing different combinations of Frequency, Gender and Animacy, the best model (AIC = 151.4) is one with only Frequency as main effect. This effect, however, is not significant (Low Frequent less accurate than High Frequent: *B* = -.089*; SE* = 1.533*; z* = -.058 *; p* = .954). The other effects are also non-significant, which is not surprising given the ceiling level of the accuracy scores.

[i] [...] indicates that a stretch of speech has been left out

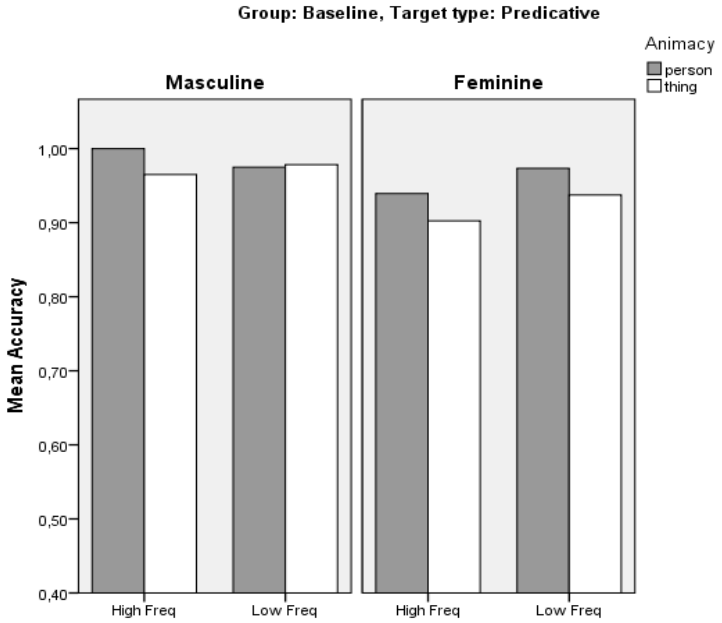

Figure 4.6 Mean accuracy with predicative gender agreement in the Baseline group, by gender, animacy and frequency.

4.5.2.2.5 Predicative agreement in the Heritage group

Out of the 756 cases of Predicative agreement in the Heritage Group, there were 59 inaccurate. Examples of inaccurate cases are given in (7) and (8). Figure 4.7 represents the proportional effects of different variables within the data subset Predicative agreement. Unexpected is the seemingly low accuracy rate on High Frequent Person-referring Feminine controllers.

(7) La laucha [...] está un poco enojado.
the.F mouse.F is a little angry.M
'the mouse [...] he is a little angry' (HiG2H)

(8) En la cocina queda prendid(?) el fuego.
in the kitchen remains turned.on.? the.M fire.M
'In the kitchen, the fire was left on.' (LoG2P)

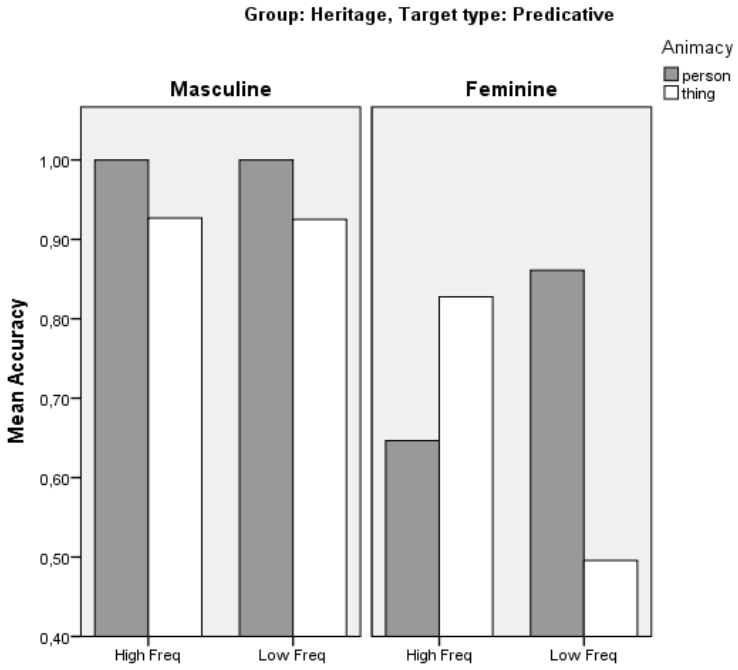

Figure 4.7 Mean accuracy with predicative gender agreement in the Heritage group, by gender, animacy and frequency.

The best model found is the one with Frequency, Gender and Animacy as main effects, as well as all their two-way interactions (*AIC* = 227.3). The outcomes are given in Table 4.8. The interaction between Animacy and Frequency, which is quite visible in the graph (Figure 4.7) turns out to be the only significant effect. However, there are some extremely high Standard Errors related to Gender, which render the model unreliable. The best explanation for these extreme values is the unbalanced distribution of cases across the cells, with the subset Masculine-Person containing 167 cases but none of them being inaccurate.

Table 4.8 Main effects and interactions within the data subset of Predicative agreement in the Heritage group.

	Estimate	Std. Error	z value	Pr(>|z|)
Animacy (Person > Thing)	-16.872	1984.978	-.008	.993
Frequency (High > Low)	2.416	1.306	1.850	.064
Gender (M > F)	-19.389	1984.978	-.010	.992
Animacy x Frequency	-2.845	.912	-3.120	.002
Animacy x Gender	18.027	1984.978	.009	.993
Frequency x Gender	-1.481	1.135	-1.306	.192

The only significant effect, the Frequency by Animacy interaction, was further examined by looking at the Feminine and Masculine subsets separately. The best model for the Masculine subset does not contain this interaction, but only the main effects of Animacy and Gender. These are in the expected direction but non-significant, and with extreme effect Estimates and Standard Errors in the case of Animacy. When modeling the Feminine subset, the best model contains non-significant main effects of Animacy and Frequency, as well as a significant interaction between them (B = -2.907; SE = 1.037; z = -2.804; p = .005).

An obvious explanation for the interaction could not be found by examining the lemmas or error types. However, the Heritage-Predicative-Feminine subset had a particularly small number of cases, which renders it prone to more random outcomes. For instance, the outcome for the subset Heritage-Predicative-Feminine-High Frequent, i.e. the bar which can be seen to be lower than normal in the graph (Figure 4.7), is based on 31 items with 10 inaccuracies (coming from 17 participants and 11 lemmas).

4.5.2.2.6 Anaphoric agreement in the Baseline group

There were 1974 cases of Anaphoric agreement in the Baseline Group, and 116 of them were inaccurate. Examples of inaccurate cases are given in (9) and (10). Figure 4.8 represents the proportional effects of different variables within the data subset. Unexpected seems to be the relatively low accuracy with Feminine High frequent Person-referring controllers.

(9) un palo [...] y se la devolvió
a.M stick.M and to.him it.F he.gave.back
'a stick [...] and he gives it back to him' (G0B)

(10) el fósforo [...] la apaga
the.M match.M it.F he.extinguishes
'the match [...] he puts it out' (G1B)

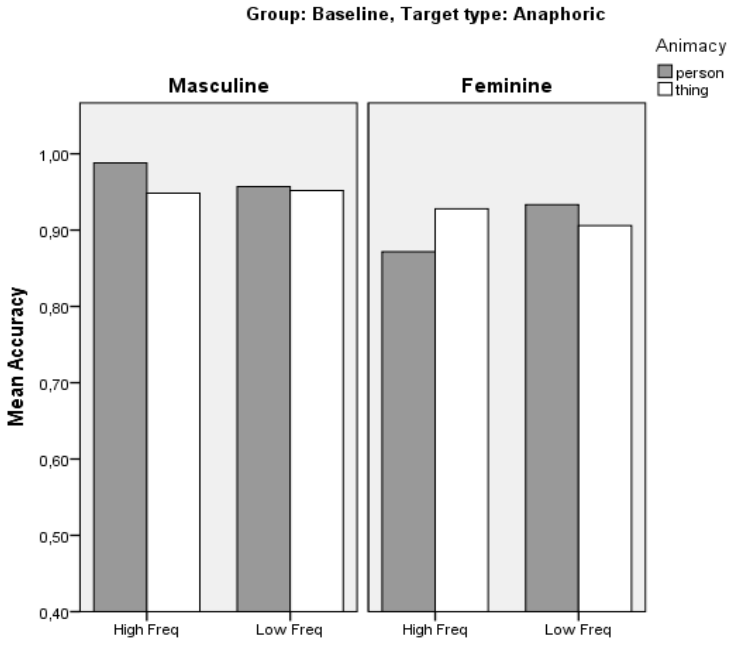

Figure 4.8 Mean accuracy with anaphoric gender agreement in the Baseline group, by gender, animacy and frequency.

The best model (AIC = 739.7) was one with a three-way interaction between Animacy, Frequency and Gender. As can be seen in the overview of fixed effects in Table 4.9, all main effects were significant, as well as all interactions.

Table 4.9 Main effects and interactions within the data subset of Anaphoric agreement in the Baseline group.

	Estimate	Std. Error	z value	Pr(>|z|)
Frequency	-2.293	.959	-2.392	.017
Animacy	-2.072	.948	-2.185	.029
Gender	-3.833	.906	-4.232	.000
Frequency x Animacy	2.377	1.143	2.080	.038
Frequency x Gender	3.746	1.556	2.408	.016
Animacy x Gender	3.195	1.097	2.913	.004
Frequency x Animacy x Gender	-3.991	1.726	-2.313	.021

Zooming in on subsets led to the understanding that the significant interaction effects can be traced back to the subset Feminine-Person-High Frequent, which is well visible in the graph to be lower in accuracy than expected. I found that the best explanation for the unexpected effect in this segment was an important contribution of the Feminine lemmas *persona* 'person', *familia* 'family', *gente* 'people' and *pareja* 'partner', which despite being High Frequent and Person-referring, have relatively low accuracy rates. As will be discussed in section 4.5.3.1, throughout the data these grammatically feminine lemmas were often combined with masculine targets when the referent was a male individual or a group of individuals of mixed sex (see example 11 below). These lemmas could therefore be considered susceptible to inaccuracies because of a mismatch between semantic and grammatical gender.

(11) Veo dos personas, el uno al lado del otro.
I.see two persons.F the.M one.M to.the side of.the.M other.M
'I see two persons, one next to the other.' (G1F)

Filtering out these four lemmas, the best model (AIC = 652.2) is one with significant main effects in the expected direction, of Frequency (Low Frequent less accurate than High Frequent: B = -1.398; SE = .6719; z = -2.080; p = .037), Animacy (Thing less accurate than Person: B = -1.183; SE = .558; z = -2.122; p = .034) and Gender (Feminine less accurate than Masculine: B = -.856; SE = -.310; z = -2.760; p = .006), as well as a non-significant interaction between Frequency and Animacy.

4.5.2.2.7 Anaphoric agreement in the Heritage group

Out of the 1271 cases of Anaphoric agreement in the Heritage Group, there were 233 inaccurate. Examples of inaccurate cases are given in (12) and (13). Figure 4.9 represents the proportional effects of different variables within the data subset.

Unexpected is the fact that within the subset of Person (irrespective of Gender), Low Frequent items are slightly more accurate than High Frequent.

(12) Recogís la bici y lo ponís ahí.
you.pick.up the.F bike.F and it.M you.put there
'You pick up the bike and you put it there.' (HiG2E)

(13) el panqueque [...] la está tirando al aire
the.m pancake.M it.F he.is throwing to.the air
'the pancake [...] he is throwing it up in the air' (LoG2P)

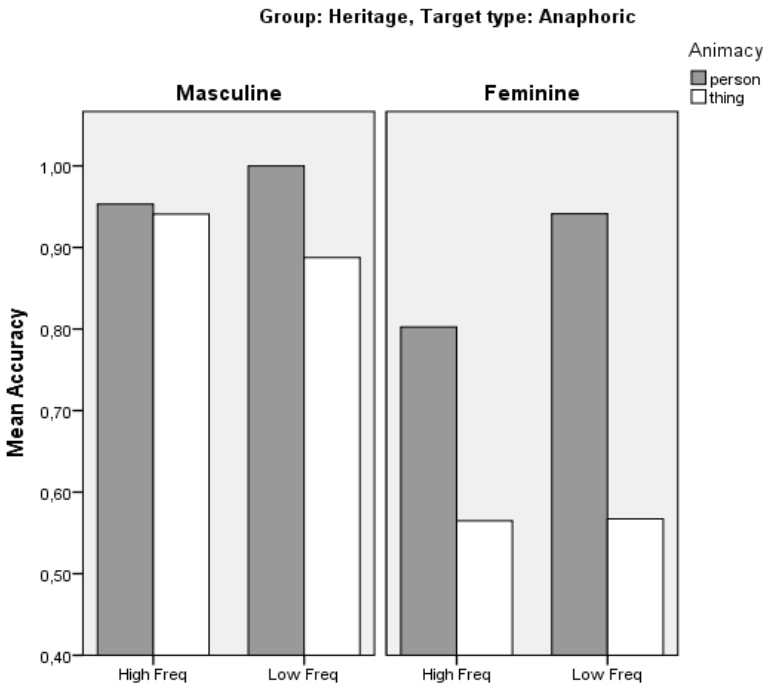

Figure 4.9 Mean accuracy with anaphoric gender agreement in the Heritage group, by gender, animacy and frequency.

The following could be found as the best model (*AIC* = 803.6): Animacy and Frequency as interacting variables, and Gender as main effect. There is a significant main effect of Gender according to expectation (Feminine less accurate than Masculine: *B* = -2.751*;*

SE = .328*; z* = -8.399*; p* = .000), and a significant main effect of Frequency in the opposite direction than expected (Low more accurate than High Frequent: *B* = 2.386*; SE* = 1.157*; z* = 2.062*; p* = .039). The main effect of Animacy is non-significant, and the interaction between Animacy and Frequency is significant (*B* = -2.778*; SE* = 1.207*; z* = -2.301*; p* = .021). In other words, some atypically high amount of inaccuracies with High Frequent Person-referring controllers makes the main effect of Animacy non-significant and the Frequency main effect go in the opposite direction.

When consulting the best models for the separate subsets of Masculine and Feminine, the opposite direction of the Frequency effect and its interaction with Animacy remain visible, although non-significant at this level. For the Feminine subset, an explanation could be found in the impact of the four *semantic mismatch* lemmas (see previous section as well as 4.5.3.1). When filtering these out, the best model does not contain the interaction anymore, but only the main effects of Animacy and Frequency, both in the expected direction. The main effect of Animacy is significant (Thing less accurate than Person: *B* = -2.778*; SE* = .618*; z* = -4.493*; p* = .000).

For the Masculine subset, no explanation for the interaction could be found by examining lemmas or error patterns, but it must be noted that the numbers of inaccuracies were very low in this subset, with one cell containing no inaccuracies (High Frequent-Person: 8 inaccuracies in 210 cases; High Frequent-Thing: 5 inaccuracies in 127 cases; Low Frequent-Person: 0 inaccuracies in 83 cases; Low Frequent-Thing: 31 inaccuracies in 254 cases).

4.5.2.2.8 Distance

As mentioned before, the variable distance was only coded for predicative adjectives and pronouns - 1992 cases in total. The modeling often led to computation problems. Converting the Distance range to a logarithm did not bring improvement. A solution was found in leaving out the variable Frequency, thus reducing the complexity of the modeling in the relatively small dataset.

The best model (AIC = 1078.5) was one in which Group interacted with all other variables, and Distance interacted with all other variables. In this model, apart from a significant interaction between Group and Gender (*B* = -1.604*; SE* = .419*; z* = -3.826*; p* = .000), Distance appeared in two significant interactions, namely with Gender (*B* = -.068*; SE* = .027*; z* = -2.544*; p* = .011) and with Animacy (*B* = -.102*; SE* = .032*; z* = -3.196*; p* = .001).

The Distance effect was examined further by modelling the two Animacy subsets separately. These subset models contained the interactions which at the previous level were significant, i.e. the interaction between Gender and Group and between Distance and Gender.

The model for the subset Person yielded no significant main effect or interaction involving Distance (nor any other significant main effect or interaction).

The model for the subset Thing yielded a significant interaction between Distance and Gender (*B* = -.097*; SE* = .034*; z* = -2.875*; p* = .004) as well as between Gender and Group (*B* = -1.822*; SE* = .454*; z* = -4.018*; p* = .000).

Zooming in on the Gender subsets within the subset Thing, the subset Thing-Feminine returns significant main effects of Distance (*B* = -.146*; SE* = .031*; z* = -4.633*; p* = .000), and Group (*B* = -2.946*; SE* = .640*; z* = -4.605*; p* = .000) and no significant main effect of Target Type. Zooming in on the Groups within this subset, it turned out that Distance had a significant main effect on Thing-referring Feminine items in both the Baseline Group (*B* = -.144*; SE* = .048*; z* = -2.984*; p* = .003) and the Heritage Group (*B* = -.179*; SE* = .049*; z* = -3.612*; p* = .000).

In the subset Thing-Masculine, a significant main effect of Distance was found (*B* = -.050*; SE* = .021*; z* = -2.364*; p* = .018), the main effects of Group and Target Type being non-significant. Zooming in further, it turned out that Distance had a significant main effect in the subset Thing-Masculine of the Baseline Group (*B* = -.074*; SE* = .007*; z* = -10.7*; p* = .000) but not of the Heritage Group.

In sum, Distance turned out to surface as a significant factor affecting accuracy whenever the controller noun referred to a Thing, but not when it referred to a Person. The significant effect of Distance when referring to Things was further observed for controllers of both Genders, and in both participant Groups, be it that the effect became non-significant in the subset Heritage-Thing-Masculine. This may be due to the low number of items in this particular subset (318). The effect of Distance was always according to expectation, namely negative, i.e. higher Distance leads to lower accuracy.

4.5.2.3 Intermediate discussion

Despite the earlier mentioned limitations (low numbers of inaccuracies, many variables, unbalanced data subsets) pervasive effects could be uncovered across the entire dataset. The effects oscillate in magnitude, but are always in the expected direction. Only the statistical outcomes in the data subset of Predicative agreement (sections 4.5.2.2.4 and 4.5.2.2.5) did not conform well to the pervasive and expected patterns, in the sense that no variable showed a significant main effect. This could be attributed to this subset's relatively low number of inaccurate cases, within an already low number of cases overall, preventing any effect patterns to surface. In the following I will discuss the effect of each linguistic variable across the data.

There was one variable which pervasively did *not* have a significant effect, namely Morphology. It was not part of the best model for the entire dataset, and there was no significantly better accuracy rate between Canonical and Non-Canonical when using ANOVA. In other words, it was not found that Morphology matters sufficiently to influence performance patterns in this particular oral corpus and taking into account the present set of interacting factors.

There was a significant main effect of Target type at the highest level of analysis. At lower levels, the effect patterns suggest that the Target types' mutual differences could only reach significance in subsets which contained enough inaccuracies. Anaphoric

agreement showed the strongest divergence, being significantly less accurate than Phrasal agreement within the Heritage group, as well as within the Baseline group's Feminine subset. It was also significantly less accurate than Predicative agreement in the Baseline's Feminine subset. The somewhat unexpected fact that it did not show to be significantly less accurate in the Heritage groups' Feminine subset, may have to do with the particularly low number of cases in the subset Heritage-Predicative-Feminine, rendering effects in this subset unreliable. Finally, Predicative agreement was significantly less accurate than Phrasal agreement in both Groups' Feminine subsets.

The effect of the Gender of the controller was always significant and in the expected direction (Masculine more accurate than Feminine), except in the problematic subset of Predicative agreement cases, where the earlier discussed explanation holds that the effect does not surface as significant due to low case numbers.

The Animacy effect was always significant and in the expected direction (Person more accurate than Thing), except in the earlier discussed problematic subset of Predicative agreement, and in the subset of Anaphoric agreement of the Heritage group. In Anaphoric agreement of the Heritage group it was found that a relatively high number of inaccuracies with the four Feminine lemmas susceptible to a mismatch between grammatical and semantic gender, namely *persona* 'person', *familia* 'family', *gente* 'people' and *pareja* 'partner' (all of which have the value Person), was an important contributor to the fact that the difference between Person and Thing was non-significant.

The Frequency effect was always significant and in the expected direction (High more accurate than Low frequent), except again in the problematic subset of Predicative agreement, and in the subset of Anaphoric agreement of the Heritage group. In this latter subset it was significant in the reverse direction than expected, i.e. High Frequent lemmas causing more troubles than Low Frequent. Again, an important contribution to this unexpected effect was found to come from the four 'mismatch susceptible' Feminine lemmas.

The expectation that increased Distance from controller to target causes less accuracy in agreement, is confirmed by the appearance of significant negative Distance effects in subsets of the data. The fact that this factor shows variation in the estimated effects across subsets and sometimes does not surface, suggests that the effect of Distance is modulated by the effect of the other variables. The Distance effect surfaced as significant whenever the controller noun referred to a Thing. This suggests that the Distance effect may be attenuated or overruled when the values of the other variables favor accuracy (e.g. Person) and strengthened when they favor inaccuracy (Thing).

Apart from the above pervasive main effects, there was the earlier mentioned, sometimes surfacing interaction between Gender, Animacy and Frequency, which could be traced back to the four 'mismatch susceptible' lemmas, at least in the Anaphoric subsets of both groups. Another unexplained significant interaction is the one between Animacy and Gender in Phrasal agreement in the Heritage group, reflecting the fact that within the Feminine subset, Thing-referring controllers had a higher accuracy than usual - i.e. they ended up almost equally accurate as Person-referring controllers. No obvious

explanation could be found for this by examining the lemmas or error patterns. A possible effect of the four 'mismatch susceptible' lemmas was examined, but the exclusion of the four lemmas not only removed many inaccuracies, but also many accurate cases, so that the accuracy rate of High-Frequent Feminine Person ended up even below that of High-Frequent Feminine Thing. It also did not lead to an improved model or dissolving of the interaction between Animacy and Gender. Finally, the interaction between Animacy and Frequency in the Heritage Predicative agreement subset could also not be traced back to the 'mismatch susceptible' lemmas in this way, so that the explanation for this significant interaction in this subset remains obscure.

In sum, although the methodological limitations do not permit a conclusive and comprehensive interpretation of the effect patterns in the data, the analyses across the subsets uncovered modest effects which oscillate around general tendencies in accordance with expectations. This modest oscillation of effects points to latent cognitive effects, which only surface well when data subsets contain enough inaccuracies.

4.5.3 Nature of the inaccuracies

As explained in section 4.3, a cognitive linguistic account of gender incompleteness would expect *variable inaccuracy* across instances of processing involving the same lemma. Formalist accounts would lead to an expectation of *categoric inaccuracy*, varying between lemmas which have the correct gender feature 'set' and those that have not, but not across tokens of the same lemma. One could imagine two possible forms of *categoric inaccuracy*: (i) A *lacking* association between a lemma and a gender should be evidenced by random oscillation between either masculine or feminine. (ii) An *incorrect* association between lemma and gender should be evidenced by the consistent use of the opposite of the normatively prescribed gender. The present section examines several types of evidence which can illuminate the nature of inaccuracies.

Section 4.5.3.1 gives an inventory of how many of the cases could be categorized as unrepaired, repaired and other types of inaccuracies. Section 4.5.3.2 looks at the extent to which controllers in phrases with multiple targets are subject to consistently inaccurate agreement. Section 4.5.3.3 examines the extent to which inaccuracy with a certain controller persists across discourse.

4.5.3.1 Types of inaccuracy

Several types of agreement outcome were subsumed under 'inaccuracy', which we examine here because they can tell something about the extent to which inaccurate agreement affects lemmas in a categorical way, i.e. as a consistently 'lacking' or 'incorrect' association between lemma and gender. The examples (14) to (19) below illustrate the types of outcome. The first type concerns simply applying a target of the opposite gender than what the controller would require, without repairing (14). The second type are targets of the opposite gender than required, immediately followed by a

repaired target, i.e. of the same gender as the controller (15). This type indicates awareness on the part of the speaker about what the right gender would be to use, and would thus be counter-indicative of categorically lacking or incorrect association between lemma and gender.

(14) *Unrepaired:*

una idioma
a.F language.M
'a language' (SimG2Q)

(15) *Repaired:*

el, la lata
the.M the.F can
'the, the can' (SeqG2E)

A third type is constituted by cases for which there was uncertainty about which target had actually been used, feminine or masculine (16). These cases could be due to factors ranging from problems with interpreting the audio recording on the part of the transcriber, to deliberate mumbling on the part of the speaker. If the latter were the case, it would indicate that the speaker is uncertain about the gender of the controller lemma, rather than that it is categorically represented as either Masculine or Feminine.

(16) *Uncertain whether accurate:*

un(a) idea
an.M(F) idea.F
'an idea' (SimG2P)

A fourth type of inaccuracy is what I label *semantic agreement* (following Corbett, 1991). This happens when there is a mismatch between the grammatical and the semantic gender of the referent talked about. *Persona* 'person' (17a) has feminine grammatical gender, but the participant is referring back to it with the real life gender of the person described. The same goes for *pareja* 'partner', which is a gramatically feminine noun, but can be used to refer to a male person, as in (17b). The collective nouns *gente* 'people' (17c) and *familia* 'family' (17d) are grammatically feminine, but are often combined with plural masculine targets. (In section 4.5.2 we have already seen that these four 'mismatch susceptible' lemmas play a significant role in the linguistic effect patterns.) The fact that speakers often apply agreement with the semantic, rather

than the grammatical gender in these cases does not seem surprising. Corbett (1991) points out that *semantic agreement* is in fact a strong tendency in languages which have gender.

(17) *Semantic mismatch:*

a. hay tres personas [...] el del medio ...
there.are three persons.F he.M of.the middle ...
'There are three persons. [...] The one in the middle [...]' (SeqG2G)

b. mi pareja [...] con el cual me casé
my partner.F with the.M who REFL married
'My partner [...] whom I married.' (G0Q)

c. la gente que yo conozco en Chile, todos viven relativamente bien
the people.F that I know in Chile all.M live relatively well
'The people I know in Chile, they all have relatively good lives.' (G1D)

d. la familia [...] no los visitábamos tanto
the family.F [...] not them.M we.visited so.much
'The family [...] we didn't visit them so often.' (SeqG2C)

For the inventory I also counted as *semantic agreement* eight cases where a female speaker used an impersonal pronoun *uno* 'one' in its masculine form, while the context indicated they were referring to themselves and/or a more restricted set of female referents, rather than 'any human being'. Example (18) was uttered after having talked about being a mother, and the use of *perfecta* 'perfect' in the feminine form strongly indicates that *uno* here refers to herself, or to 'mothers', e.g. 'mothers cannot be perfect' or 'I as a mother cannot be perfect'. The semantic agreement case here would be the use of *uno* instead of *una,* and it may arise from some sort of semantic conflict, be it of a different order than the previous examples. Whether the impersonal pronoun should take the masculine or feminine form seems to depend on a scale whereby the more generic the intended reference – e.g. the more the intention is to refer to 'any human being' - the more the masculine form would be in place (cf Butt & Benjamin, 2010, p. 406; RAE, 2005). However, determining the degree of genericity, and consequently the choice of gender may be prone to imprecision and variability on the part of the speaker. The data show that this semantic agreement in the generic domain occurs in both Baseline and Heritage group.

(18) Uno no puede ser perfecta.
one.M not can be perfect.F
'One cannot be perfect.' (SeqG2D)

The fifth and last category of inaccuracies involved any morphological inconsistency other than the realization of a target of the opposite gender paradigm. This included the use of gender-neutral elements such as the dative pronoun *le*, which in the given context would be unexpected in Chilean Spanish – in example (19a) the gendered accusative pronoun *la* would be expected. Five cases in this last category concerned the use of a target form which would be expected only for independent use. Thus, in example (19b), *un ratón* would be expected, because *uno* can only be used when it does not modify a noun, e.g. *uno de los ratones duerme* 'one of the mice is sleeping'. However, the outcome is still a masculine target.

(19) Morphological peculiarity:

a. la cerca [...] le transforma
the.F fence.F it.M/F he.transforms
'the fence [...] he transforms it' (G0F)

b. Esto es uno ratón
this.M is a.M mouse.M
'This is a mouse.' (SeqG2J)

Table 4.11 shows the distribution of the five types of inaccuracy. Whereas a hypothesis involving categorical lacking or incorrect representation of the gender of lemmas would lead one to expect a prevalence of 'plain errors', i.e. *unrepaired* inaccuracies, this expectation is not borne out. In the Heritage group, unrepaired inaccuracies amount to only half of the inaccuracies. In the Baseline, they amount to roughly a third of the inaccuracies. The rest, that is, roughly half of the Heritage group's inaccuracies and two-thirds of the Baseline's, are not indicative of categorical problems with gender assignment to lemmas. The large number of repaired errors can even be argued to be counter-indicative.

Table 4.11 Types of agreement outcomes and their relative occurrence

	Baseline		Heritage		Total	
Unrepaired	130	34.1%	368	50.8%	498	45.1%
Repaired	176	46.2%	255	35.2%	431	39%
Uncertain	41	10.8%	64	8.8%	105	9.5%
Semantic agreement	29	7.9%	25	3.5%	55	5%
Morphological peculiarity	4	1%	12	1.7%	16	1.4%
Total	380		724		1104	

4.5.3.2 Outcomes for controllers with multiple targets

If one controller were accompanied by several targets which do not agree accurately, we would have a strong indication that the speaker has a categorically 'incorrect' representation of the gender of the lemma. In the following we will consider multiple target-NPs, i.e. constituents in which there is more than one target that should agree with the noun, as in *el niño chico* 'the small boy', where both the article *el* and the adjective *chico* have to agree with the noun *niño.* For the purpose of this analysis, only targets agreeing in gender are considered, so *todos mis alumnos* 'all my pupils' is not counted as a multi-target NP in this definition, because the possessive personal pronoun *mis* can only agree in number, not in gender. Table 4.12 shows the scores per generation as to multi-target constituents.

Table 4.12 Accuracy of agreement in multiple target constituents.

	Baseline		Heritage		Total	
Entirely accurate	1158	97.0%	931	93.8%	2089	95.5%
Entirely inaccurate			17	1.7%	17	.8%
Partly inaccurate	2	.2%	21	2.1%	23	1.1%
Repaired	27	2.3%	19	1.9%	46	2.1%
Uncertain	7	.6%	5	.5%	12	.6%
Grand Total	1194		993		2187	

If we follow the table's rows from top to bottom, we can first observe that 2089 (95.5%) of the multi-target NPs were 'entirely accurate', i.e., all targets in the constituent agreed accurately, as in example (20). This high accuracy percentage with multiple target-NPs is very comparable to the general accuracy rates.

(20) el camino académico
the.M path.M academic.M
'the academic path' (SimG2Q)

There were 17 'entirely inaccurate' cases (.8% of all multi-target cases). All of them were produced by the second generation. Controllers that were found in 'entirely inaccurate' multi-target agreement by several speakers, were the non-canonical feminine noun *imagen* 'picture' (2 times by the participant SimG2M and 3 by SeqG2C), shown in (21), and the non-canonical feminine noun *parte* 'part' (once by SeqG2G and once by SimG2S), shown in (22). Two nouns were repeatedly found in 'entirely inaccurate' multi-target NPs by one and the same speaker, one being *video*, which SeqG2D (3 cases) seems to regard as feminine (perhaps in analogy with *la foto* 'the photograph') and the other one *conexión*, which SimG2N wrongly accorded masculine gender twice. Example (23) provides an interesting case, because it not only concerns the choice of the wrong gender for the adjective, but also the wrong form, since, if the noun were indeed masculine, the prenominal form of the adjective should be *primer* – only in postnominal or predicative cases would *primero* be the right form.

(21) el mismo imagen
the.M same.M picture.F
'the same image' (SimG2M)

(22) un parte mío
a.M part.F of.mine.M
'a part of me' (SimG2S)

(23) el primero escuela
the.M first.M school.F
'the first school' (SeqG2G)

23 cases were 'partly inaccurate' (1.1% of all multi-target cases), meaning that one or more of the targets within the constituent were accurate, and one or more were inaccurate. An example of these 'mixed' cases is given in (24). Note that 21 of them were produced by the G2.

(24) las cosas ne- negativos
the.F things.F negative.M
'the negative things' (SimG2L)

There were 46 constituents (2.1% of all multi-target cases) which contained some error, but were immediately repaired. Some examples are given in (25) and (26).

(25) nuestro propio, nuestra propia consultora
our.M own.M our.F own.F consultancy.firm.F
'our own consultancy firm' (G0P)

(26) el, el ... la misma laucha
the.M the.M the.F same.F mouse.F
'the same mouse' (SeqG2B)

In 12 cases (0.6% of all multi-target cases) it was uncertain or impossible to determine whether agreement was (partly) accurate or inaccurate. In most of these cases this was because of unclearly pronounced or otherwise incomprehensible sounds, as shown in examples (27) and (28).

(27) l(a) únic(a) idioma
the.(F) only.(F) language.M
'the only language' (SeqG2E)

(28) una botella de vino vací(?)
a.F bottle.F of wine empty.?
'an empty wine bottle' (G0B)

In summary, the accuracy patterns with multiple-target constituents do not provide evidence at all that categorically incorrect association of gender with controller nouns is a frequent cause of inaccuracy in the heritage speakers, and not at all in the baseline speakers. The only strong evidence for it would be cases of the type 'entirely inaccurate', but this only occurs in 17 cases of the second generation. This accounts for 1.7% of all the agreement cases, and 27% of the inaccurate cases. The remaining inaccuracies with multiple-target NPs are indicative of more variable, momentaneous instability with regard to gender agreement. In the Baseline group, there are no 'entirely inaccurate' multiple-target constituents at all, and thus no evidence for wrong gender assignment.

4.5.3.3 Consistency of controller accuracy across discourse

If an individual repeatedly uses the wrong gender with a certain controller, for example the masculine deceptive noun *idioma* 'language', this could be an indication of a categorically incorrect association of gender. If the gender changes *at random* across repetitions of the same controller, this would indicate that the gender association may be lacking. To investigate how consistent each individual was as to the accuracy of repeated agreement with lemmas throughout discourse, I selected those controllers which occurred at least four times in an agreement relation, across an individual's entire recording. These are labeled CRA (Controllers with Repeated Agreement) in Table 4.13. Controllers which were agreed with only once, twice or thrice in a person's discourse were considered not frequent enough for their accuracy rates to be informative. Even four is a rather low number to perform statistics on, but had I taken a higher occurrence rate as minimum, then the number of items for analysis would shrink considerably.

Table 4.13 shows the groups and individuals in the first two columns, followed by a range of scores in the other columns. What is of interest are the last three columns. We can observe that the pattern is similar in all speakers, namely, a majority of the CRAs *always* agreed with accurately, and only very rarely can we find controllers which across repeated agreement had an accuracy rate *at chance level* (= 50% or lower accuracy; only a few RCAs actually had 0% accuracy, more on this below). Then there is a small portion of controllers which are accurately agreed with most often (= more than 50% but less than 100% of the time).

Table 4.13 Individual performances with controllers with repeated agreement (CRA) across the recordings.

Group	Subject	Total agreement cases	Average accuracy overall	Total CRA	% CRA always accurate	% CRA most often accurate	% CRA at chance level
Baseline	G1D	1022	99.2%	69	95.7%	4.3%	0%
	G0Q	1450	99.0%	117	95.7%	2.6%	1.7%
	G0P	942	98.9%	68	92.6%	7.4%	0%
	G1F	1420	98.3%	103	85.4%	14.6%	0%
	G0N	865	98.0%	73	89.0%	11.0%	0%
	G1E	1530	97.9%	109	85.3%	14.7%	0%
	G1A	1295	97.8%	80	86.3%	13.8%	0%
	G0E	695	97.8%	47	87.2%	12.8%	0%
	G0J	718	97.6%	56	89.3%	10.7%	0%
	G1G	1120	97.4%	79	82.3%	17.7%	0%
	G0A	1045	97.1%	75	82.7%	17.3%	0%
	G1C	1109	96.9%	88	86.4%	13.6%	0%
	G0F	1491	96.1%	123	80.5%	19.5%	0%
	G0B	754	96.0%	51	80.4%	17.6%	2.0%
	G1B	816	96.0%	62	75.8%	24.2%	0%

Group	Subject	Total agreement cases	Average accuracy overall	Total CRA	% CRA always accurate	% CRA most often accurate	% CRA at chance level
Heritage	G2A	1324	97.8%	101	88.1%	10.9%	1.0%
	G2B	1124	97.6%	81	77.8%	22.2%	0%
	G2F	881	97.5%	66	84.8%	15.2%	0%
	G2R	1249	97.4%	79	78.5%	21.5%	0%
	G2C	996	97.1%	74	83.8%	14.9%	1.4%
	G2D	738	95.9%	59	86.4%	11.9%	1.7%
	G2K	429	95.8%	28	78.6%	17.9%	3.6%
	G2E	1061	95.1%	79	74.7%	21.5%	3.8%
	G2J	718	95.1%	52	76.9%	19.2%	3.8%
	G2P	966	93.7%	72	70.8%	25.0%	4.2%
	G2L	509	93.5%	36	66.7%	27.8%	5.6%
	G2M	685	93.3%	48	68.8%	25.0%	6.3%
	G2Q	808	93.3%	64	73.4%	25.0%	1.6%
	G2H	829	93.2%	63	69.8%	22.2%	7.9%
	G2S	466	92.5%	37	73.0%	24.3%	2.7%
	G2N	635	84.6%	47	55.3%	31.9%	12.8%
	G2G	421	83.8%	27	59.3%	33.3%	7.4%

The table clearly shows that the higher an individual's accuracy rate overall, the fewer occurrences they have of CRAs at chance level, and the more occurrences of *always accurate* CRAs. This tendency seems independent of group membership. In fact, the 'best performing' half of the heritage speakers have very similar patterns to the bulk of the baseline speakers: roughly 75-90% of CRAs *always accurate*, 10-25% of CRAs *most often accurate* and rarely any CRAs *at chance level.*

Thus, heritage speakers can be placed on a continuum of performance ranging from baseline-like patterns to lower levels of performance, but even the lowest performing individuals have in majority *always accurate* CRAs, and their number of CRAs *at chance level* is still rather low. The heritage speaker with most CRAs (in absolute count as well as proportion) at chance level is SimG2N: 6 out of his 47 CRAs. Three of these CRAs were *always* inaccurately agreed with, suggesting the possibility that this person had assigned them the wrong gender. Among the other speakers, there were only two more cases of CRAs *always* inaccurate, one by SeqG2C and one by SeqG2D (notably, both are among the 'best performing' HS).

It is not always obvious why certain nouns would get agreed with at chance level or always inaccurately. In fact, the three CRAs which SimG2N had 0% accuracy with do not seem uncommon words and have highly reliable morphological indicators of feminine gender: *conexión* 'connection', *almohada* 'pillow' and *comida* 'food'. If we consider example (29) we may doubt whether SimG2N really has the gender of *comida* wrongly assigned. The participant was describing an animation in which the mouse character is cooking something which is not easily identifiable at first. As the mouse starts to throw and manipulate the food object, it becomes more visible that it is a pancake. Thus, it may well be that SimG2N noticed that it was a pancake more or less at the moment of uttering the first pronominal reference to *comida* 'food'. Maintaining the activation of the grammatical gender associated with *comida* may have been hindered because of the intruding conceptualization of the pancake, including associations such as the Spanish lemma *panqueque* 'pancake' with Masculine gender. The 'new' conceptualization can be regarded as more detailed, more specific, more salient and therefore more likely to overrule the maintenance of the initial, more vague conceptualization. Thus, even without uttering *panqueque*, the activation of the Masculine gender of this lemma may have overruled the activation of Feminine gender, after which the new conceptualization, including the Masculine gender, remained salient while repeatedly pronominalizing.

(29) …tira su comida en el suelo. **Lo** pone de vuelta y va cocinando. **Lo** va a tatrar otra vez de tirarlo. Y **lo** tira al suelo otra vez. **Lo** tira al suelo y ahora **lo** tira a su cara y ahora pregunta ayuda al elefante. **Lo** tira al aire y el elefante **lo**... eh... **lo** tiene.

'He throws his food on the ground.... He puts **it** back and is cooking. He goes on to try to throw **it** again... And again he throws **it** on the ground... He throws **it** on the ground and now he throws **it** on his face and now he asks the elephant for help... He throws **it** in the air and the elephant holds **it**.' (SimG2N)

In sum, the data regarding CRAs again give evidence that categorically incorrect or lacking gender association with certain lemmas is far from a massive cause of inaccuracies in these speakers. The strongest evidence for such categorical problems (although not a guarantee, as illustrated above) would be CRAs at chance level of accuracy. Such cases are extremely rare in the Baseline group and sporadic in the Heritage group.

4.6 General discussion

An analysis was presented of all cases of gender agreement in the speech of 17 heritage speakers, as well as 16 baseline speakers. The analysis covered an extensive range of variables, from individual factors to properties of the controllers, to properties of the

agreement relation. I also examined the nature of inaccuracies, i.e. whether they were variable or indicative of consistently lacking or incorrect lemma-gender associations.

The factorial patterns and how the groups compare to each other in this respect, will be the focus of section 4.6.1, thus addressing the first main aim of characterizing incompleteness inter-individually. In section 4.6.2 I will address the intra-individual nature of gender inaccuracies by focusing on the analyses of the nature of the inaccuracies, as well as the effects of frequency and fluency measures. In section 4.6.3 I outline a cognitive linguistic explanatory framework for the findings, which essentially views (in)completeness phenomena in terms of entrenchment of associations and availability of attentional resources.

4.6.1 The inter-individual characterization of gender (in)completeness

The first main aim of this study was to characterize the way in which a (more) incomplete gender system of an individual is different from a (more) complete one of another individual. The guiding questions for this aim were: *To what extent do heritage speakers and baseline speakers differ quantitatively (different rates of accuracy)?; and to what extent qualitatively (different factorial patterns causing inaccuracy)?*

The approach taken in this study of addressing a comprehensive range of speaker- and linguistic factors in fairly naturalistic behavior, clearly has much to offer, but it also led to some difficulties. The very low number of inaccurate cases relative to the accurate ones presented a challenge for the statistical analysis and interpretation of factorial patterns. Nevertheless, the analyses uncovered modest effects which oscillated around general tendencies, suggesting latent cognitive effects, which only surface well when data subsets contain enough inaccuracies. In the following, the general trends will be discussed and it will be argued that they lead to a characterization in terms of pervasive *qualitative similarities* (i.e. the same latent cognitive effects) and *quantitative differences* (i.e. different degrees to which these latent effects bring about inaccuracies) between the two groups.

The significant main effect of the Group variable when modeling the entire dataset indicates that there is a small but significant difference between the two groups as to the overall degree of accuracy – the HS are roughly 3% less accurate than the BL. The heritage speakers' average accuracy rate of 94% may come as a surprise, if one takes previous work with heritage speakers as a point of reference. A look at the ranges in the experimental studies reviewed in 4.2.2 indicates accuracy rates as low as 70% for some tasks. Another surprise may be that, contrary to the 'perfect' performance of baseline speakers in many reported AHS experiments where they served as control group, the baseline group in the present study had an accuracy rate of 97.6%. These facts indicate that, when examining the gender system comprehensively and in its more natural, spontaneous functioning, on the one hand not even baseline speakers are 'perfect', while on the other hand heritage speakers appear almost as 'near-perfect' as baseline speakers.

Also important to note is the high degree of variation with regard to accuracy rates within the heritage group – significantly higher than that of the baseline. This is consistent with the general finding in previous research, that heritage speakers show much variation as to their performance on diverse linguistic aspects.

This type of quantitative pattern, with baseline speakers clustered at the ceiling and heritage speakers scattered from ceiling to much lower levels, is what in fact underlies many findings in these data. For instance, in the heritage group there is a correlation between accuracy and the fluency measures (section 4.5.1.2), while this correlation is absent in the baseline. Although it may superficially be considered a qualitative difference between the groups (presence vs. absence of something), I consider it rather a reflection of a quantitative difference of the same type: ceiling levels in the baseline vs. varying levels in the heritage group. (I return to this issue in 4.6.3).

Thus, qualitatively, the present data do not provide clear evidence of differences between the groups. Rather, the factorial patterns coming out of the graphs and statistical test are similar in both groups, although they could be called more 'extreme' or 'amplified' in the Heritage group. For instance, in both groups, the order of susceptibility to inaccuracies across Target types goes from Phrasal (least susceptible) to Predicative, to Anaphoric (most susceptible). However, as Figure 4.3 clearly shows, the drop in accuracy with Anaphoric and Predicative agreement is much more pronounced in the Heritage group's Feminine subset. In other words, negative effects become better visible when they accumulate, i.e. enhance each other. Vice versa, when there is an accumulation of factors which favor accurate agreement, such as Masculine grammatical gender + Baseline group, the accuracy rates are often so much towards the ceiling that no effect patterns can be discerned.

The lower accuracy with predicative than with phrasal agreement replicates findings from previous research on the Spanish of adult heritage speakers, as well as baseline speakers. In addition, the present study found that anaphoric agreement is even more prone to inaccuracies than the other two, producing a threefold accuracy decline across target types which is neatly in accordance with Corbett's (1991) Agreement Hierarchy. This cross-linguistic typological hierarchy does not account for the likelihood of gender agreement inaccuracies *per se*, but for the likelihood of semantic agreement to overrule grammatical agreement. It means that anaphors are more likely to be prone to this overruling than predicative targets, than phrasal targets. What the Agreement Hierarchy and the present hierarchy may have as common underlying factor is a hierarchy of some form of susceptibility to processing/attentional instability. Anaphoric agreement may be the most susceptible to this instability, permitting intrusion of other cognitive effects – i.e. semantic agreement (Corbett's point) or any other effect leading to any type of gender agreement inaccuracy. The explanation for this particular susceptibility of anaphoric agreement *vis à vis* other types of agreement is a matter for future research, but different lines of work converge on an explanation that anaphoric agreement generally involves more complex processing, because additional layers of notional

(Bock, 1995) and/or deictic (Corbett, 1991) information have to be co-activated in order to produce anaphoric agreement.

Another inter-individual qualitative similarity is the finding that in both groups, most inaccuracies concern the application of masculine targets with feminine controllers. Whereas in previous experiments a scarcity of errors (i.e. a ceiling effect) prevented to discern such patterns in the baseline, the present finding is important in that it indicates that even though the overall number of inaccuracies by baseline speakers is smaller, these inaccuracies are, in relative terms, roughly equally often reflective of the 'masculine default' as those of heritage speakers. 68% of the inaccuracies in the heritage group, and 76% in the baseline group concerned the application of masculine targets with feminine controllers.

The significant effect of Distance observed in certain parts of the data is compatible with an account by which the more intervening material needs to be processed, the higher the chance of inaccuracies in agreement between controller and pronominal target. In both groups, the Distance effect surfaces only with the Animacy value most prone to inaccuracies, i.e. Thing. This is compatible with a view that agreement with controllers referring to Persons would be more resistant to decay with increasing Distance.

The nature of the present data prevents to assess precisely the relative strength of the Animacy effect in either group, but a hypothesis that Heritage speakers would be closer to the patterns found in children (where Animacy would be a relatively low prominent cue) is certainly not supported. Animacy has a pervasive effect in both groups, and is even slightly stronger as a main effect in Phrasal agreement of the Heritage group than of the Baseline group.

The finding of a pervasive effect of Animacy is congruent with earlier findings with adult baseline speakers, such as those of Alarcón (2009) and Vigliocco & Franck (1999) (section 4.1). What the phenomena seem to indicate is that semantic gender can have an important influence on the activation of grammatical gender. One way to interpret this is that when it matches the grammatical gender, the strong influence of semantic gender can lead to some form of *reinforcement* of the activation of the grammatical gender. When referring to things, such reinforcement from semantic gender is absent, leaving agreement more prone to inaccuracies.

Throughout the data there are also observations of the *overruling* of grammatical gender by semantic gender in cases where there was a mismatch between the two (see section 4.5.3.1). Four lemmas were identified as susceptible to 'semantic mismatch', because they are grammatically *feminine*, but can have *male* referents in the real world: *persona, familia, pareja* and *gente.* The use of masculine grammatical gender when the referent is indeed male was observed often in both groups, throughout the data subsets, and it had a significant impact on the performance patterns in Anaphoric agreement. This is in accordance with Corbett's (1991) Agreement Hierarchy.

There is also similarity in the sense that both groups *lack* an effect of morphology. Different operationalizations of morphology, different statistical methods and different

subsets of the data were examined, but word ending never seemed to matter for the performance on gender agreement in these speakers. The fact that this factor shows no effect in either group (section 4.5.2.1.3) is interesting in the light of the sensitivity to morphology found in children learning Spanish. If heritage speakers' language systems were 'incomplete' in the sense that they fossilized at a certain point in childhood development, one could hypothesize that the heritage speakers would exhibit inaccuracies reminiscent of the types of generalizations young children make. As discussed in section 4.2.4, young children show a particularly strong tendency to generalize gender on the basis of a word's ending. The lack of an effect of morphology in the present data suggests that the adult heritage speakers, like the baseline speakers, have lost this tendency. One explanation for this may be that the relative sensitivity of children to word endings, and the fading of this phenomenon with age, may indeed have to do with cognitive maturational differences (recall the suggestion of Bosworth Andrews, 2004). To put it bluntly, according to this explanation children would have 'different brains' from adults, and the present findings would indicate that heritage speakers' brains, despite quantitative differences in experience, have nevertheless become 'adult' in their sensitivity to certain types of cues. In other words, they are not qualitatively similar to children, but to adult baseline speakers.

However, other possible explanations cannot be ruled out. It may also be that the heritage speakers *did* fossilize, but in a later stage, since the predominant sensitivity to word endings is a feature of the youngest children, and fades with age. Apart from that, it is not clear to what extent the spontaneous production data of the present study, which permitted speakers to rely on vocabulary they command well, can be compared to the experiments which uncovered the cue sensitivities of children by letting them reproduce novel words. Further investigation of the issue of child versus adult heritage behavior with gender would be desirable.

Finally, the groups are qualitatively similar in that they both show a pervasive effect of lemma Frequency. Although the operationalization of the factor 'frequency in the input' was far from flawless and should be done differently in future studies (e.g. using a child directed speech corpus), the consistency of the effect, and the fact that it affects both groups, is a positive surprise, and a strong support for the idea that entrenchment levels of cognitive units are relevant for performance, even in baseline speakers who can be expected to have reached maximal levels of entrenchment of cognitive units. (More on this issue in 4.6.3.)

4.6.2 The intra-individual characterization of gender (in)completeness

Let us now turn to the question what it means if an individual exhibits performance which is not 'maximal' or 'complete'. To repeat the questions from section 4.3: *To what extent does it relate to 'problems' at the global level of language processing (i.e. correlation with fluency measures), at the level of the specific linguistic subsystem of*

gender agreement (i.e. effects of the five linguistic variables), at the level of entrenchment of gender with particular lemmas (i.e. frequency effects), or at the level of instances of processing of certain lemmas (i.e. inconsistent performance with the same lemma across contexts)? I would argue that it is a bit of all the above options, and below I will discuss the relevant findings.

To be sure, it is clear that no individual 'lacks' the agreement rule altogether or otherwise has a categorical problem with agreement. The lowest accuracy rate of an individual was 83.8%, which is well above chance level[i]. If gender agreement works on the basis of a rule, this rule is certainly operative in the heritage speakers between 83.8% and 97.8% (the highest individual rate) of the time.

In the heritage group there is a correlation between accuracy and general fluency measures (section 4.5.1.2). This is an indication that 'problems' at the *global level of language processing* are one of the factors responsible for gender problems. This effect, and its absence in the baseline group, will be further discussed in the next section.

The linguistic effects discussed in the previous section indicate that there are effects related to the different types of activation patterns *specific to the subsystem of gender agreement*. In both groups there are differential effects according to whether an activated controller lemma is embedded or not in the network of lemmas with semantic gender (Animacy) and whether they are part of the masculine or feminine network (Gender). There are also differential effects according to the type of target that needs to be activated (Target type) and how much intervening processing needs to be done while keeping the agreement relation between controller and target active (Distance).

The fact that both groups exhibited a modest but pervasive effect of the frequency of a lemma in the input, indicates that gender agreement performance should also be related to the degree of *entrenchment of gender with particular lemmas*. This will be elaborated on in the next section.

Finally, the findings regarding the consistency of inaccuracy (section 4.5.3) indicate that there can be variation in accuracy across *instances of processing the same lemma*. We have seen in the analysis of controllers with repeated agreement (CRA) across discourse (section 4.5.3.3) that most speakers show evidence that most of their CRAs are accurate *all of the time*. Also, the same analysis showed that sporadically, individuals have nouns in their repertoire which seem to oscillate *at random* between masculine and feminine across repeated agreement, that is, their accuracy rate is at chance level. These observations fit with a categorical view, namely that a gender feature is 'set' on some

[i] This person had an accuracy rate of 69.2% with Feminine controllers and 95% with Masculine.

lemmas, while it is 'lacking' on others. Another categorical possibility is that nouns do not *lack* the gender feature, but have it set either masculine or feminine. An 'incorrect' setting would then lead to a noun consistently receiving inaccurate agreement. I found only five such CRAs in the entire corpus, in three (heritage) speakers.

However, there is still a considerable portion (10-25% of individuals' CRAs) of controllers with repeated agreement (CRA) which are neither *always* accurate, nor *at chance level*, but in between. In other words, agreement with these nouns is accurate most of the time, yet sometimes not. A strictly categorical view cannot account for such cases. And there are more phenomena which it cannot account for.

When we look at the types of outcome, a considerable part of the inaccuracies in both groups were 'unrepaired' (section 4.5.3.1) and the heritage speakers exhibited some cases of entirely inaccurate intra-phrasal agreement with more than one target (section 4.5.3.2). Even if we take these cases as strongly reflective of categorically lacking or incorrect association[i], and give the benefit of the doubt to other types of outcome as also being theoretically compatible with this view, such as 'partially accurate' multi-target agreement (being an expression of 'lacking' gender leading to random performance) or 'uncertain' target forms (when the unclear pronunciation is a deliberate strategy to mask uncertainty as a consequence of 'lacking' gender representation), the large portion of inaccuracies which were immediately repaired - between one third and three-quarters of the inaccuracies, depending on the group and whether we look at single or multi-target agreement cases - is counter-indicative of a categorical lack or misrepresentation of the gender value of nouns, and impossible to fit into a categorical account.

Rather, the present data indicate that the association of a lemma with a certain gender is a gradient matter. The association can be entrenched to a maximum (producing always accurate agreement, all other factors being equal), to a minimum (producing always random agreement, all other factors being equal) or somewhere in between. The phrase 'all factors being equal' refers to the fact that there are always other factors (e.g. the linguistic factors) at play which may exert pressure towards the opposite outcome. How vulnerable an association is to these pressures is determined by its level of entrenchment. Thus, a maximally entrenched association will hardly be affected by them, while a minimally entrenched association will in practice *never* lead to a random agreement outcome, but always be subject to generalization through alternative factors (e.g. morphology, animacy).

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[i] Theoretically these instances alone are not enough to prove the point, we would need to see that these lemmas are consistently agreeing wrongly or at chance level also after these instances.

4.6.3 A cognitive linguistic approach to gender incompleteness

In the following I will argue that the 'incompleteness' or 'completeness' of gender can be approached from a cognitive linguistic perspective, successfully fitting the observations of qualitative similarities and quantitative differences between the groups, as well as the diverse types of agreement outcome, from cases of consistent accuracy or inaccuracy to all the gradations in between. The crucial aspect of this approach is that gender agreement is not conceived of as a matter of features and/or rules which are available or not, but an association between memory traces of usage events, whose activation is basically dependent on two factors: the entrenchment of this association, and the availability of attentional resources for its activation (see Chapter 1, section 1.3.2.5). Entrenchment and resource availability are *gradient* phenomena. An association between a noun (or set of nouns) and a gender can be *more or less* entrenched, and attentional resources can be *more or less* available. The interaction of these gradient factors accounts for the gradient picture arising from the data, with regard to both the inter- and intra-individual outcomes. Instead of assuming that accuracy or inaccuracy is the consequence of a feature or rule being absent or present, we can say that with high enough entrenchment and/or high enough availability of resources, cases of consistent accuracy can arise, just like low enough (or even zero) entrenchment and/or resource availability can lead to consistent inaccuracy or chance level performance. Crucially, this approach can also deal with all the cases in between, which display patterns of 'sometimes accurate, sometimes inaccurate'. In the following I will explain in a bit more detail what is meant by entrenchment and resource availability, and how these phenomena relate to the present data.

Entrenchment refers to 'the degree to which the formation and activation of a cognitive unit is routinized and automated.' (H.-J. Schmid, 2012, p. 119). With regard to the entrenchment of gender, the relevant 'cognitive unit' here can be identified as the association between a controller and a target. The more often a controller, say *casa* 'house', has been encountered in association with a certain target, say *la* 'the', the stronger their link, i.e. the higher the chance that someone conceptualizing something like 'house + definite' will routinely activate the unit *la casa*, rather than *el casa*, *la capa* or other possible units less entrenched in association with this particular conceptualization. Conversely, the lower the entrenchment of *la casa*, the less routinely its activation, and the higher the chance that it will be overruled by some other, more routinely available activation, for instance one involving inaccurate agreement. In the present data, we can see this principle reflected by the finding that in both groups there is a persistent significant correlation between accuracy rate and indices of the input frequency of controllers. That is, the more often a certain controller has been encountered in input, the more it will be entrenched, the more likely it will be reproduced with a 'correct' target. Of course the frequency indices are about single controllers, not controller + target units, but they are still useful, since we can assume that these single controllers in the input have often enough been encountered in combination with 'correct' targets, rather than 'incorrect' ones.

In the previous paragraph I wrote that the unit *la casa* can be overruled by some other activation, 'for instance one involving inaccurate agreement'. It is essential that the overruling of an association in favor of an alternative activation path does not necessarily lead to a gender mismatch. On the contrary, the existence of 'higher order' associations is responsible for the fact that accurate gender matches can be established for less entrenched, or even zero entrenched lexical items (such as the nonsense words used in the classical experiments with children – section 4.1.1.1). Contrary to the belief of critics such as Carroll (1989), an associationist approach does not necessarily have to assume that associations between each noun and each possible target need to be memorized before they can become productive. Linguistic units are also associated into broader networks, which are referred to as 'schemas' in cognitive linguistic work (e.g. Langacker, 2008). These broader networks or schemas can be based on any aspect shared between their member units, such as a semantic trait or a phonological similarity. For instance, we can assume that the noun *casa* is part of a network of nouns which share the property that they end in *–a: cama* 'bed', *vela* 'candle', *cámara* 'camera', etcetera. In cognitive linguistic terms we could perhaps speak of a schema of 'nouns ending in *–a*', and the crucial point is that this schema itself can serve as a unit, and thus stand in a (more or less entrenched) association relation with other units.

Thus, we could say that, apart from more or less entrenched associations between lower order lexical items, there are endless more other associations between higher order networks schemas, which among themselves are more or less entrenched. So if someone has never heard the word *capa* 'layer', he/she can still use the association between the higher order schema 'nouns ending in *–a*' and the schema 'feminine targets' (which is a network of targets having in common that they combine with feminine nouns) to make a good guess resulting, in this case, in accurate agreement.

The other crucial factor affecting the activation of controllers and targets, the availability of attentional resources, is a function of the intensity of other processing which has to be attended to at a given moment. One finding from the present data illustrative of this is the fact that anaphoric agreement is most susceptible to inaccuracies overall (in all speakers). Of all the types of agreement, this type has to be performed across the longest stretches of intervening material to be processed, and requires co-activation of the most processing levels (e.g. syntactic, semantic and discourse information, cf. Bock, 1989). And the more concurrent processing, the less resources left at that moment, the lower the activation of the intended association between controller and anaphor, the higher the chance of a gender mismatch.

Because the more entrenched an association, the less resources its activation requires, we can say that resource availability for gender processing is a function of the entrenchment of associations 'elsewhere'. Thus, the activation of a target's association to its controller can benefit from how entrenched the 'other' (syntactic, semantic, discourse, etc.) associations are which need to be processed concurrently. This is illustrated by the finding that the higher the general fluency rates of a heritage speaker (as measured by the WPM and eh-rate), the less susceptible he/she is to agreement

inaccuracies (section 4.5.1.2). Although very crude, these general fluency measures can be said to reflect *global* entrenchment levels of associations[i] in the linguistic system such as verbal agreement, anaphor tracking, lexical retrieval, etcetera. So, the higher these *global* entrenchment levels, the more resources will be available for processing the specific associations focused on here, i.e. gender agreement.

The finding that gender agreement accuracy correlates with the fluency measures in the heritage group, but not in the baseline group (section 4.5.1.2) is in line with the view that the two groups differ in a quantitative manner. There is no reason to assume that the principles outlined above - namely the activation of controller-target associations being a function of their entrenchment as well as resource availability – hold for one group of speakers, but not for another. Instead, I would argue that on the one hand we can neatly see the correlation of resource availability (general processing measures) with activation of controller-target associations (accuracy rates) in the heritage speakers because of their group-internal variation. In this group, both the entrenchment of gender associations as well as of the 'other' associations varies highly (and logically in a correlated way) from person to person, as a consequence of their varied amounts of previous exposure to Spanish input. On the other hand, in the baseline both types of entrenchment can be assumed to have reached a maximum. They still make occasional gender errors, as well as slips of the tongue in 'other' areas of the linguistic system, but there are simply too few for a correlation between them to become visible – a ceiling effect.

4.7 Conclusion

After an examination of inter-individual and intra-individual patterns of performance with gender agreement involving a comprehensive range of factors in highly naturalistic language production, the present study outlined a cognitive linguistic approach which can explain incompleteness as a gradient phenomenon, arising from the interplay between entrenchment of linguistic associations and availability of attentional resources. The results from this study are well compatible with this account, while the account can also accommodate those findings which could not be explained in terms of categorical presence or absence of rules and features.

A remarkable finding is that apparently, when it comes to gender agreement outside the laboratory, *nobody's perfect*, while at the same time, *everybody's near-perfect*. Not only were there inaccuracies in all groups, there was also a low rate of inaccuracies

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[i].Following Langacker (Langacker, 2002) I use the term association to refer to any combination between elements, whether in other approaches it would be called a syntactic rule, feature, or something else.

overall – to the extent that it caused challenges for Generalized Linear Mixed Effects Modeling. In many sectors of the data there was a picture of ceiling performance in the baseline, i.e. effects not surfacing because of low numbers of inaccuracies, versus high inter- and intra-individual variation in the heritage group. The factorial patterns were also similar in both groups, with susceptibility to inaccuracies going from (in order of increasing magnitude) Phrasal to Predicative to Anaphoric agreement, Masculine to Feminine, High to Low frequent, Person-referring to Thing-referring, and smaller to larger Distance between controller and target. All of this illustrates the point that – to paraphrase O'Grady et al. 2011, p. 242 - heritage speakers process gender not differently from baseline speakers. Those supposedly subject to 'incomplete acquisition' are susceptible to inaccuracies in the same way and with the same outcome as native, 'full-fledged' speakers, only in an amplified way.

Another noteworthy finding is that the morphology of lemmas does not seem to play a significant role in performance with gender agreement, in either group. This suggests that, in cognitive linguistic terms, the schematic generalization in heritage speakers and baseline speakers proceeds along the same lines, but is different from that reflected in the experiments with children, who seem to be particularly susceptible to generalizations on the basis of morphology, rather than other cues.

Regarding the intra-individual picture, it was found that gender agreement inaccuracies were seldom consistent with the same lemma or sets of lemmas. This supports the characterization of gender agreement 'incompleteness' as not tied to specific loci, such as syntactic rules or lemma features, but a reflection of a complex interplay of effects at all levels of language processing, including the level of generalization over paradigmatic sets of lemmas or targets, the level of patricular lemmas, and the level of momentaneous processing. Importantly, the correlation between accuracy and general processing measures indicates that the 'completeness' of gender agreement cannot be viewed separately from the 'completeness' of the language system as a whole.

The present study may offer an additional building block to cognitive linguistic views on gender agreement, as well as on 'incompleteness'. In fact, it points to the need for refining the notion of 'incompleteness'. In the last chapter of this book I will return to this issue and propose the term 'processing optimization'.

Chapter 5 Dative constructions
Disentangling pattern replication from internal sources of divergence[i]

5.1 Introduction

The present chapter aims to shed light on the question whether and how pattern replication is involved as an underlying mechanism of divergence. The broad exploration of the Spanish of heritage speakers in the Netherlands has already uncovered some interesting examples of pattern replication from Dutch (see Chapter 3, section 3.3.3) but their occurrence throughout the data is limited and the phenomena seem to be tied to specific lexical items. The most salient and pervasive phenomena of grammatical divergence found up to now seem to be best characterized as optimizations as a consequence of 'incompleteness'.

This type of finding is common in the field of heritage language research, and perhaps one of the reasons why the field focuses much more on incompleteness phenomena than on the idea that pattern replication from the dominant language can cause pervasive structural divergence. This stands in contrast to the convincing evidence for structural convergence in studies of languages with a long history of contact, as well as in experimental psycholinguistic studies. In diachronic language contact pretty much everything seems to be structurally possible, from the adoption of postnominal articles in languages which originally had prenominal or no articles (Tomić, 2006), to the complete

[i] The present chapter draws heavily on text from the following two publications:

Irizarri van Suchtelen, P. (2014). *Maintained and acquired heritage Spanish in the Netherlands: the case of dative constructions.* Applied Linguistics Review, 5(2), 375–400.

Moro, F., & Irizarri van Suchtelen, P. (in press). *Dominant Language Transfer in Heritage Languages in the Netherlands. Redefining the "structural", and the "transfer" in "structural transfer".* In H. Peukert, T. Kupisch, K. Bührig, & I. Gogolin (Eds.), Dynamics of Linguistic Diversity. Amsterdam: John Benjamins.

syntactic alignment of language systems (Ross, 2006). On the micro-level, individual bilinguals who participate in psycholinguistic experiments exhibit so-called cross-linguistic structural priming, i.e. a bias to mimic a particular syntactic configuration after having processed the equivalent in the other language, and it has been shown that it can occur without co-activation of lexical content (Hartsuiker & Pickering, 2008; Loebell & Bock, 2003).

None of this has been reported as common in the heritage language literature. It seems likely that pattern replication is in fact subject to many structural constraints which prevent it from becoming pervasive in naturalistic, synchronic data (cf. Matras & Sakel, 2007b; Silva-Corvalán, 1994). In experimental settings, these constraints can be bypassed or manipulated, and in diachronic data there's the additional dimension of grammaticalisation: divergences are gradually generalized in the process of transmission to new generations (and peers) and progressively conventionalized as the new socially accepted norms of language use (cf. Matras & Sakel, 2007b).

Even if divergences appear structural, pervasive and *convergent* with the contact language, scholars studying heritage speakers are often cautious to attribute them unequivocally to influence from the contact language. The problem is that it seems often difficult to determine whether certain grammatical divergences observed in heritage speakers are induced by CL-entrenchment factors (i.e. pattern replication) or HL-entrenchment factors (i.e. incompleteness), or perhaps by both at the same time. For example, overgeneralization of overt subject pronouns, often regarded a classic example of English (where the default is overt) influencing Spanish (default null), was also found in Spanish-Italian early bilinguals (both languages: default null), indicating that, apart from or instead of pattern replication, there must be some other effect responsible for the observed divergence, possibly in the realm of incompleteness (Sorace, 2011).

The present chapter focuses on Spanish dative constructions. Several studies have reported divergence in this domain in a heritage setting, and all have proposed explanations for this divergence containing an important role for influence from the contact language (Montrul & Bowles, 2009; Montrul, 2004a; Silva-Corvalán, 1994a; Toribio & Nye, 2006). The aim of the present study is to find out what patterns can be observed in contact with Dutch, and what these patterns can tell us about the role of pattern replication. To approach the question of the relative contributions of internal- and external factors, I will take into account the extent of the divergences in this domain among participants - i.e. do all intensive Dutch-speakers exhibit the divergent pattern and not the monolinguals? - as well as correlations with Spanish exposure histories and fluency. As we will see, the five types of dative constructions examined are subject to different effects, which provides additional insight into the matter of CL- vs. HL-entrenchment factors and into the question of how *structural* the pattern replication effects in fact are – i.e. are the divergences pervasive across the system or rather tied to specific contexts?

Section 5.2 introduces the descriptive facts about dative constructions in Spanish and Dutch, discusses previous findings with regard to dative constructions in Spanish-

English bilingualism, and formulates the research problem from which the present study departs. Section 5.3 presents the method and results. Section 5.4 discusses the findings in two parts: 5.4.1 gives an analysis and argumentation of one part of the data in terms of HL-internally induced divergence, and 5.4.2 proposes a psycholinguistic model of the processing of the constructions in focus and argues for cross-linguistic activation at different levels, with different degrees of success. Section 5.5 concludes.

5.2 Spanish datives in contact

5.2.1 Descriptive facts: dative constructions in Spanish and in Dutch

In Spanish, indirect object marking can take different forms, as illustrated in example (1). In the case of (non-emphatic) pronominal reference, the indirect object is indexed by a dative clitic (1a). A lexical indirect object can be marked with the preposition *a* 'to' (1b), or additionally indexed by the clitic (1c). The latter construction is usually called *clitic doubling*. Whether or not the PP is 'doubled' is optional, depending on rather subtle pragmatics. According to Butt and Benjamin (2010), the clitic is added 'to show that a noun is 'involved' by the verb', in some way, for instance ''receiving', 'losing', 'advantage'' (p. 151).

(1)

a. El niño **le** da un libro.
the boy **CL.3.DAT** gives a book
'The boy gives her a book.'

b. El niño da un libro **a la niña** .
the boy gives a book **to the girl**
'The boy gives a book to the girl.'

c. El niño **le** da un libro **a la niña** .
the boy **CL.3.DAT** gives a book **to the girl**
'The boy gives a book to the girl.'

I will refer to all the above (whether or not the construction consists of a doubled clitic) as *dative constructions*. Whereas dative constructions encoding an event with a Recipient could be considered *canonical* cases, Spanish allows for a range of other event types/semantic roles to be encoded with a dative construction, as example (2) shows. The dative construction can also be used to encode an event involving a (human) Source, i.e. a person from which something is taken away, stolen, etc. (2b). The so called (dative) *external possessor construction* (EPC) (2c) involves turning the Possessor into an indirect object, instead of a possessive pronoun. Spanish also has the possibility to

express an 'interested bystander' of an unaccusative predicate, in a construction which is often called *dative of interest* (2d). Note that to use this form, physical contact or direction is not necessary, the fruit in this example can simply fall in front of the bystander. For ease of reference I will term the semantic role which is somehow affected (positively or negatively) in his/her interest, the *Interestee* (following Draye, 1998). Finally, Spanish has many psychological predicates which take a *dative experiencer* (2e).

(2) Dative constructions in Spanish:

a. RECIPIENT

Le	da	una	mochila	**al**	**chico**
him	gives	a	backpack	**to.the**	**boy**

'He gives a backpack to the boy.'

b. SOURCE

Le	roba	la pelota	**al**	**hombre**
him	steals	the ball	**to.the**	**man**

'He steals the ball from the man.'

c. POSSESSOR

Le	agarra	el	brazo
her	grabs	the	arm

'He grabs her arm.'

d. INTERESTEE

Le	cae	una	fruta	del	árbol
him	falls	a	fruit	from.the	tree

'A fruit falls from the tree.'

e. EXPERIENCER

Se	**le**	olvidaron	las	llaves
REFL	**him**	forgot.3PL	the	keys

'He forgot the keys.'

In Dutch the use of dative constructions is virtually restricted to events involving a Recipient. For this language, I will refer to both the prepositional as well as the double object construction in (3a) as dative construction. Semantic roles other than Recipient

encoded in a dative construction are much more rare than in Spanish. As the Dutch examples in (3) show, Sources are typically encoded in PPs (3b), Possessors are usually represented in possessive markings on the possessum (3c), Interestees are most often not expressed at all (3d), and psychological predicates such as *vergeten* 'forget' and many others, typically take subject experiencers (3e).

(3) Dutch equivalents to Spanish dative constructions:

a. RECIPIENT

Hij	geeft	een	rugzak	**aan**	**de**	**jongen**
he	gives	a	backpack	**to**	**the**	**boy**

'He gives a backpack **to the boy**'

Hij	geeft	de jongen	een rugzak
he	gives	the boy	a backpack

'He gives the boy a backpack'

b. SOURCE

Hij steelt	de bal	**van**	**de man**
He steals	the ball	**from**	**the man**

'He steals the ball from the man.'

c. POSSESSOR

Hij	pakt	**haar**	arm
he	grabs	**her**	arm

'He grabs **her** arm'

d. INTERESTEE

Er	valt	een	vrucht	uit	de	boom
there	falls	a	fruit	from	the	tree

'A fruit falls from the tree'

e. EXPERIENCER

Jij	bent	de	sleutels	vergeten
you	are	the	keys	forgotten

'You forgot the keys'

The above non-dative strategies of Dutch are also possible in Spanish, i.e. the Source encoded in a prepositional phrase (4a), the Possessor encoded with possessive marking (4b), non-mention of the Interestee (4c) and the encoding of the Experiencer as the subject of a transitive version of the verb 'to forget' (4d).

(4) Spanish alternatives to dative constructions:

a. SOURCE

Roba	la pelota	**del**	**hombre**
He.steals	the ball	**of.the**	**man**

'He steals the ball from the man'

b. POSSESSOR

Agarra	**su**	brazo
grabs	**her**	arm

'He grabs her arm.'

c. INTERESTEE

Cae	una	fruta	del	árbol
falls	a	fruit	from.the	tree

'A fruit falls from the tree.'

d. EXPERIENCER

Olvidó	las	llaves
forgot.**3SG**	the	keys

'He forgot the keys.'

Thus, while Dutch has one way of expressing each of the above types of event, Spanish has two options for each (dative and non-dative), one of which is the same option as in Dutch (non-dative). This optionality with partial overlap in structure seems ideal ground for structural divergence to take place as a consequence of *pattern replication* (see Chapter 1, section 1.2.4). That is, since Spanish has both the dative and the non-dative strategies, heritage speakers, as a consequence of constantly activating Dutch non-dative strategies, may conceivably develop an increased preference for non-dative strategies for encoding Possessors, Sources, Experiencers and Interestees, in comparison to monolinguals.

5.2.2 Previous findings in heritage research

Silva-Corvalán (1994) observed that many US born bilinguals, though not frequently, use structures of the type (5b), an example of the Possessor represented as a possessive pronoun, whereas the standard Spanish form would be the external possessor construction (EPC) as in (5a):

(5)

a.	Y	me	quebraron	la	mandíbula.
	and	1P.DAT	broke.3P.PL	the	jaw
b.	Y	ø	quebraron	mi	*jaw.*
	and	ø	broke.3P.PL	my	*jaw*

'And they broke my jaw.'

(Fragment of example from Silva-Corvalán, 1994: 139)

Silva-Corvalán points to the fact that construction (4b) would indeed be possible in standard Spanish, but only when the Possessor has a relatively low degree of involvement in the situation. Thus, she argues that a sentence like *Lavó mi pelo* 'He washed my hair' would give rise to an interpretation whereby the hair is washed separate from the head, while the owner is not involved, e.g. after being cut. This would of course be very unusual, let alone the proposition of a jaw being broken without being attached to the person. Not using the dative EPC when there is a high degree of involvement of the Possessor, would be a violation of a semantic-pragmatic constraint. Because English has only the construction without the dative, Silva-Corvalán (1994) argues that there is cross-linguistic influence: the loss of the constraint is triggered by the bilingual's preference for equivalent structures in the two languages and the fact that the English equivalent is not subject to the same semantic-pragmatic constraints.

Montrul (2004a), in a story elicitation task with 24 heritage speakers, found that those with low proficiency had a tendency (though non-significant) to use fewer EPCs with doubled dative clitics. Instead, they used more possessive constructions (like 4b), and 'dative clitic only' strategies than the monolinguals. The latter result seems unexpected, as it still would constitute a dative EPC. Montrul does not discuss this observation, however.

Using a grammatical judgment task, Montrul and Bowles (2009) found that heritage speakers had unstable knowledge of dative experiencers with psychological verbs. They showed subjects grammatical sentences in which the Experiencer NP was *a*-marked, and ungrammatical sentences without *a*-marking. Heritage speakers had a relatively high acceptance of (ungrammatical) Experiencer NPs without *a*.

Toribio and Nye (2006) also let their subjects judge grammatical and ungrammatical sentences with dative experiencers, and additionally administered a sentence-completion task. They found that heritage speakers, with their high rates of acceptance and production of ungrammatical constructions, displayed two main tendencies: 1) Mapping

of subject properties, such as control of verb agreement and no *a*-marking, to the Experiencer, and object properties to the Theme (including *a*-marking and accusative pronominalization); 2) SVO order: subject experiencer in preverbal position.

The authors of all three experimental studies interpreted the heritage speakers' tendencies to restructure dative experiencers and to produce fewer clitic doubled EPCs as evidence for the vulnerability of the syntax-semantic and syntax-pragmatic interfaces. Precisely these aspects are affected because they are expressions of *inherent* (or *marked*) case, regulated by interpretable (semantic and pragmatic) features, as opposed to *structural* case, which is a purely syntactic phenomenon.

On the other hand, when the dative case is structural, as in ditransitive Recipient-Theme constructions, the devices for marking dative were found to remain stable. Montrul (2004a) found that with such indirect objects, production rates of 'clitic only' and 'clitic doubling' were very similar between monolinguals and heritage speakers. Silva-Corvalán (1994) also did not find evidence for contact-induced change in the realization of dative clitics in typical contexts. She found that in a total of 2822 required contexts for clitics, including dative constructions, heritage speakers only omitted 71, constituting 2.5%.

5.2.3 Research problem and hypotheses

The studies on Spanish-English contact indicate that 'marked' dative constructions, such as the dative experiencer and dative EPC, may be subject to divergence in bilinguals, but not 'structural' dative constructions, i.e. the encoding of Recipients. (In the remainder I will speak of *optional* and *canonical* datives, using semantic criteria, see section 5.3.1.) Such divergence can occur in the form of non-native patterns of use, and/or simply gradual decrease in frequency. The primary objective of the present study is to investigate what happens to dative constructions in the elicited oral production of Spanish-Dutch bilinguals. In addition to the canonical (Recipient) dative, the dative experiencer and the dative external possessor construction, two optional dative constructions will be included, the *dative of interest* and the *dative source*, which were, to my knowledge, not investigated before in Spanish heritage speakers. The expectation is that the optional dative constructions will show divergence, as opposed to the canonical ones.

Another question is *why* the structural divergences would occur: to what extent are they induced internally (HL-entrenchment) or externally (CL-entrenchment)? As mentioned, Silva-Corvalán (1994) seems to consider it an externally induced divergence, namely through influence from the semantic-pragmatic constraints of the equivalent constructions in English. Montrul (2004a) seems to favor convergence to English as the main mechanism, i.e. a CL-related view, but also argues for a role for attrition and/or incomplete acquisition in childhood. In her own words: 'With the erosion of pragmatic and semantic features, the grammar of these Spanish heritage speakers becomes reduced and converges on the morphosyntactic characteristics of English.' (p. 138). Montrul and Bowles (2009) put incomplete acquisition forward as the main underlying factor,

proposing that it has 'taken the form of linguistic convergence' (p. 381). Toribio and Nye (2006) do not argue decisively for a precise mechanism, but make reference to CLI, incompleteness and even accelerated internal development (see Chapter 1, section 1.2.4): 'the transmission of a linguistic system with variable forms that are biased towards convergence (e.g., Experiencer-Verb-Theme order) could lead to incomplete replication of the original syntactic system and indirectly to syntactic change.' (p. 274).

The present study is conducted from the perspective that incompleteness and pattern replication should be sharply distinguished as factors contributing to divergence, as I have advocated in Chapter 1, section 1.2.4. To gain insight into the contributions of these two factors is a second aim of this study. This will be done among others by taking into account the participant profiles. If a divergence is present in all bilinguals to some extent, but not in monolinguals, there would be good reason to attribute it to pattern replication. However, if incompleteness were to be at play, we would expect the divergence to correlate with a history of low exposure to Spanish (SimG2) and with low fluency in Spanish.

5.3 Method

5.3.1 Selection of material and participants

A set of video scenes was selected from the corpus (Table 5.1) which elicited a well-delimited set of grammatical constructions in Spanish and Dutch, some of which overlap, with the crucial difference that in Spanish, the options include a dative construction, but not in Dutch. Decisions as to the classification of scenes according to the five categories were much inspired by semantic-typological work (e.g. Malchukov et al., 2007).

Table 5.1 Elicitation scheme for the dative constructions.

Event types to be elicited	Scenes that served as stimuli
Events with a Recipient A human agent transfers an object (Theme) to a third party's (Recipient) hands, or attention.	• Man gives other man a backpack • Man gives other man one out of two backpacks • Man gives shoes to one of two girls • Man offers box of cereals to woman • Man shows book to other man • Man shows jacket to boy • Man throws ball to other man
Events with a Possessor Something is done, or happens to the body part (Theme) of a third party (Possessor)	• Banana peel flies back at Mouse's face • Boy grabs girl's arm • Man cuts woman's hair • Pancake falls on Mouse's face • Woman cuts head and tail from fish
Events with a Human Source An object (Theme) is taken away from a third party's (Human Source) control/possession, by a human agent	• Boy steals balls from box • Two boys steal ball from man • Thief steals laptop • Man takes icecream from woman • Man takes can from woman • Mouse takes away drum from Elephant • Mouse takes away sticks from Elephant
Events with an Interestee An object (Theme) is subject to a non-controlled, non-stative event, and this (potentially) affects a bystanding third party (Interestee) in his/her interest	• Chestnut falls from tree • Ball goes under piano • Computer is not working • Bike falls • Bicycle parts have fallen • Pancake falls on floor • String snaps • Laptop falls

Events with an Experiencer Something (Theme) comes into a third party's (Experiencer) attention, or escapes it, or he/she feels pain in a body part (Theme)	• Man has an idea • Elephant has an aching tooth • Interviewer's arm hurts • Man leaves gas on • Man leaves keys behind • Man left keys behind (flashback)

Some scenes were part of longer stories, others were single clips. All participants had viewed the same set of stimuli, but not all participants had the same number of responses, either because they had described the same stimulus more than once, because they had not described a stimulus (this happened particularly if it was part of a story with many events following each other) or because their description was not considered adequate for inclusion.

The criteria for including a response for analysis were based on the sufficient *semantic* components in the response: an adequate description of the *Event + Theme* involved. The Theme could be a physical object, as in 'He gives her a book' or an abstract entity, as in 'He has an idea'. In the case of events of pain the Theme could better be defined as a Source or Location, as in 'His tooth hurts (him)'.

The exact grammatical or lexical choices were allowed to vary somewhat. For instance, one and the same video scene could equally well be described as 'Man showing a box to a woman' or 'This guy offers her some cereals,' but if it were described as, say, 'The guy flirts with a woman', it was not included, since neither the event of (mental) transfer nor the Theme were acceptably described.

The dependent variable is whether the *third party* - i.e. the Recipient, Possessor, Source, Interestee or Experiencer – was described using a dative or some 'other' formal encoding (the latter including also non-mention of the third party).

All 40 participants were included for this case study. To examine the effect of exposure history, the results of different subgroupings will be compared. To examine cognitive fluency in the HL, the fluency measures *WPM* and *uh-rate* were used (see Chapter 3, section 3.3.6).

5.3.2 Results

5.3.2.1 General

A total of 1145 scene descriptions were analyzed. Those described in 5.2.1 were indeed the major encoding strategies. If a dative construction, like example (2) in 5.2.1, was not used, the alternatives were as expected and pertained to the types exemplified in (4) in 5.2.1. Some additional forms were found (all with equivalent Dutch constructions), which were not mentioned in 5.2.1, such as the representation of the Possessor as a direct object (6), or the omission of a Possessor or Source (7). However, I will not

consider the different types of non-dative strategies in detail, as the present study concentrates on the dichotomy dative – non-dative.

(6) La agarra del brazo
ACC.3SG.F takes of.the arm
'He takes her by the arm.' (G0B)

(7) ... cortando el pelo
cutting the hair
'... cutting the hair.' (G1B)

5.3.2.2 Canonical vs. optional datives

Table 5.2 shows that all participants use a dative in the overwhelming majority of cases for referring to the Recipient in the 'Events with a Recipient'. A Mixed Effects Logistic Regression analysis showed that there were no significant differences in the rate of datives between monolinguals, first and second generation.

Table 5.2 Expression of canonical (those encoding Recipients) and optional datives (those encoding Possessors, Sources, Experiencers and Interestees).

	Canonical datives	Optional datives
G0: Monolinguals *(N=16)*	96 / 97	264 / 353
	98%	75%
G1: First generation *(N=7)*	41/42	108 / 160
	97%	67%
G2: Second gener. *(N=17)*	107 / 114	159 / 379
	94%	40%

The few non-datives included the two descriptions in (8) and (9) of a man throwing a ball to another man, using constructions with another preposition than the dative preposition *a* (SimG2L perhaps mixed up 'throw a ball to' and 'play ball with' in a slip of the tongue). The rest involved non-mention of the Recipient, as in (10). Remarkably, participant SimG2S omitted the Recipient 4 out of 7 times.

(8) Tiraba una pelota, **hacia** el otro
'He threw a ball **toward** the other.' (SimG2M)

(9) Tira la pelota **con** otro chico.
'He throws the ball **with** another boy.' (SimG2L)

(10) Un hombre mostraba una chaqueta.
'A man showed a jacket.' (SimG2S)

For describing other 'third parties' than Recipient, all groups use fewer datives (i.e. optional datives) than with Recipients, but the decrease is much larger in the second generation bilinguals. The second generation as a group uses significantly fewer optional datives than the monolinguals (*B = -1.9505; B SE = .4145; z = -4.705 p = .000*) and the first generation (*B = -1.5338; B SE = .5267; z = -2.912; p = .003*). The difference between monolinguals and first generation bilinguals was not significant.

It is also important to note the great variation between individuals of the second generation, regarding optional datives. The scatter plot in Figure 5.1 shows that the SimG2, but also four of the SeqG2 move away from the range of the G1 and G0. The latter four (SeqG2G, SeqG2H, SeqG2J and SeqG2K) were precisely those among the SeqG2 who reported to have passed through long periods in childhood in which they did not speak Spanish with their parents. They were addressed by their parents in Spanish but spoke Dutch to them. The other second generation bilinguals seem to behave like the G1 and G0. Within the latter two groups, individuals G0C and G1B have relatively low rates, which I was not able to relate to some special trait (for instance, they did not have a different dialectal background or much older age than the others).

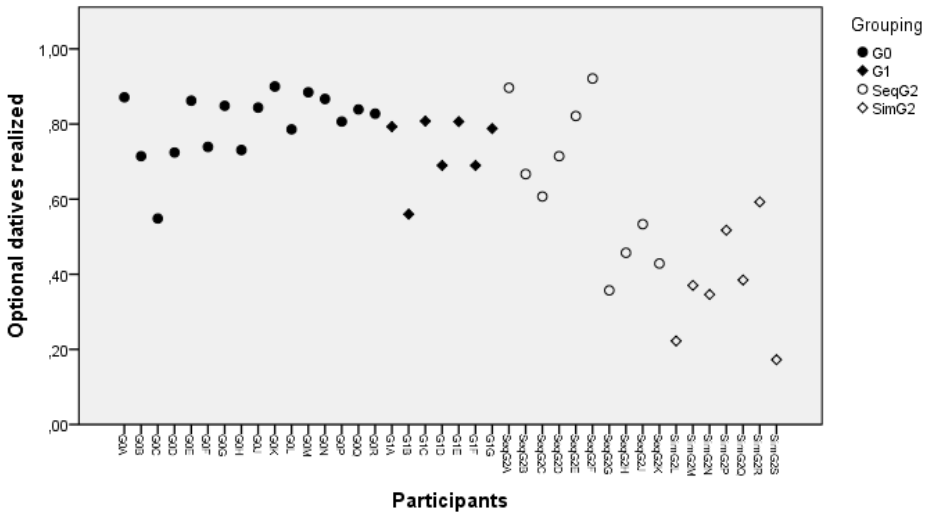

Figure 5.1 Realization of optional datives. Each dot represents an individual.

5.3.2.3 Encoding of Recipients

The canonical dative may seem non-divergent, supporting my hypotheses, but looking more closely at the encoding of Recipients (Table 5.3), an interesting picture arises. The strategy of referring to the Recipient by marking the lexical NP with only the preposition *a* (*a*-PP) turns out very popular in the G2, to the detriment of strategies involving clitic indexing, i.e. the 'dative clitic only' and the 'clitic doubling' construction, which are the prevalent strategies in the G1 and G0. Examples of clitic-less constructions are given in (11) and (12).

Table 5.3 Forms of encoding Recipients.

	Clitic indexing		No clitic indexing .		
	dative clitic only	clitic doubling	*a*-PP	other PP	none
G0: Monolinguals *(N=16)*	14 / 97 16%	76 / 97 76%	6 / 97 7%	0%	1 / 97 2%
G1: First generation *(N=7)*	3 / 42 9%	36 / 42 84%	2 / 42 4%	0%	1 / 42 3%
G2: Second gener. *(N=17)*	3 / 114 2%	69 / 114 60%	35 / 114 31%	2 / 114 2%	5 / 114 4%

(11) El hombre da los zapatos a una niña.
The man gives the shoes to a girl
'The man gives the shoes to a girl.' (SimG2S)

(12) Un chico muestra un libro al otro.
A boy shows a book to.the other
'A boy shows a book to the other.' (SimG2L)

The scatter plot in Figure 5.2 shows that, within the G2, those who are not at the ceiling with respect to clitic indexing – individuals SeqG2G to SimG2S - are the same ones moving away from optional datives in Figure 5.1. This time, though, we could consider SeqG2H, SeqG2J and SeqG2K (three of the four who went through a period of 'passive Spanish') as performing still within the range of the G1/G0. Participants SimG2P, SimG2Q and SimG2R are perhaps slightly under this range. At the bottom is a cluster of participants with very little to no clitic indexing.

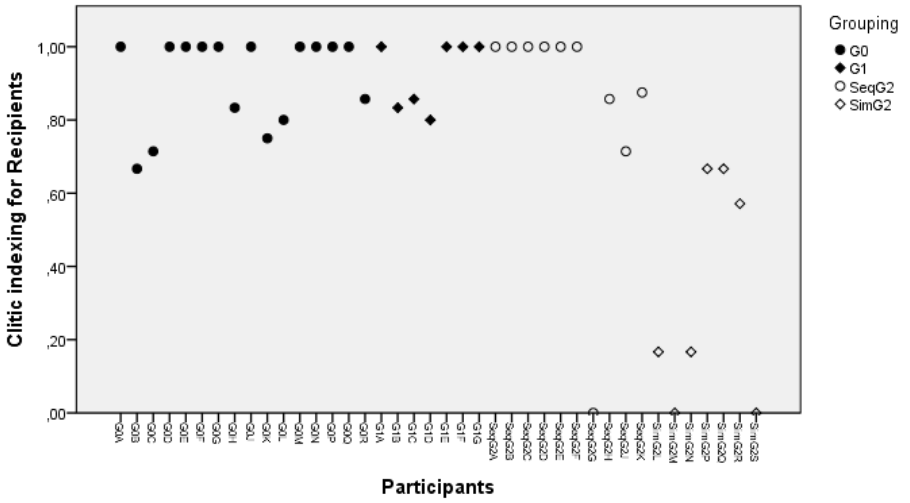

Figure 5.2 Use of clitic indexing strategies (i.e. 'clitic only' or 'clitic doubling') for encoding Recipients. Each dot represents an individual.

We can very well compare the individual behaviors on clitic indexing with their behavior on optional datives, because in fact, the optional datives virtually always involved clitic indexing. There were only two encodings of the 'other third parties' which can be labeled 'datives without clitic indexing', i.e. *a*-PP (examples (13) and (14)).

(13) un joven cortando el pelo a una niña
a youngster cutting the hair to a girl
'A young man cutting a girl's hair.' (G0K)

(14) alguien cortando el, el pelo a una mujer
someone cutting the the hair to a woman
'Someone cutting a woman's hair.' (SimG2S)

In other words, if a third party other than Recipient was encoded as a dative, it virtually always involved a dative clitic, either alone, or doubled. Note that sometimes, the clitic was doubled with something other than an *a*-PP, resulting in what I would label 'hybrid doubling', exemplified in (15). This type of strategy was used once in the G0, twice in the G1 and eight times in the G2.

(15) Le toma su brazo.
DAT.3SG takes POSS.3SG arm
'He takes her arm.' (G1E)

5.3.2.4 Clitic indexing and family background

Table 5.4 represents the use of dative clitic indexing across the different event types. All groups use it more for Recipients than for other roles, except for the SimG2, who have low rates of clitic indexing overall. Mixed Effects Logistic Regression analysis revealed them to differ significantly from the monolinguals and with the first generation, for all semantic roles ($p < .05$). They also have a significant difference with the SeqG2, on all types except Experiencers ($p < .05$).

Table 5.4 Clitic indexing strategies (i.e. clitic only. clitic doubling. and hybrid doubling) used to encode the five types of 'third party'.

	Recipients	Possessors	Sources	Interestees	Experien-cers	Total
G0 (N=16)	90 / 97	64 / 73	66 / 86	86 / 115	48 / 79	354 / 450
	91%	86%	76%	76%	60%	78%
G1 (N=7)	39 / 42	18 / 24	29 / 36	42 / 56	21 / 44	149 / 202
	93%	64%	82%	74%	44%	73%
SeqG2 (N=10)	58 / 69	31 / 39	42 / 65	39 / 76	21 / 53	191 / 302
	84%	77%	64%	51%	40%	63%
SimG2 (N = 7)	14 / 45	7 / 25	9 / 40	9 / 49	7 / 32	46 / 191
	32%	25%	24%	19%	21%	24%

As for the SeqG2, they seem to pattern together with the first generation and the monolinguals, except on the encoding of Interestees and Experiencers, where they had a significant difference with the monolinguals ($p < .05$).

The first generation never had significantly lower clitic rates than the monolinguals.

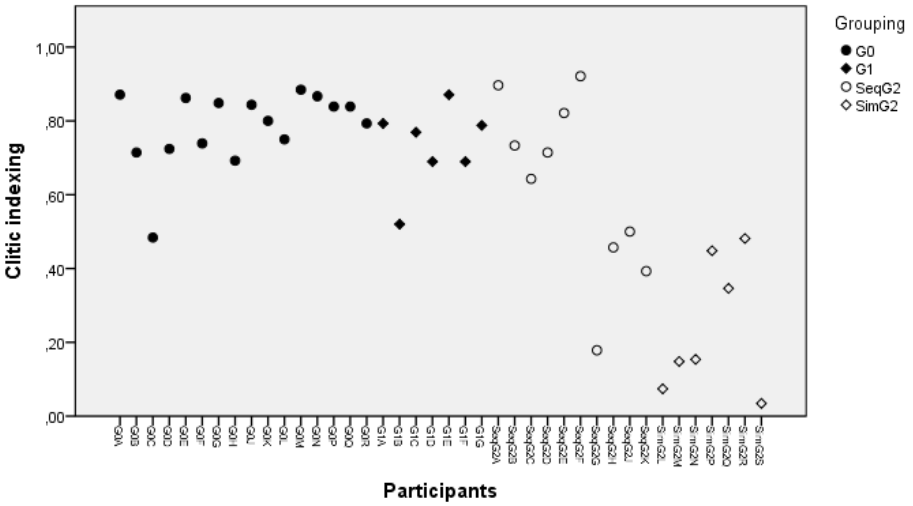

Figure 5.3 Use of clitic indexing on all event types. Each dot represents an individual.

If we look at the individuals again (Figure 5.3), taking together all event types (including those with Recipients), we can discern three major clusters. The cluster with high rates of clitic indexing consists of the monolinguals, the first generation and the 'fully productive' (i.e. always spoke Spanish in childhood) sequential bilinguals. At the bottom there is a subset of the simultaneous bilingual second generation, together with 'passive Spanish' SeqG2G. Finally, in the middle range there are three of the other 'passive Spanish' SeqG2 and three of the SimG2.

5.3.2.5 Clitic indexing vs. fluency measures

Table 5.5 shows that in the monolinguals and first generation there are no significant correlations between individual's fluency measures and clitic indexing, whereas in the second generation, both the WPM and the uh-rate correlate significantly with the clitic rate.

Table 5.5 Correlations of clitic rate with the two fluency measures.

	WPM		*Uh*-rate	
	Pearson corr.	Sig. (2-tailed)	Pearson corr.	Sig. (2-tailed)
G0 (N=16)	-.156	.565	-.461	.072
G1 (N=7)	-.313	.494	-.540	.211
G2 (N=17)	.742	.001	-.566	.018

To illustrate, Figure 5.4 plots clitic indexing against WPM speech rates, the strongest and most significantly correlating fluency measure.

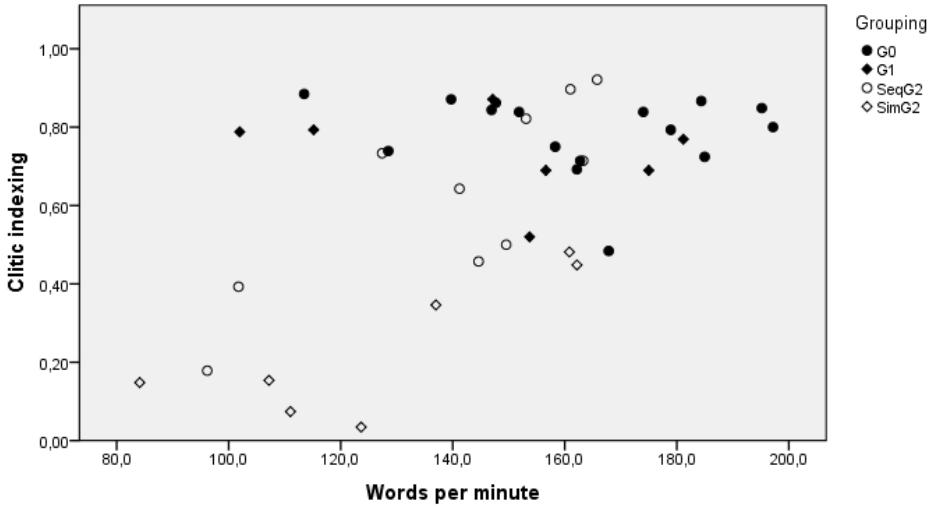

Figure 5.4 Correlation between clitic indexing rate and words per minute. Each dot represents an individual.

5.4 Discussion

The most important results of this study can be summarized as follows. A first set of findings concerns individual factors. Spanish dative constructions seem quite robust in those who grow up monolingually and become intensively bilingual as adults, as the

patterns of the first generation show. Divergence in dative constructions is very possibly associated with generally lower entrenchment levels in the HL, as indicated by the strong correlations with the fluency measures. The fact that the division of the second generation into sequential and simultaneous bilinguals captures a large part of the variation, suggests that divergence with regard to Spanish dative constructions is at least in part dependent on language exposure conditions at home in childhood.

The second important set of findings concerns linguistic effects. It was found that the canonical datives (Recipients) are not less divergent than the optional datives. That is, the dative clitic, which indexes the Recipient in the verbal complex, seems to be preferably omitted by the low-exposed speakers.

The combination of these individual and linguistic findings leads me to believe that a great deal of the results can be explained as Spanish-internal divergence related to the processing of particularly the dative clitic, by a subset of low-exposed speakers. I will discuss this idea in the next section, 5.4.1.

Another subset of linguistic findings concerns the relatively higher degree of divergence on dative experiencer- and dative of interest constructions, compared to the other constructions, reaching significance also in the SeqG2. In section 5.4.2 I argue for an analysis in terms of (additional) cross-linguistic activation from Dutch with respect to these two constructions.

5.4.1 Clitic-less dative constructions as internally induced divergence

The key indication that there may be something to clitics, rather than datives *per se* came from the encoding of Recipients, for which a subgroup tended to omit them.[i] The literature also provides some evidence that the clitic is a less stable aspect of the

[i] It must be noted that verbs can be more or less combinable with dative clitic indexing, and that clitic rates may thus be partly a consequence of which verbs participants used. There were indeed differences across individuals as to the preferences for using certain verbs to describe the same scenes. Notably, it seemed that 'weaker' speakers made use of a considerably smaller set of verbs. However, it is only for the experiencer events that we can observe individual verb preferences to be clearly responsible for clitic rates (a finding to which I will return). It would be convenient for future research to control for biases of particular verbs, which in this study could not be done well due to the high type and low token frequency of verbs. By way of test, I considered the verb *pasar*, the most used verb for describing 'physical transfer' in the data. It was used 74 times. Only the SimG2 contained occurrences (8 of 11) of *pasar* without clitic indexing, against 100% indexing in the other groups.

canonical dative than *a*-marking. Montrul and Bowles (2010) showed that the bare *a*-NP was accepted slightly more by heritage speakers than the clitic doubled *a*-NP in a grammatical judgment task, whereas this was the other way round for monolinguals. Montrul (2004a) found that her lowest proficiency heritage speaker group had a higher production rate of clitic-less *a*-marking (14.6% of indirect objects) than advanced heritage speakers' (0%) and monolinguals (2.5%).

Except for the dative experiencers and dative of interest, to which I will turn below, there were no signs that certain optional dative constructions are more or less resistant to divergence than others. All types were significantly affected in the SimG2. Because it was the clitic that was omitted in their Recipient encoding, and because virtually all optional dative constructions involved clitic indexing, I hypothesize that the simultaneous bilinguals' move away from optional datives is at least in part relatable to a more general move away from clitic indexing.

Furthermore, the divergence seems closely related to a history of low exposure, since we can assume that children from mixed marriages would be exposed to considerably less Spanish than children of two Hispanic parents. Studies on the monolingual L1 acquisition of Spanish indicate that children command the syntactic properties of clitics at an early age, and are surprisingly native-like as soon as they start using them. Among other things, they do not omit doubled clitics (Domínguez, 2003; Torrens & Wexler, 2000). All this is learned apparently in a short period of 'absorption', because clitics appear rather suddenly in children's speech around age 2 (Montrul, 2004b; Reglero & Ticio, 2003). In this light it is interesting to consider that the first one or two years of life, i.e. the period from birth until they go to kindergarten, or whatever regular Dutch speaking environment, is probably the most 'monolingual' period for heritage children. *Unless* they have a Dutch mother or father, in which case the 'bilingual' situation starts right from birth. This might be a crucial difference between the SeqG2 and SimG2: the former may have had the advantage of more 'monolingual' exposure in the crucial period for clitic acquisition.

But the division goes beyond the coarse Sim/Seq-subgrouping: four individuals in the SeqG2 also displayed 'non-native-like' clitic rates, namely SeqG2G, SeqG2H, SeqG2J and SeqG2K as can be seen clearly in Figure 5.3. These four individuals were precisely those among the SeqG2 who had indicated that, for a long period in their childhood, they addressed their parents in Dutch, even though the parents would normally speak Spanish to them.

In that respect, the divergent individuals in this study (i.e. the SimG2 + the four 'overhearing' SeqG2 speakers) resemble the type of subjects labeled 'overhearers' by Au et al. (2002). They repeatedly found that people who 'passively' acquired Spanish during childhood through overhearing their parents, without speaking it much, had a benefit later in life acquiring their heritage language in an L2-classroom setting, but only in the domain of phonology (Au et al. 2008; Knightly et al. 2003). Their knowledge of Spanish morphosyntax was similar to that of those who had not had any early exposure to Spanish. Montrul (2010), rightly arguing that Au et al.'s measure of 'morphosyntax'

was too coarse, provided counterevidence: low proficiency heritage speakers did show an advantage over L2-learners. She argued that the heritage speakers' knowledge of clitics was more target-like overall. However, in the same study, precisely dative clitic use did not seem at all target-like: in a story-telling task, the 24 low proficiency heritage speakers realized 51.3% of dative clitics in indirect object contexts, against 24 native speakers' 92% (Montrul, 2010: 181).

There is thus contrasting evidence in the literature regarding heritage speakers' clitic use with canonical datives: on the one hand Silva-Corvalán (1994) and Montrul (2004a) showed it to be robust and target-like (recall section 5.2.2), and on the other hand in Montrul (2010) they seem non-target like. However, the studies may well all be right, if we assume that the difference lies in acquisition history. In Montrul's (2010) low proficiency subjects, who were (presumably) comparable to Au et al.'s 'overhearers', insufficient exposure led to considerable divergence in the use of dative clitics. The divergence of the present low exposed speakers (i.e. the SimG2 + the four 'overhearing' SeqG2 speakers), corroborates these results. Silva-Corvalán (1994) and Montrul (2004a) do not provide detailed accounts of the acquisition history of the subjects, but they did report that higher proficiency heritage speakers were included. Their 'stable' results may be comparable to those of the SeqG2 participants in the present study who spoke Spanish actively in childhood.

Admittedly, the differences can also be formulated in terms of exposure to Dutch. One could argue that the SimG2, as well as the 'overhearing' SeqG2 speakers, were more heavily influenced by Dutch, which is why they have different patterns. The influence of Dutch cannot be ruled out, without adequate ways of capturing this factor. In order to better investigate the possible impacts of input from either language, it would be convenient to refine methods for collecting and quantifying information about individual exposure histories.

The correlations between clitic rate and the fluency measures support the hypothesis that the observed linguistic divergence is associated with Spanish-internal mechanisms, rather than, or at least in addition to, pressure from Dutch. Whereas the picture of the G2 suggests a relation between HL-internal cognitive fluency, childhood exposure, and clitic indexing, this does not go for those raised monolingually (G0 and G1). They do vary in clitic indexing rates, as well as in *WPM* and *uh-rate* (which may be explained on the basis of factors such as age, education, regional and sociolectal influences, etc.) but their rates on both measures are closer to each other, and significantly higher. This is compatible with the idea that monolingual exposure up to adulthood enabled them to reach maximal HL-entrenchment levels, making their output patterns with dative constructions stable in the face of late bilingualism. The fact that the fluency measures correlate systematically with the linguistic divergence exhibited by the G2, is compatible with the idea of a language system which has not reached this maximal, stable level of entrenchment.

Finally, let me propose a cognitive linguistic account for the relation between exposure, fluency and clitic production. The observed divergent use of constructions

without dative clitics can be a consequence of both low attentional resources and low entrenchment of the clitic itself. Under low resources, 'less demanding' constructions are more likely to be activated and selected for production. If we compare the clitic- and clitic-less ways of expressing the same proposition, the clitic-less construction can always be characterized as less demanding. To produce a clitic means to activate a lot of content (reference to person, number, case, as well as discourse tracking, pragmatic/semantic nuances such as 'degree of involvement', etc.) in a very short time span (the time available to formulate this monosyllabic element), and select the right candidate out of a relatively complex paradigm (including changing *le* into *se* when there's already an accusative clitic: *se lo dí* 'I gave it to him'). Producing a doubled clitic would thus add more processing load, while the most important information (person, number, gender, case, discourse referent, etc.) is already expressed in the *a*-PP. Perhaps another way in which the processing load is higher, is because the encoding of a package of person/number/case/etc. information in the verb phrase, which is limited to specific conceptualizations such as the presence of a 'highly involved third party', is a relatively more infrequent and therefore more resource consuming procedure than encoding this in the post-verbal nominal phrase, the 'canonical' place for this type of information in Spanish.

Low entrenchment of the clitic itself can also be part of the problem. Dative clitics are not particularly salient accoustically. They are monosyllabic (*le, les* or *se*) and unstressed. This may mean that, despite their relative frequency, children would need relatively more exposure to reach the same level of entrenchment as other, more salient linguistic material. Thus, when exposed to structures including clitics, they may not yet be able to attend well to the clitic, while the entrenchment of the more salient parts of the utterance, such as an *a*-PP, may reach higher entrenchment earlier. Only after a certain amount of exposure, by which children accumulate enough memory traces of clitic usage (as well as extend their working memory capacity, which enables them to attend better to them), the clitic may reach a native-like level of entrenchment. The earlier discussion of FLA findings suggests that this point may have been reached after around two years of 'monolingual' exposure – a threshold not attained by the 'divergent' speakers in the present study. Of course, this cognitive linguistic account is speculative, in need of further evidence.

5.4.2 Cross-linguistic activation at the level of conceptualization and lemma selection

The SeqG2 seem not entirely flawless: they exhibit significantly less use of *dative experiencers* and *datives of interest*. This calls for examining explanations beyond the 'clitic problem'. I do not believe that the incompleteness-related bypassing of clitic indexing is the only possible mechanism underlying the decrease in optional datives – which after all is observed in all bilinguals as a trend. In this section I will put forward the hypothesis that the encoding of *Experiencers* and *Interestees* has a property which renders it more prone to additional, CLI-induced divergence, namely that the choice for

'dative' or 'other' in these two cases is regulated at earlier levels of processing, when basic chunks of the proposition are prepared, rather than semantic/pragmatic nuances. At this early level, the entrenchment of Dutch routines for expressing roughly the same propositional chunks press more successfully towards an outcome of *pattern replication*.

In the following paragraphs, I will discuss the hypothesis in several steps. First I will discuss the idea that cross-language activation effects could be more likely at the earlier than at the later stages of speech planning, building on relevant literature. After that, I will argue why a move away from the *dative of interest* can be analyzed as pattern replication at the level of preverbal conceptualization. Then I will argue that the selection of a subject rather than dative *experiencer* is a consequence of the choice of lexical verb, and therefore cross-language activation may be posited at the level of lexical lemma selection. Finally, I will argue why optionality with regard to the other three types of dative constructions is related to later, 'less meaningful' stages of speech processing, and therefore less prone to cross-language activation according to the account.

The hypothesis that there's a larger cross-linguistic activation effect in the earlier levels of productive speech processing follows directly from the assumption formulated in Chapter 1, repeated here for convenience:

Conceptual Activation Hypothesis

> *In the case of pattern replication, what is cross-linguistically activated is the conceptual structure of a linguistic unit, i.e. the semantic content as well as combinatorial properties such as argument structure, and the more specific/meaningful (as opposed to schematic/abstract) this conceptual structure, the stronger the cross-language activation and consequently, the more likely that pattern replication will occur.*

Most contemporary psycholinguistic speech models (e.g. De Bot, 1992; Hartsuiker et al., 2004; Levelt, 1989) assume that speech production is organized in stages which go from more purely conceptual content (preverbal conceptualization) to lexical encoding (lemma selection) to grammatical encoding (the 'formulator' stage in the model of Levelt, 1989) and eventually to articulation. In Chapter 1 (section 1.3.2.6) I already alluded to the compatibility of these stages with a gradation in terms of specificity of meaning: the earlier the stage, the more specific the conceptual content, and the later, the more abstract. In the same section I also discussed ideas that link the likelihood of cross-linguistic activation to higher degrees of conceptual specificity (e.g. Silva-Corvalán 1994a, 2008; Backus, 2012; Doğruöz & Backus, 2008).

A framework that brings together in a concrete way the ideas of the stages of processing, the specificity of conceptual content and the likelihood of cross-linguistic activation can be found in the work of Myers-Scotton, especially her Matrix Language Framework, 4-M model and Abstract Level model (see for a comprehensive discussion Myers-Scotton, 2002). Although these models were originally devised to account for

patterns of code-switching, they are also applicable (and have been applied in empirical work) to other phenomena of bilingual speech (e.g. Bolonyai, 2002). The most important aspects of Myers-Scotton's work for my analysis are (simplifying) the idea that lemmas consist of several layers of information *(lexical-conceptual structure, predicate-argument structure* and *morphological realization patterns*, according to the Abstract Level model) and that lemmas can globally be divided into those that have *content morphemes* and those that have *system morphemes* as surface output (MLF), as well as into those which are activated *early* and *late* in the speech production process (4-M). (Content morphemes are early, while there are early as well as late system morphemes.)

The content-system opposition as well as the early-late opposition refer to how lemmas are organized in the mental lexicon and differentially accessed in the language production process. In the earliest stage of speech planning, a speaker's intentions are directly mapped to language specific semantic/pragmatic feature bundles, which leads to the activation of lemmas underlying content morphemes (e.g. *boy, girl, take, arm, mouse, forget*). In the next stage, lemmas underlying early system morphemes are triggered indirectly by the content morpheme heads (e.g. *the*). And finally, in the words of Myers-Scotton (2002, p. 25): 'lemmas underlying structurally assigned morphemes (late system morphemes) are not activated until those lemmas supporting content morphemes send directions to the Formulator, switching on the morphosyntactic procedures resulting in surface structures.'

Myers-Scotton's assumptions build on those of the speech production model of Levelt (1989), but have a specific relevance for explaining bilingual phenomena. On the basis of empirical evidence, she posits that in code-switching, content morphemes from the Embedded Language can easily be inserted, but system morphemes, especially the later ones, will be much more likely to be provided by the Matrix Language (Myers-Scotton & Jake, 2000). As to non-switched bilingual speech, Bolonyai (2002), applying the 4-M model in a study of English-Hungarian bilingual children in the U.S., found that syntactic and lexical case showed different patterns of divergence in heritage Hungarian: lexical case endings, which encode quite specific meanings such as 'in' or 'on', were often confused by heritage speakers (i.e. using 'in' where 'on' should be needed), and the author argued this was due to influence from the dominant language. However, syntactic case endings, such as the accusative or dative marker, were more stable, and, notably, in the cases that they were not, they were not confused but *omitted* – a finding reminiscent of the reductive process with respect to clitics which I argued for in the present study. These findings support the idea of differential likelihood of cross-linguistic activation at the different stages: Hungarian case morphemes which express semantic relations are prone to English influence, while those that express purely grammatical relations are not.

As an illustration of the Abstract Level model and its application, Myers-Scotton (2002, p. 23) mentions an example of a Russian heritage child in the U.S. who utters the combination *smotrel cherez* 'look through' where in standard Russian the preposition *cherez* 'through' would not be used (but instead a perfective form of the verb). She

suggests that the lexical-conceptual structure of an English lemma affects that of a Russian one, leading to a verb-satellite combination mirroring English 'look through'. Similarly, cross-linguistic activation can also concern predicate-argument structures of lemmas - as will be argued in the analysis of the experiencer datives in the following paragraphs.

The heavily simplified Figure 5.5 is a tool for summarizing the above lines of thought and apply them to the present data about the dative experiencer and dative of interest. The three levels indicate different, global stages of speech production processing, and the thickness of the arrows indicates that cross-linguistic activation will be strongest at the stage of preverbal conceptualization, then lemma selection, and weakest at the level of syntactic encoding (i.e. the formulator; Levelt, 1989). Note that this does not mean that surface similarities between languages at the level of syntactic encoding do not arise, but rather that the surface similarities are an indirect consequence of cross-language activation at higher (i.e. earlier) levels of processing. I will now turn to the discussion of the different types of optional datives departing from this hypothesis.

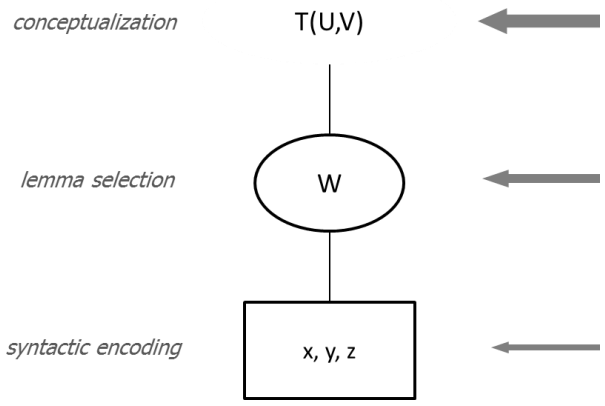

Figure 5.5 Simplified Levelt-style model of Speech production, with thickness of arrows indicating likely strength of cross-language activation following from the Conceptual Salience Hypothesis.

The dative of interest is the only category in this study for which the alternative is non-inclusion of the 'third party' in the verbal complex (e.g. *le cae un fruto* 'a fruit falls him' vs. *cae un fruto* 'a fruit falls'). In the other cases, the third party (Recipient, Source, Experiencer or Possessor) is encoded either in the dative clitic (doubled or independent) or in another way, but either way it forms part of the semantic proposition (e.g. *le toma el brazo* 'he takes her the arm' vs. *toma su brazo* 'he takes her arm'). However, when the dative of interest is used, the Interestee forms part of the proposition, whereas it does not

when the dative clitic is omitted. Therefore, the use of the dative of interest or not, is not merely a syntactic alternation, it also, and perhaps primarily, involves a rather salient (specific/meaningful) difference in conceptualization: including a person or not in the proposition to be expressed. This choice is made at an early stage of speech production, namely preverbal conceptual planning (De Bot, 2004). Thus, the significant decrease of the dative of interest in the heritage speakers may have to do with a decrease in the tendency to include the Interestee at all as part of the preverbal conceptual plan. This decrease may be a consequence of pressure from highly entrenched Dutch conceptualization routines, which never include an Interestee in similar propositions. In other words, the move away from the dative of interest may be driven at least in part by *conceptual transfer* (Jarvis, 2007).

Figure 5.6 shows a representation of the phenomenon, inspired on a model of cross-linguistic activation processes proposed by Hartsuiker et al. (2004), which permits more detail than the global models of Levelt (1989) and De Bot (2004), but assume the same sequential processing from conceptualization to articulation. The model organizes the information involved in linguistic processing in nodes, interconnected in a network. Nodes can represent conceptual (at the top of the picture), lexical (the ovals) or morphosyntactic information (the rectangles), or simply index the language which is to be activated as a whole (the flags; HL = heritage language; CL = contact language). Activation of a lexical node can lead to co-activation of another lexical node, just as it can co-activate a node containing a morphosyntactic procedure or some other type of information. When we follow the activation path from top to bottom, which would be the route in the case of speech production, the speaker of Spanish can activate two types of conceptual plan, one with and one without the mouse as a core participant in the proposition, which in turn leads to activation of different lexical and morphosyntactic procedures – one with and one without the dative clitic indexing the Interestee. However, in bilinguals, the activation path of Dutch, even though not currently active, is highly entrenched. This entrenchment adds to the activeness of the 'mouse-less' plan, which therefore becomes more likely to be selected (all things being equal). Once the mouse-less plan is activated, consequent processing involves activation of relevant lexical and syntactic procedures, which do *not* include clitic indexing.

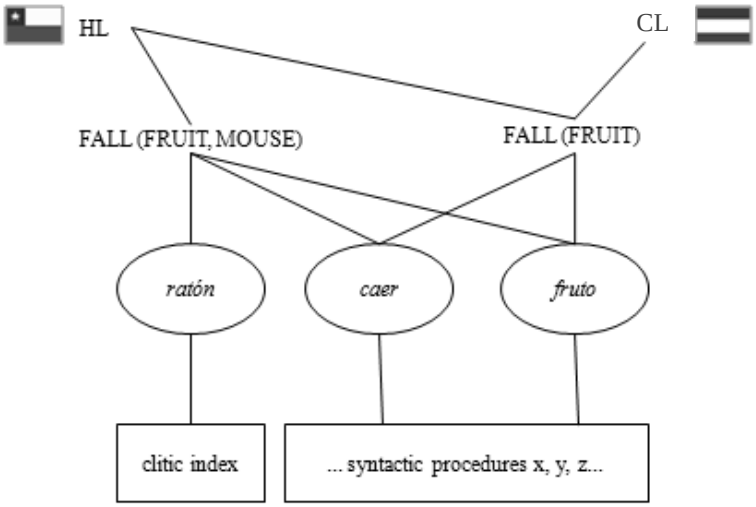

Figure 5.6 Model for the activation path of a dative of interest construction and its alternative.

As for the 'Experiencer Events', it is crucial to note that the alternation between dative experiencer and subject experiencer depends on the choice of verb. Thus, we find subject experiencers only with transitive verbs, such as *olvidar* 'to forget', while the dative experiencer is conditioned by the use of an intransitive verb, such as *olvidarse* 'to be forgotten'[i]. In many cases, the transitive and intransitive verbs for expressing the same

[i] Yet another way to encode Experiencer and Theme is by way of the construction *olvidarse de* 'to forget', which requires the Experiencer to be the subject and the Theme a PP with *de: se olvidó de las llaves* 'he forgot about the keys' Although this construction may be derived from a Theme-less intransitive construction (*se olvidó* 'he forgot') it can be categorized under the alignments of type *a*, i.e. those which I labeled transitive because they encode the Experiencer as a subject.

basic proposition are not even derivationally related, such as can be seen in the examples under (16), which make use of the verbs *dejar* 'to leave' and *quedarse* 'to stay'.

(16)

a. TRANSITIVE:

Deja	las llaves
leave.3.SG	the keys

b. INTRANSITIVE:

Las llaves	se	le	quedan
the keys	REFL	him.DAT	stay.3.PL

'He leaves the keys behind'

In other words, the choice of a subject or dative experiencer is dependent on which lemma is selected. In terms of Myers-Scotton Abstract Level Model, each lemma comes with a different predicate-argument structure. Once a lemma is chosen, no more syntactic variation is possible: the transitive lemma can only take a subject experiencer, and the intransitive lemma only a dative experiencer. Like with the dative of interest, I argue that cross-linguistic activation does not act on the morphosyntactic procedure in isolation (i.e. encoding of the Experiencer as subject), but rather on the lexical lemma selection, which has morphosyntactic consequences within the Spanish system. This is illustrated in Figure 5.7. While Dutch and Spanish are associated with basically the same conceptual plan, this plan leads to activation of a number of associated lemmas, including the Dutch transitive lemma *laten liggen* (literally: 'to let lie') in the bilingual mind. Thus, in the bilingual mind, the morphosyntactic procedure for forming a transitive schema with a subject experiencer, has a higher level of activation, and is thus more likely to be eventually selected than the procedure for forming an intransitive schema with a dative experiencer, since the former receives activation from both the Spanish lemma *dejar* as well as the co-activated Dutch lemma *laten liggen* while the latter only from Spanish *quedarse.*

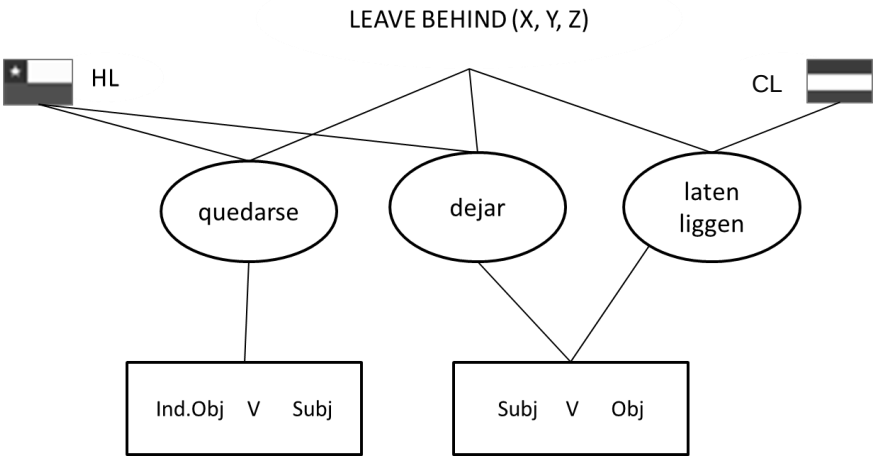

Figure 5.7 Model for the activation path of a dative experiencer construction and its alternative.

Finally, the three other dative constructions, *dative recipient*, *dative source* and *dative external possessor*, which did not show a significant decrease across all heritage speakers (only in the low exposed subset), can be regarded as dependent on processes of a different nature. Shifting between these constructions and their alternatives involves, in all cases, alternation in the *syntactic* realization of certain elements, while the basic participants of the proposition, as well as the lemma selection, are not varied. The two options most often encountered in this study for encoding the Recipient of a transfer event were the ones in (17), where the only difference is the presence (17a) or absence (17b) of the dative clitic in the verbal complex. Also for events involving *removal* (18), the most common options involved encoding the Source with a dative clitic (18a), or in some prepositional phrase (18b). The external possessor construction (19a) is different from the more Dutch-like (and English-like) encoding (19b) in that the Possessor is 'moved' out of the NP denoting the body part, and appears as a dative clitic in the verbal complex.

(17) RECIPIENT

a.	Le	da	una	mochila	al	chico
	him	gives	a	backpack	to.the	boy
b.	Da	una	mochila	al	chico	
	gives	a	backpack	to.the	boy	

'He gives a backpack to the boy'

(18) SOURCE

a.	El	ratón	le	quita	el	bombo	
	the	mouse	him	takes.away	the	drum	
b.	El	ratón	quita	el	bombo	de él	
	the	mouse	takes.away	the	drum	of him	

'The mouse takes the drum away from him.'

(19) POSSESSOR

a.	Le	agarra	el	brazo
	her	grabs	the	arm
b.	Agarra	su	brazo	
	grabs	her	arm	

'He grabs her arm'

In all three alternations, in terms of the basic conceptualization it does not matter which of the two syntactic realizations is chosen: the Recipient, Source and Possessor are always present as part of the proposition. Also, it does not matter which verb is used: the choice for one or the other syntactic realization is independent from the verb choice. Therefore, we can posit that, if these three alternations are somehow influenced by cross-linguistic activation, this can only be at the lowest level, i.e. the level of grammatical encoding, as visualized in Figure 5.8.

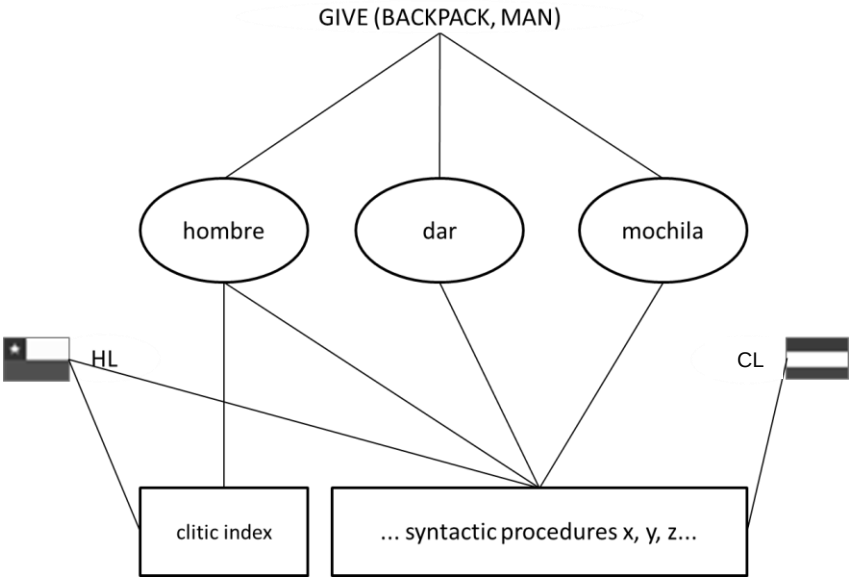

Figure 5.8 Model for the activation path of a construction involving clitic doubling and its alternative.

My hypothesis with regard to cross-language activation at the lowest level is not that it is not present, but that it is weaker, or less successful than cross-language activation at higher, more conceptually specified levels (i.e. conceptualization and lemma selection). In the present data this idea is supported by the fact that the decrease with regard to dative experiencer- and dative of interest-constructions has a more extended effect in the bilingual group than the decrease with regard to the other dative constructions. That is, the divergence with experiencer- and interest-constructions affects the entire group of second generation bilinguals significantly, while effects with respect to the other three constructions are limited to only a low-exposed subgroup, for which I argued that the effect is related to HL-entrenchment.

5.5 Conclusion

The present chapter investigated dative constructions in the Spanish of Dutch-Spanish bilinguals and sought to shed light on the question whether and how pattern replication is involved as an underlying mechanism of the observed patterns. The finding of different types and degrees of divergence across the different types of dative constructions led to an analysis whereby pattern replication acts more or less successfully according to the type (or stage) of processing involved, and whereby some

of the observed divergences may not be an effect of pattern replication but of 'incompleteness'.

It was found that second generation speakers with low proficiency and low childhood exposure to Spanish, appear to move away from optional dative constructions and restructure canonical datives, i.e. they realize them without doubled clitic. It was hypothesized that both divergences are related to low HL-entrenchment – hence the correlation between the linguistic divergences, childhood exposure and fluency. To be precise, clitic indexing is bypassed because the routine is not sufficiently entrenched, and/or because it is often the more complex and therefore resource-consuming option out of several to say 'more or less the same'. In the case of canonical datives the bypassing of clitic-indexing leads to constructions without clitic doubling, while in the case of optional datives it leads to the selection of non-dative constructions.

The influence of Dutch was argued to be another factor at play. On the basis of earlier findings and models I formulated a working hypothesis which assumes the organization of meaning (conceptualization, lexical unit selection) rather than form, as a main mechanism leading to outcomes of pattern replication. I proceeded to show how the significant move away from dative experiencers and the dative of interest in *all* second generation speakers fits with this hypothesis, assuming that the activation of these two constructions is regulated at earlier levels of processing, while the other three dative constructions are a consequence of activations at later, less 'meaningful' levels of processing.

Chapter 6 Conclusion and synthesis

6.1 Summary of the thesis

In this section I will summarize the line of argumentation and the findings presented in this thesis.

Chapter 1 discusses basic notions, global findings and open questions in the research field of heritage languages, in particular Spanish as a heritage language, and presents the guiding questions, assumptions and the cognitive linguistic framework of the present thesis. The first main question was what differences and commonalities there will be between the language systems of individuals with different histories regarding language exposure. On the basis of assumptions about the role of exposure and age, it was predicted that the extent of linguistic divergence will increase from the monolingual homeland speakers to the late sequential bilinguals to the early sequential bilinguals to the simultaneous bilinguals.

The second main question was how structural divergences in the systems can be interpreted, especially in terms of mechanisms internal to the heritage language system ('incompleteness') and mechanisms of cross-linguistic influence ('pattern replication'). Both types of mechanisms are defined with the help of the cognitive linguistic notion of entrenchment. In the definition of H.-J. Schmid (2012, p. 119) this refers to 'the degree to which the formation and activation of a cognitive unit is routinized and automated.' The 'incompleteness' mechanisms should be a function of the entrenchment of HL (Spanish) linguistic material. More precisely, it was hypothesized that the likelihood of divergence of a particular linguistic unit in an 'incomplete' system is a function of how entrenched that particular unit is, combined with the availability of attentional resources, and the latter is in turn a function of the entrenchment of other units in the language system which are being processed. Pattern replication, on the other hand, should be a function of the entrenchment of CL (Dutch) linguistic material. It was hypothesized that high entrenchment of CL linguistic units can lead to cross-linguistic activation of their conceptual structure, and that the more specific/meaningful this conceptual structure, the stronger the cross-language activation and consequently, the more likely that pattern replication will occur.

Chapter 2 investigates the sociolinguistic situation of Chilean heritage speakers in the Netherlands. On the basis of data from other studies, participatory observation as well as data systematically collected through personal interviews and a web survey, an impression is obtained of the social networks, current patterns of language use, intergenerational transmission, identity issues, language attitudes and reported linguistic

phenomena in this population. It is concluded that there are broadly two subgroups when it comes to social and linguistic behaviors. The first consists of first generation immigrants (arrived as adults before 1990); newcomers (immigrants arrived after 1990) and some of the 'in-between generation' (arrived before 1990, being between 7 and 18 years old). This group behaves like a small Spanish speaking speech community, actively seeking and maintaining Spanish speaking social networks. The second group consists mainly of the second generation (born in the Netherlands or arrived before the age of 6). Individuals from this group generally indicate to have good command of Spanish but do not actively maintain social networks in which they practice Spanish. In other words, their daily life is predominantly Dutch-speaking, and their regular use of Spanish is limited mostly to their own nuclear family.

Thus, while it can be assumed that the Spanish of the first group is shaped continuously through accommodation to peers and conventionalization of new phenomena, this dynamic dimension of 'horizontal transmission' of language patterns is absent in the second generation, i.e. the actual heritage speakers. This means that it is fruitful to approach the speech of the heritage speakers not as a variety, with all the additional complexity involved, but as individual examples of bilingual speech. The commonalities between these individual examples should be interpreted primarily as the result of the general nature of *cross-linguistic influence* from Dutch, *incompleteness* phenomena due to low exposure to Spanish, and the particular *properties of the variety* which they acquired from their parents.

Chapter 3 describes the participant selection and data collection procedures used in this book, as well as a broad exploration of the Spanish of the participants through a series of studies of diverse linguistic topics. A total of 40 participants were interviewed, grouped (at the most fine-grained level) into homeland speakers (G0), first generation immigrants (G1), sequential bilingual heritage speakers (SeqG2) and simultaneous bilingual heritage speakers (SimG2). The latter two groups are distinguished on the basis of whether participants have been raised in a home where two parents spoke two languages (SimG2) or where only Spanish was spoken (SeqG2). The interview procedure consisted of a visual elicitation part in which participants had to describe videos and pictures, and a sociolinguistic interview. Both parts form the corpus for the linguistic analyses throughout the book.

The linguistic exploration section brings forward the following main findings. The use of *chilenismos* (Chilean dialectal forms) is found, impressionistically, to be subject to different patterns in the Netherlands than in Chile. Examples show that the second generation participants use colloquialisms, the *vos*-conjugation (examined quantitatively) and other *chilenismos* in a different way, and sometimes more frequently than the G0 and G1. Possible reasons for this shift in frequency and function are the wish to mark Chilean identity, the lack of exposure to other, more formal registers of Spanish and a cultural difference leading to a perception of the interview setting as requiring less formal behavior.

The occurrence of matter replication from Dutch by the G1 and G2 is limited. Most of it concerns word insertions, and seldom code switching. Also it is apparent that participants were not inclined to switch to Dutch after Dutch word insertions. However, not much can be concluded about the naturalness of this behavior since the participants were explicitly instructed to stick to Spanish as much as possible. Whereas some word insertions of Dutch *ja* 'yes' seem more unintentional, others clearly serve particular intentions, from solving word finding problems to expressing shades of meaning not readily available in Spanish, to playful language use.

Pattern replication is found to be present in all bilinguals, and heterogeneous in its appearances and the areas it affects. The qualitative study distinguishes three types, namely hybrid replication, calqued constructions and single word calques. The first type concerns hybrids between pattern and matter replication: Spanish sounding words which reflect the phonological form of Dutch equivalents.

The second type, calqued constructions, is argued to reflect activation of Dutch meanings and their 'organization' or 'packaging' while still applying existing Spanish phonetic strings. An exhaustive analysis of all cases of the construction VERB + *de vuelta* 'back' in the corpus yields support for the idea that pattern replication may cause this construction to become more used by bilingual speakers at the expense of constructions which conflate the verb and the 'back' component. It is also argued that, contrary to what some have proposed for the similar construction VERB + *patrás* in Spanish-English bilinguals, the extension of *de vuelta* schemas to new verbs is rather subtle and non-salient and therefore not likely the focus of bilingual identity marking.

The third type of pattern replication concerns what the author calls single word calques or relexifications: the importation of the semantic structure of a word from Dutch into an existing word in Spanish. These importations lead to the extension of the semantic applicability of the original Spanish word. It is hypothesized that if two or more linguistic units are equally suitable to cover the conceptual content of a Dutch unit, the most frequent one is semantically extended to match the Dutch equivalent. Thus, for instance, *trabajar* 'to work' is extended to include the meaning 'to function', but the less frequent *funcionar* 'to function' is not extended to include the meaning 'to work'.

A modest quantitative investigation of verbal mood found a decline in use of the subjunctive which differs in rate across participant groups, and across contexts. The first generation shows non-divergent use of the subjunctive in nearly all cases. However, the second generation speakers, both SimG2 and SeqG2, shows a more drastic decline compared to similar participant groups in U.S. studies. There are additional indications that the extent of the retreat of the subjunctive is related to the history of Spanish exposure of an individual, as well as to the relative entrenchment of the subjunctive with a certain schema. These findings are argued to be congruent with an account in terms of Spanish-internal reduction processes, as a consequence of low entrenchment.

Another small-scale quantitative analysis concerning differential object marking (DOM) shows that there are cases of absence of *a*-marking where it should have been present, as well as presence where it should have been absent. Both 'unconventional'

outcomes are more frequent as one follows the line from G0 to G1 to SeqG2 to SimG2. The findings of omission as well as overgeneralization of the *a*-marking in the study of DOM point out that incompleteness should not be viewed as necessarily involving 'absence' of things. There is no motivation which would lead to a unidirectional reductive outcome, e.g. 'gaps' or 'absences'. Instead, both types of outcomes should be analyzed as instances of overgeneralization, namely either of *a*-marking, or of zero-marking. Idiosyncratic factors can lead to either of the two. For instance, a conceptual association between 'definiteness' and *a*-marking can account for the fact that definite direct object NPs attracts more *a*-marking than indefinite direct object NPs. An acoustic/phonetic association could account for the fact that non-human NPs with generic reference (so conceptually not involving a *definite* set of entities) are often *a*-marked when containing a definite article (*los pájaros* 'the birds').

The next section introduces the measures of fluency to be used throughout the rest of the book. These are the number of words per minute (WPM), calculated on the basis of the entire sociolinguistic interview, and the number of filled pauses such as 'uh' (*uh*-rate) as a proportion of the total number of words in an individual's entire recording. The groups show a decline in WPM and an increase in *uh*-rate according to their level of exposure to Spanish, in accordance with expectation. There is a significant correlation between the measures within the second generation, further supporting the idea that they are reflective of a common underlying factor, namely cognitive fluency. In the monolingually raised group (G0+G1) this correlation is absent, which is congruent with the hypothesis that in this group, attrition effects on cognitive fluency only surface visibly in a significantly decreased *uh*-rate.

A first test of the idea that linguistic divergence should correlate with fluency is done in the last section of Chapter 3, which investigates the use of the construction *estar* + *-ndo* (progressive construction) across the entire corpus. Compared to a baseline of G0 and G1, who are similar in their rates, the second generation shows an increase in use of progressive constructions, to the detriment of non-periphrastic alternatives. There is a significant correlation within the combined G2 between the fluency measures and the rate of progressive constructions. In other words, low fluency characterizes the subset of individuals in the G2 with high progressive rates. Whereas earlier studies of heritage Spanish which found an increase in use of progressive constructions attributed this to pattern replication on the basis of the extensive use of progressive constructions in the contact language (English), the present data do not support such an explanation. The semantic contexts in which the heritage speakers use the progressive construction extend beyond those in which Dutch speakers use them. Instead, it is argued that the evidence is congruent with an explanation in terms of incompleteness-induced optimization. The progressive construction is argued to be a cognitively attractive alternative for non-periphrastic forms in low fluent speakers.

Chapter 4 investigates the accuracy of *all* cases of gender agreement (phrasal, predicative and anaphoric) uttered by 8 homeland speakers, 7 first generation immigrants, 10 sequential bilinguals and 7 simultaneous bilinguals. In this extensive

dataset a range of explanatory variables is included, namely controller gender, -animacy, -morphology, -frequency, target type, -distance, and individual fluency. The aim is to contribute to an understanding of the nature of incompleteness by examining the inter-individual and intra-individual patterns of performance.

The study reveals gender agreement inaccuracies in all groups, while there is also a quite high rate of accuracy overall: 97.6% in the baseline group (consisting of a collapsed G0 and G1, whose performances are indistinguishable, as was also observed in the previous chapter) and 94% in the heritage group (SeqG2 and SimG2 collapsed). The number of inaccuracies is so low that it causes serious challenges for Generalized Linear Mixed Effects Modeling. In many sectors of the data there is a picture of ceiling performance in the baseline, i.e. effects not surfacing because of low numbers of inaccuracies, versus high inter- and intra-individual variation in the heritage group. The factorial patterns are also similar in both groups, with susceptibility to inaccuracies going from (in order of increasing magnitude) phrasal to predicative to anaphoric agreement, masculine to feminine controllers, high to low frequent controllers, person-referring to thing-referring controllers, and smaller to larger distance between controller and target. All of this is argued to illustrate the point that heritage speakers do not process gender differently from baseline speakers. Those supposedly subject to 'incomplete acquisition' are susceptible to inaccuracies in the same way and with the same outcome as native, 'full-fledged' speakers, only more so.

Another noteworthy finding is that the morphology of controllers does not seem to play a significant role in performance with gender agreement, in either group. This suggests that, in cognitive linguistic terms, the schematic generalization in heritage speakers and baseline speakers proceeds along the same lines, but is different from what is reflected in the experiments with children, who seem to be particularly susceptible to generalizations on the basis of morphology, rather than other cues.

It is also found that gender agreement inaccuracies are seldom consistent with the same lemma or sets of lemmas. This is argued to support the characterization of gender agreement 'incompleteness' as not tied to specific loci, such as syntactic rules or lemma features, but a reflection of a complex interplay of effects at all levels of language processing, including the level of generalization over paradigmatic sets of lemmas or targets, the level of particular lemmas, and the level of momentaneous processing. Importantly, the correlation between accuracy and general processing measures indicates that the 'completeness' of gender agreement cannot be viewed separately from the 'completeness' of the language system as a whole.

The discussion outlined a cognitive linguistic approach which explains gender incompleteness as a gradient phenomenon arising from the interplay between entrenchment of linguistic associations and availability of attentional resources.

Chapter 5 investigates the use of dative constructions versus alternative encodings in the description of a set of visual stimuli, by all 40 participants. The dative constructions are of five types: external possessor datives, dative experiencers, dative sources, dative of interest (the latter four are labeled 'optional datives' because they have a non-dative

alternative construction) and recipient datives (labeled 'canonical datives'). It is found that second generation speakers with low proficiency and low childhood exposure to Spanish (i.e. the SimG2), move away from the optional dative constructions and restructure the canonical datives, that is, they realize them without a doubled clitic. It is hypothesized that both divergences are related to incompleteness, or, in terms of the cognitive linguistic framework of this book, low HL-entrenchment. This would explain the correlation between the linguistic divergences, childhood exposure and fluency. It is argued that clitic indexing is bypassed because the routine is not sufficiently entrenched, and/or because it is often the more complex and therefore resource-consuming option out of several to say 'more or less the same'. In the case of canonical datives the bypassing of clitic-indexing leads to constructions without clitic doubling, while in the case of optional datives it leads to the selection of non-dative constructions.

The influence of Dutch is argued to be another factor at play. Psycholinguistic modeling shows how the significant move away from dative experiencers and the dative of interest in all second generation speakers fits with the assumption that the activation of these two constructions is regulated at earlier, 'meaningful' levels of processing, while the other three dative constructions are a consequence of activations at later, less 'meaningful' levels of processing. The conceptually more specific nature of the alternations involving dative experiencer and dative of interest encoding, and hence their earlier activation in the production process, causes these two constructions to be more prone to an additional effect of cross-linguistic activation.

6.2 Characterizing the systems

In this section, the first research question guiding the present thesis will be addressed, repeated here for convenience:

I. What are the differences and commonalities between the language systems of individuals with different histories regarding language exposure, namely
- *a) monolingual speakers in the homeland,*
- *b) late sequential bilinguals,*
- *c) early sequential bilinguals and*
- *d) simultaneous bilinguals?*

The studies throughout the present book showed that what all bilinguals have *in common* is the presence of subtle divergences scattered across a language system which is nevertheless largely non-divergent from the Spanish of the homeland.

Among the divergences revealed in the present thesis, there are many which have not been reported on previously and can therefore offer promising avenues for further research. Whereas some research had been done on dative constructions in heritage speakers of Spanish in the U.S., the extensive dropping of dative clitics in canonical constructions reported in Chapter 5 is a remarkable new finding. Chapter 4 offered the most comprehensive study of the gender system of Spanish heritage speakers reported

up to now, and found among others that, in contrast with laboratory studies, the effect of the morphology of the controller noun was not significant in this corpus of naturalistic language production. The present work also successfully applied fluency measures, which correlated significantly with several forms of linguistic divergence, giving support to a cognitive linguistic view of divergence as having a dynamic, rather than static representational nature.

Apart from new findings concerning heritage Spanish in general, many phenomena are for the first time reported for heritage Spanish in contact with Dutch, such as the increased rate of use of progressive constructions in the second generation. Other phenomena, such as the instability of differential object marking and retreat of the subjunctive, were observed before in Spanish in the Netherlands (see Chapter 1, section 1.2.3), but not studied in a quantitative manner. The modest quantitative studies in the present thesis revealed that the instability of differential object marking is not unidirectional towards omission of *a*-marking, and that the subjunctive retreats differentially across contexts.

As to differences between the participants, the prediction formulated in Chapter 1 is borne out, namely that the extent of linguistic divergence will increase from a) the monolingual homeland speakers to b) the late sequential bilinguals to c) the early sequential bilinguals to d) the simultaneous bilinguals. Within the second generation speakers, the simultaneous bilinguals (d) show the highest amount of divergence, followed by the sequential bilinguals (c). However, it must be noted that the extent of divergence in the entire second generation is still such that their conversation is generally fluent, natural and not quickly recognizable as 'non-native', unlike what is often the case with second language learners. The divergences in these heritage speakers have to be uncovered by careful linguistic analysis, rather than immediately striking the superficial observer. This generally high level of Spanish can be related to the favorable sociolinguistic context discussed in Chapter 2. Even though the second generation does not use Spanish with peers or their children, they have been exposed to the language consistently and naturally by the first generation.

In the first generation, who acquired Spanish monolingually and were shown to continue to use it intensively after arriving to the Netherlands, divergences from the language use of their homeland peers are even harder to find. This suggests that their systems are quite stable in the face of attrition and other effects. As can be expected given the fact that they have been continuously speaking and hearing Dutch for a very long time (34 years on average), they show examples of matter and pattern replication, but the quantitative studies suggest that their divergences, of whatever type, are not numerous. In fact, the differences between the performances of the G1 and the G0 were non-significant in those quantitative studies where this was tested statistically. In sum, the G1 have robust systems which are practically indistinguishable from the G0 when it comes to pervasive grammatical properties, although their systems are 'topped' with some 'enrichments' here and there through cross-linguistic influence.

An overview of the individual performances across all the quantitative studies in this book is given in Table 6.1 (G0 and G1) and Table 6.2 (G2). Each table has exactly the same columns. First, the WPM and *uh*-rates from Chapter 3, section 3.3.6 are replicated. Then, the individual rates are represented from the five linguistic areas which were investigated quantitatively. Since divergence regarding DOM was found to involve both omission and addition of *a*-marking, the column 'DOM conventionality rate' represents the percentages of conventionally realized markings (either zero or *a*). The 'Progressive rate' from Chapter 3, section 3.3.7 was converted into a 'Non-Progressive rate', i.e. the percentage of use of *alternatives to the progressive construction*, to keep the symmetry of the measures. All measures now represent the frequency (in percentages) with which individuals realized the binary linguistic option found to be 'most common' in each study: subjunctive, conventional DOM marking, non-progressive, accurate gender and dative clitic.

In order to have some indication of 'overall extent of linguistic divergence from a monolingual norm', a tentative measure was devised, which is represented in the rightmost column of each table and served to rank the participants in each table. This measure was calculated as follows: First, individual z-values were obtained from each of the five linguistic columns, using the average and standard deviation of the G0 as a group. Then, each individual's resulting five z-values were averaged, and the result was represented in the rightmost column called 'Linguistic divergence'.

One-Way ANOVA tests with this measure revealed that, according to expectation given the recurring results throughout the book, the G1 did not differ significantly from the G0 (F = 0.28; df = 1,22; p = .869). Looking at Table 6.1, rather than a picture of mostly G1-individuals at the bottom and G0-individuals at the top, the ranking shows that G1- and G0-individuals are interspersed. This gives support to the impression that the G1 are not subject to significant linguistic divergence from the monolingual norm and in fact can be seen as forming one behavioral baseline group with the G0. Also, there turned out to be no significant correlation between the measure of 'Linguistic divergence' and the fluency measures, whether in the G0, the G1 or the combined G0 + G1. This confirms what was already discussed in earlier chapters, namely that the G0 and G1 are at a ceiling level of linguistic entrenchment, and any inter-individual differences in fluency are likely to be due to factors other than problems with linguistic entrenchment (i.e. old age, distraction, fatigue, etc.).

Table 6.1 Overview of individual performances across all quantitative studies: G0 and G1 participants.

Participant	WPM	Uh-rate	Subjunctive	DOM conventionality	Non-Progressive	Gender accuracy	Dative clitic	Linguistic divergence
G0Q	174.0	.0025	88.9%	100.0%	98.4%	99.0%	83.9%	0.709
G1E	147.1	.0167	88.9%	100.0%	98.9%	97.9%	87.1%	0.623
G0L	158.3	.0130	100.0%	100.0%	96.8%		75.0%	0.309
G0P	151.8	.0150	100.0%	90.9%	97.1%	98.9%	83.9%	0.309
G0R	178.9	.0036	100.0%	100.0%	95.8%		79.3%	0.257
G0E	147.7	.0027	100.0%	100.0%	94.6%	97.8%	86.2%	0.244
G1D	175.0	.0214	100.0%	94.4%	97.2%	99.2%	69.0%	0.234
G1F	156.6	.0100	87.5%	100.0%	97.7%	98.3%	69.0%	0.158
G0F	128.5	.0046	100.0%	100.0%	98.5%	96.1%	73.9%	0.150
G0D	185.0	.0078	100.0%	100.0%	96.0%		72.4%	0.120
G0H	162.2	.0112	90.9%	100.0%	97.8%		69.2%	0.111
G0A	139.7	.0093	87.5%	100.0%	96.2%	97.1%	87.1%	0.108
G1G	102.0	.0174	83.3%	100.0%	97.5%	97.4%	78.8%	0.092
G1C	181.2	.0138	100.0%	100.0%	94.3%	96.9%	76.9%	-0.154
G1A	115.2	.0185	80.0%	92.3%	97.6%	97.8%	79.3%	-0.207
G0K	197.2	.0101	100.0%	100.0%	92.5%		80.0%	-0.233
G0G	195.2	.0071	80.0%	100.0%	94.4%		84.8%	-0.253
G0J	146.9	.0022	66.7%	100.0%	95.6%	97.6%	84.4%	-0.272
G0N	184.4	.0061	80.0%	83.3%	98.1%	98.0%	86.7%	-0.368
G0B	162.8	.0041	80.0%	100.0%	97.2%	96.0%	71.4%	-0.418
G0M	113.5	.0193	66.7%	100.0%	94.4%		88.5%	-0.441
G0C	167.8	.0239	100.0%	100.0%	96.3%		48.4%	-0.446
G1B	153.7	.0097	100.0%	100.0%	96.1%	96.0%	52.0%	-0.607
AV	157.6	.0109	90.5%	98.3%	96.5%	97.6%	76.8%	0.0010
STD	25.2	.0063	10.7%	4.1%	1.6%	1.0%	10.3%	0.3417

Table 6.2 Overview of individual performances across all quantitative studies: G2-participants.

Parti-cipant	WPM	Uh-rate	Subjunc tive	DOM conven-tionality	Non-Progres-sive	Gender accura-cy	Dative clitic	Ling. diver-gence
SeqG2A	161.0	.0192	100.0%	100.0%	98.1%	97.8%	89.7%	0.743
SeqG2D	163.3	.0160	100.0%	100.0%	98.3%	95.9%	71.4%	0.036
SeqG2B	127.4	.0399	87.5%	88.9%	97.4%	97.6%	73.3%	-0.422
SeqG2C	141.2	.0267	77.8%	100.0%	96.4%	97.1%	64.3%	-0.487
SimG2R	160.8	.0206	66.7%	94.1%	94.0%	97.4%	48.1%	-1.516
SeqG2F	165.8	.0306	87.5%	64.7%	93.5%	97.5%	92.1%	-1.620
SeqG2E	153.1	.0102	75.0%	70.0%	97.4%	95.1%	82.1%	-1.776
SeqG2H*	144.6	.0227	84.0%	77.8%	96.2%	93.2%	45.7%	-2.523
SeqG2J*	149.5	.0360	72.0%	72.7%	89.6%	95.1%	50.0%	-3.322
SimG2Q	137.0	.0154	65.2%	57.9%	98.5%	93.3%	34.6%	-3.652
SimG2P	162.2	.0501	85.7%	60.0%	87.5%	93.7%	44.8%	-4.296
SeqG2K*	101.8	.0245	82.6%	35.3%	88.8%	95.8%	39.3%	-5.001
SimG2L	111.0	.0385	100.0%	16.7%	90.1%	93.5%	7.4%	-6.465
SimG2S	123.7	.0340	52.2%	33.3%	90.4%	92.5%	3.4%	-6.764
SimG2M	84.1	.0539	25.0%	20.0%	88.6%	93.3%	14.8%	-7.675
SimG2N	107.2	.0550	75.0%	0.0%	97.0%	84.6%	15.4%	-8.306
SeqG2G*	96.2	.0503	79.2%	23.5%	83.5%	83.8%	17.9%	-8.961
AV	134.7	.0320	77.4%	59.7%	93.3%	94.0%	46.7%	-3.647
STD	25.7	.0139	18.1%	31.7%	4.5%	4.0%	27.9%	2.998

The G2, as expected as well, did behave significantly differently from the G0 as to their 'Linguistic divergence' (One-Way ANOVA: $F = 21.900$; $df = 1,32$; $p = .000$). They also show a significant correlation between this measure and the fluency measures (WPM: Pearson Correlation .802; $p = .000$; Uh-rate: -.711; $p = .001$), again lending support to the idea that low entrenchment in their linguistic system is not only apparent in their 'divergent' linguistic output, but is also reflected in their speech rate and frequency of hesitation.

The G2 group is rather heterogeneous, with some individuals having acquired considerably more stable systems than others. The first four individuals in the G2 - all of them sequential bilinguals - seem to fall within the range of the G0/G1 on all measures. In other words, they appear non-divergent from the monolingual baseline too, thus

representing a sample of particularly successful heritage language transmission. After these five, a cline is visible of increasing divergence.

The variation within the G2 is shown to be largely correlated with the grouping according to onset of bilingualism, since most sequential bilinguals are at the top and most simultaneous bilinguals are at the bottom. This confirms the idea that the OB-grouping captures the degree of entrenchment of Spanish as well as Dutch through a combined index of *amounts* of exposure to these languages and the *ages* at which it occurred, i.e. potential intake. However, there are some interesting outliers.

SimG2R (marked in bold in the table) has the highest ranking of the SimG2, with less divergent rates even than some of the SeqG2. If we look at the fluency measures, the same individual was also the second fastest (WPM rate 160.8, i.e. faster than the average of both SimG2 and SeqG2) and the second least hesitant (*uh*-rate .0206, i.e. less *uh* than the average of both SimG2 and SeqG2) speaker of the SimG2. A closer examination of the profile of SimG2R reveals that, contrary to what was typically reported in other 'mixed households', this person's Spanish speaking parent was very strict in using exclusively Spanish with the children. This situation may have maximized the exposure to Spanish within the possibilities of a 'mixed household'.

The four sequential bilinguals with asterisks (*) reported in their interviews that during long periods of their childhood they were reluctant to speak Spanish, which led to a communication system at home by which they were addressed in Spanish by the parents, but they themselves spoke only Dutch. It is telling that precisely these four individuals are the most divergent of the SeqG2. Two of them, namely SeqG2G and SeqG2K, have particularly high rates of divergence across the studies, placing them more within the range of the simultaneous bilinguals - SeqG2G even below that. It was already noted in Chapter 3 (section 3.4) that these two participants are also the slowest speakers of the SeqG2, with WPM rates even below the average of the SimG2 (section 3.3.6, Table 3.11). SeqG2G is also the speaker uttering most *uh* of the SeqG2, even more than the average of the SimG2.

The divergent performance of these 'passive' heritage speakers in the current data suggests that the notion *exposure* should not be equated with *input*, i.e. receptive language use, but that *output*, i.e. productive language use, is an important part of it (cf. Bohman et al., 2010). I have integrated this idea in Figure 6.1, representing the factors which eventually lead to *intake* - which at this point I would rephrase in cognitive linguistic terms as *entrenchment* of linguistic information.

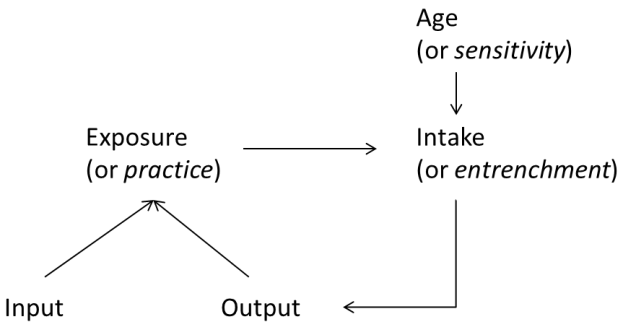

Figure 6.1 Factors contributing to intake, i.e. entrenchment of linguistic information in an individual speaker.

Future studies would profit from including more fine-grained information about exposure histories, preferably in a format that *quantifies* the different factors contributing to intake, including input, output and age. (Valuable examples of methods to quantify language exposure in different periods of life include Hurtado et al. 2014; Liu, 2013; Unsworth, 2015.) A factor which the case studies in the present project have not been able to take into account and which would be good to address adequately in future studies is current exposure. Of course the participants were asked about how much they use Spanish and Dutch in daily life, but the answers could not lead to a concrete grouping of the participants, let alone quantification. However, my impressionistic observation is that what participants reported about current exposure was largely collinear with their childhood exposure history: the first generation seemed to speak Spanish most often, followed by the early sequential bilinguals and then the simultaneous bilinguals. This suggests a continued line of practice from childhood to adulthood, fed by the fact that a higher proficiency will mean more ease and pleasure in continuing to use Spanish.

The matter of exposure history is of course complex, with some favorable conditions for Spanish acquisition (e.g. high amount of sensitivity) compensating for some unfavorable conditions (e.g. low amount of input) for one individual, and vice versa for another. The studies in the present book lift a corner of the veil about the importance of different dimensions of exposure: its *age of onset*, its *amount*, as well as whether it is *receptive* or *productive*. They also show that heritage speakers, given favorable language exposure conditions in childhood, are certainly able to acquire high levels of proficiency in their heritage language. The present book shows that even though the population under study is characterized by a rapid intergenerational shift towards Dutch and non-participation of the second generation in Spanish speaking nuclear networks, favorable language exposure conditions seem to be warranted by a positive attitude of all group

members towards Chilean culture and Spanish language (the latter also generally on the part of Dutch society) and an unquestioned status of Spanish as the language of communication between first and second generation. Comparative studies of groups encompassing a broad scope of sociolinguistic and linguistic factors would be interesting for future research (cf. Benmamoun et al., 2013a).

A final remark with respect to the performances of the individuals is that, as can be observed in the table, the G0 is not a perfectly homogeneous baseline in itself. Many individuals in the G0 (as well as G1 and even some G2) reach 100% regarding the rates of subjunctive and DOM conventionality, but these are the measures with particularly low numbers of tokens. On the measures with a high number of tokens and thus a higher degree of statistical validity, no individual reaches 100%. This can be argued to be due to the high degree of optionality inherent to some alternations involved, such as between progressive and simple present, or constructions with and without dative clitic. But in the case of gender (and probably also subjunctive and DOM) one could interpret this as a form of divergence, namely from an idealized, abstract baseline of 'what is known to be conventional' (e.g. as it appears in grammars).

Whatever the label applied - inherent optionality or unconventionality -, the variability present in *all speakers,* even the supposedly 'stable' monolingual baseline group, lends support to the cognitive linguistic view that individual language systems are constantly in flux, and that no individual's grammar is exactly the same (cf. Dąbrowska, 2012). This is yet another reason why *incompleteness* is not a good term. To paraphrase a statement already made in Chapter 4: Nobody is incomplete, while at the same time, nobody is complete either. It is better to consider increase in divergence as increase in variability in the system, whether across linguistic domains or across individuals. Across the individuals in this study, the increase in divergence/variability is the consequence of an increase in HL-internal optimization due to a general decrease in entrenchment of units across the system, as well as an increase in cross-linguistic activation due to an increase in entrenchment of units in the contact language. The next sections will discuss these two mechanisms in more detail.

6.3 Understanding the mechanisms

The second research question guiding the thesis was:

I. How can structural divergences in the systems be interpreted, especially in terms of
   a) mechanisms internal to the heritage language system ('incompleteness') and
   b) mechanisms of cross-linguistic influence? ('pattern replication')

The present work can contribute to a better understanding of the mechanisms that shape the heritage language system. On the basis of the available evidence, in the following

sections I will formulate some generalizations and concrete ideas about the workings of the mechanisms under a) and b), which can serve as a starting point for further research.

6.3.1 System-internal optimization

Throughout the studies in this book a correlation was found between divergence regarding particular linguistic elements and the fluency measures, which were argued to reflect the global level of attentional resources available to speakers when processing linguistic units in the HL. These findings are compatible with the hypothesis formulated in Chapter 1:

> **System-internal Interdependence Hypothesis *(addressing research question IIa)*:**
> *The likelihood of divergence of a particular linguistic unit in an 'incomplete' system is not only a function of (i) how entrenched that particular unit is, but also of (ii) the availability of attentional resources, which is in turn a function of the entrenchment of other units in the language system which are being processed.*

In this section I will outline what happens at the moment such a divergence takes place. Instead of controversial terms such as 'incomplete' and 'incompleteness', I propose the term *system-internal optimization* to cover this mechanism. I choose these two words because it refers to activation paths which (1) are the consequence of the entrenchment of units *internal* to the HL-system, rather than external (i.e. coming from the CL-system); and (2) are *optimal* under the present state of the system.

Concretely, the above general principle can lead to the particular divergences that we observe in heritage speakers in the following way: *When the trade-off between (i) and (ii) leads to a failure to activate the target unit, the closest more accessible unit in the network is activated.* By target unit I mean the unit that would be conventionally selected by a baseline speaker under normal processing circumstances. By closest I mean the unit which matches most closely the intended meaning, apart from the target unit. By more accessible I mean that it has a higher level of entrenchment than any other competing unit at that point in time.

An example is given in Figure 6.2. The speaker wants to express that he or she sings, in a habitual sense, but fails to activate the conventional way of encoding this, namely the simple present form *canto* 'I sing' (because this unit has low entrenchment, because resources are low, or a combination of both). Instead, the activation path ends at *estoy cantando* 'I am singing' which in the mind of the speaker is the next most closely matching unit given the intended meaning, and which is highly accessible, among others, because it starts with the highly frequent (and thus highly entrenched) unit *estoy* 'I am'.

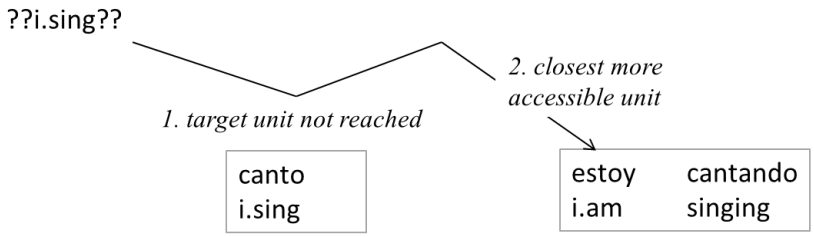

Figure 6.2 Model of the selection of a 'divergent' form to express the proposition 'I sing'.

Often the closest more accessible unit is a higher order schema. This accounts for cases of generalization as in Figure 6.3. In this case, the speaker has activated the word *idioma* 'language' but is in need of the right article to combine it with. The target unit would be the combination of *idioma* with the masculine article *el,* but this fails. The closest more accessible unit is the schema which combines nouns ending in *–a* with the feminine article (Langacker, 2002). This leads to the divergent output *la idioma.*

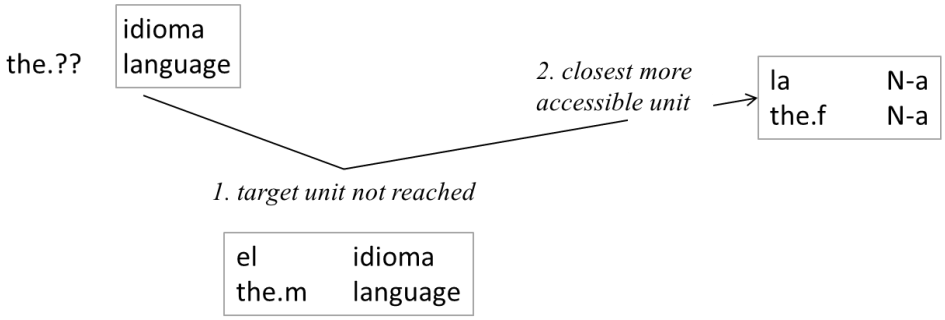

Figure 6.3 Model of the selection of a divergent encoding of the definite article with idioma 'language'. The *N* stands for 'noun'.

As already argued in Chapter 4, section 4.6.3, a failed activation does not necessarily lead to a divergent outcome. Figure 6.4 gives an example. Although the target unit fails to be activated directly (for instance because the word *capa* 'layer' is an unfamiliar word not highly entrenched in the mind of the speaker), the alternative unit gives a conventional outcome anyway. This illustrates that the same simple cognitive principle of generalization can explain different cases of divergence, but also cases of non-divergence in heritage speakers.

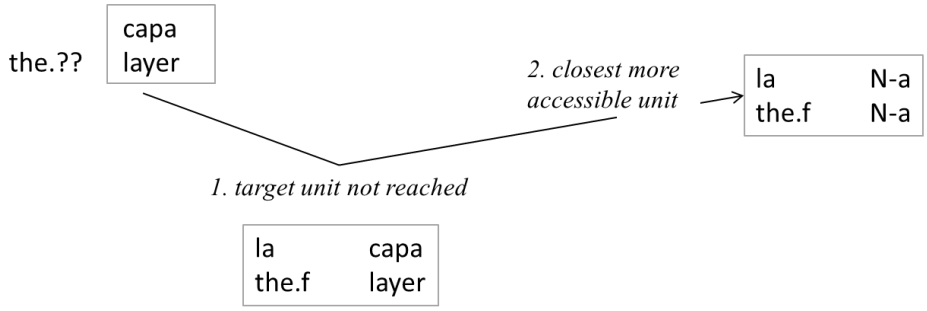

Figure 6.4 Model of the selection of non-divergent la capa 'the layer' through generalization.

A few questions arise from this formulation of the basic mechanism in cases of 'incompleteness'. First of all, the System-internal Interdependence Hypothesis claims that what makes a target unit non-accessible is a combination of low resources and low entrenchment of the unit itself. But, *what makes the target unit itself remain in a state of low entrenchment?* I can think of the following most obvious ultimate causes for units to remain low entrenched themselves: (i) low frequency in the input; (ii) low perceptual salience in the input; (iii) non-recency in the input (i.e. the longer ago it was encountered, the more it will have decayed). These possible properties of units are interrelated, which can be especially illustrated for (i) and (iii). For instance, units that are infrequent in the input, such as *como si* 'as if' + IMPERFECTIVE SUBJUNCTIVE, are also likely to be heard longer ago than more frequent units, such as *para que* 'so that' + PRESENT SUBJUNCTIVE. So, both frequency and recency can account for the relatively higher rate of divergence regarding the former than the latter unit in the study on verbal mood (Chapter 3, section 3.3.4). Low acoustic salience was argued to be among the causes of low entrenchment for *a*-marking (Chapter 3, section 3.3.5) and the dative clitic (Chapter 5).

Second, *what makes something a 'more accessible' unit?* The answer should be simply: the opposite of the above. A unit becomes more accessible than the target unit because it is more entrenched through (i) high frequency, (ii) high salience and (iii) recency. For instance, in the study of differential object marking (Chapter 3, section 3.3.5) I argued that the fact that one participant exhibited quite a few instances of the combination *ví a* 'I saw' + INANIMATE NOUN, was caused by self-priming through repeated utterance of the string *ví a* 'I saw' + HUMAN NOUN. This was because the participant would repeatedly start describing a stimulus as 'in this video/picture I saw a man who', etc. Since so many visual stimuli depicted humans, the word *ví* 'I saw' was followed most often by *a*. The recency of the combination *ví a* contributed to making this unit the more accessible unit in the instances in which for some reason the intra-

systemic trade-off led to non-accessibility of the target unit, namely *ví* + ∅ + INANIMATE NOUN.

It is not enough to say simply that a more entrenched unit will be activated in case a less entrenched unit fails to be accessed. A Google search reveals that the most frequent word in Spanish is *de* 'of', and let us suppose that this makes it the most entrenched unit in the language system of a speaker. A model which only works on the basis of what is more or less entrenched would predict that activation failure always leads to the selection of *de* as the solution because this is the most entrenched unit of all and therefore wins over all others. This is of course not what happens, i.e. people do not utter *de* every time they cannot access a target unit. It is also not the case that upon failure to access a unit, *any* other more accessible unit will be activated at random. There must be something which constrains which unit will be selected out of the vast number of more accessible units. This should be a conceptual (semantic) property that relates the unit to the conceptual properties of the target unit. In other words, the *closest* unit is the second best semantic 'match' for what one wants to say. This may in practice often be a unit which, in terms of Langacker's (2012) Cognitive Grammar, is a higher order schema, an elaboration, or an extension. For instance, NOUN-*a* is a schema of *idioma*, while vice versa, *idioma* is an elaboration of the schema NOUN-*a*[i]. Possibly *estoy cantando* should be labeled an extension of *canto*. Thus, while at this point I do not claim to be able, nor aim to present a full understanding of the types of semantic/conceptual relations between target units and closest more accessible units, the basic message is that 'closeness' should be defined as a conceptual relationship.

The result of the above mechanism is that the conceptual content of the target unit is added to the conceptual content of the closest more accessible unit. For instance, the target unit *X rompe una vasija* 'X breaks a pot' incorporates in its conceptual content that it refers to a 'punctual event'. At the moment that the activation path does not reach this target unit but ends, instead, in *X está rompiendo una vasija* 'X is breaking a pot', the latter unit's conceptual content acquires the property 'refers to a punctual event' - a conceptual property it did not have before. In a way then, the progressive construction has acquired a slightly higher degree of polysemy than before. If my model is correct, the divergent outcomes (but not the non-divergent outcomes such as the one of Figure 6.4) of the mechanism modeled here are necessarily paradigmatic reductions: fewer forms come to express more meanings.

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[i] Note that in Cognitive Grammar, grammatical gender is regarded a conceptual property, be it a very abstract/schematic one (Langacker, 2002).

Entrenchment is a gradient phenomenon, and so are the optimizations resulting from HL-internal entrenchment. The findings throughout this book, especially those in Chapter 4, show that indeed, within one individual, *system-internal optimization* is a gradient phenomenon, surfacing sometimes, and sometimes not. They also show that there is inter-individual variation. In other words, the degree of divergence varies for each moment and each individual, but all divergences spring from the same basic mechanism.

An ensuing question is whether *system-internal optimization* is something unique to heritage speakers. My answer is no: the mechanism is operative in any language user (cf. O'Grady, Kwak, et al., 2011, p. 242). The 'incomplete states' of first and second language acquirers should be explainable in the same terms. In fact, 'full-blown' monolingual speakers can also be subject to *system-internal optimization*. This is most visible when they commit speech errors, such as the cases of inaccurate gender agreement in the baseline speakers (Chapter 4). We have seen that the nature of the agreement inaccuracies in baseline speakers is the same as in heritage speakers: with enough available inaccuracies for analysis, roughly the same factorial patterns could be distinguished. In other words, both groups tend to generalize towards the same higher order schemas – the highest of which can probably be identified as NOUN + MASCULINE, since all speakers showed a tendency to apply more masculine targets where feminine would be needed, than vice versa.

What distinguishes the system-internal optimizations of baseline speakers from those of heritage speakers is that the speech errors of baseline speakers can be assumed to result most often from low resource availability. People have slips of the tongue when they are distracted, tired, performing difficult tasks, or for some other reason have to invest attentional resources in other things than the processing of the linguistic unit in question (cf. Levelt, 1989; Poulisse, 1999). However, the linguistic unit itself can be assumed to be most often maximally entrenched in baseline speakers. This is different in heritage speakers, where low entrenchment of the linguistic unit itself is often an additional force in the trade-off effect – which is of course one of the main reasons why heritage speakers produce more 'errors' than baseline speakers. At the same time, baseline speakers' overall entrenchment levels are higher, so that low resource availability will occur less often than in heritage speakers.

6.3.2 Pattern replication

The data in the present investigation are compatible with the view that, underlying manifestations such as *pattern replication*, *convergence* and *structural transfer*, there is a mechanism of cross-language activation of highly entrenched routines of meaning organization which works as follows:

Conceptual Activation Hypothesis *(addressing research question IIb)*:

> *In the case of pattern replication, what is cross-linguistically activated is the conceptual structure of a linguistic unit, i.e. the semantic content as well as combinatorial properties such as argument structure, and the more specific/meaningful (as opposed to schematic/abstract) this conceptual structure, the stronger the cross-language activation and consequently, the more likely that pattern replication will occur.*

Put briefly, the prevalent type of pattern replication in heritage speakers is driven by the fact that the way we express things is heavily conditioned by the way we have expressed them before – even if that was in another language. An important aspect of the mechanism is that the 'things we expressed before in the other language' are more likely to be cross-linguistically activated again as they are more specific (as opposed to abstract or schematic). Pattern replication should thus be identifiable as associated with a unit with a rather specific meaning in the contact language (cf. Doğruöz & Backus, 2008), for instance a single word such as *werken* 'to work, to function', a construction such as *het goed hebben* 'to fare well' or, a little more generalized but still quite specific schema, such as FORGET + SUBJECT EXPERIENCER, MOTION + PATH, etc. Compare this to the fairly abstract types of schemas which were shown to be the divergent outcomes in the domain of mood (NON-ASSERTION + INDICATIVE) or differential object marking (DIRECT OBJECT + NO MARKING). Thus, it may be that pattern replication has more specific outcomes than system-internal optimization.

The 'activation of routines' in itself is not best described as *structural*, although the pattern replication resulting from it may be called structural in the sense that it can, but need not, have pervasive structural consequences in the heritage language. This has to do with the fact that rather than literally *transferring* any pattern, the activation of routines in the contact language causes associated similar routines of conceptualization in the HL to be co-activated and eventually selected, further entrenched and generalized – but only as far as the system permits it. This is the point with pattern replication (and probably most mechanisms of divergence): it is *system-preserving*. That is, it draws on available structures in the HL-system and is therefore embedded in the associated HL-system constraints (cf. Silva-Corvalán, 2008). For instance, in Chapter 5 we have observed that to express propositions involving transfer, removal, external possession, interest and psychological events, many speakers show divergent patterns from the baseline, such as the dropping of clitics and the use of transitive instead of intransitive psych verbs. However, none of the speakers actually says things which are absolutely alien to Spanish, such as a sequence S-V-IO-O (replicating the Dutch order of constituents in a double object construction). Although the urge to reproduce such routine Dutch patterns for encoding transfer events may exist in the mind of the bilingual, this urge does not encounter anything to co-activate cross-linguistically, since such a pattern is not entrenched in Spanish.

We can contrast the above phenomenon of pattern replication with *matter replication.* I believe that in the case of matter replication it is more justified to speak of 'transfer', since it involves the importation of (phonetic) structures alien to the receiving language. It may also be regarded as a naturally less system-preserving phenomenon, since it occurs at a much more intentional level (although many studies have uncovered that there are indeed general constraints on code-switching and on insertions; see for an overview e.g. Poplack, 2001). In more human terms, matter replication is driven by the wish to say something very specific, even if that infringes on the convention of 'staying-within-one-system'. However, matter replication is little pervasive in the data and therefore of less interest to the present study.

In a way, pattern replication can be conceived of as another form of 'optimal outcome' (cf. Matras, 2009; Muysken, 2013), one which is not purely HL-internal, but perhaps best phrased as *inter-systemic optimization* – i.e. it is the optimal outcome given the entrenchment states of the two language systems. This does not mean, however, that such a form of optimization is necessarily in a relation of interdependence with HL-internal optimization. I do not believe that pattern replication *fills gaps* in the HL-system (contrary to e.g. Montrul, 2004a, p. 138; see also Chapter 5, section 5.2.3). In other words, there is no pressure from the HL-system for cross-language activation to take place, for instance because of low resource availability or low entrenchment of a HL-unit. The pressure comes from the meaning-intentional routines of the CL-system, and the outcome is determined by the 'room' the HL-system offers to accommodate this pressure. This belief is supported by the observation in the dative case study (Chapter 5) that it is not only the less fluent, low-exposed speakers who exhibit the effects of (what I argued to be) pattern replication.

Much further research is certainly needed to find out whether it holds that cross-language activation is not necessarily dependent on system-internal optimization. One of the directions of research could be to prioritize the identification of structures which are clearly the result of pattern replication, and at the same time do not constitute a paradigmatic *reduction*, but instead a paradigmatic *extension* of the HL-system. An example may be the use of the contracted lexical element *dizque* (<*dicen que* 'they say that') in certain varieties of Andean Spanish. This has been argued to reflect evidentiality marking, a grammatical phenomenon present in the substrate language Quechua, but not in (other varieties of) Spanish (Demonte & Fernández-Soriano, 2013; Olbertz, 2005). In a way the emergence of evidentiality marking in a variety of Spanish can be considered a case of addition/complexification, rather than reduction/simplification. Such findings may be evidence that pattern replication is truly independent from HL-internal optimization, which because of its generalizing nature *necessarily* leads to either paradigmatic reductions or non-divergence, according to the view I put forward in the previous section.

The present thesis was not able to investigate pattern replication in a quantitative way. Thus, no detailed relation of pattern replication phenomena with Dutch exposure levels could be shown. Instead, the most quantitative results reached with respect to

pattern replication were the finding that the *de vuelta* construction occurred more often and in different contexts in bilinguals than in monolinguals, and that the move away from dative experiencer and dative of interest, which was modeled as pattern replication + system-internal optimization, was more widespread among the bilinguals than the move away from the other constructions, which was modeled as only system-internal optimization. The lack of 'pervasiveness' and thus 'quantifiability' of pattern replication in natural language production as studied in this thesis is probably a consequence of its 'specific' nature, as well as of the fact that activation between systems may be subject to strong limitations. Future research may find ways to tackle this problem and uncover more patterns in pattern replication.

6.4 Understanding the system

I have taken a cognitive linguistic approach to relate certain phenomena to the two macro-factors in focus, *incompleteness* and *pattern replication*. I have characterized these two macro-factors as essentially involving, respectively, a common mechanism of generalization over available (entrenched) HL-material which I called *system-internal optimization*, and a mechanism of *cross-language activation* which is driven by highly entrenched routines of meaning organization in the contact language.

For most grammatical topics throughout the book I have argued for only one of the two types. For instance, the gender system was argued to be a locus *par excellence* of incompleteness/system-internal optimization. However, it is not unthinkable that it may also be subject to cross-language activation effects as well. Franceschina (2005) found L2-learners of Spanish whose L1 had gender (Portuguese, Italian) to have an advantage over those whose L1 does not (English), on experimental tests with Spanish gender. Paolieri et al. (2010) found that Italian-Spanish bilingual subjects' responses on picture naming and word translation tasks were faster when the gender of the target words was congruent in both languages than when it was not. These findings suggest some co-activation between linguistic units with overlapping gender values in Spanish and Portuguese, and between Spanish and Italian. In fact, these languages have similar gender systems and largely overlapping values for their lexicon (inherited from Latin). However, given the rather different origin and nature of the language pair in the present data - Dutch having a common/neuter, Spanish a masculine/feminine distinction - it is difficult to hypothesize about exactly which categories could be co-activating each other cross-linguistically.

As another example, the decline of the subjunctive and the instability of DOM can well be explained in terms of the mechanism of *system-internal optimization*, while I could not come up with a model for the observed phenomena in terms of *cross-language activation* from Dutch. Especially the differential retreat of the subjunctive across linguistic contexts, and the bidirectional effects with regard to DOM (omission as well as overgeneralization of *a*-marking) are problematic for such an account, since I can think of no patterns of Dutch which could have triggered these specific effects. However, the success of applying one model and the failure of another does not mean

that the successfully modeled mechanism should be the only one at work. Additional evidence and modeling may lead to an account whereby cross-language activation does play an (additional) role in these areas.

Although in the previous section I have posited that system-internal optimization and pattern replication are not *interdependent* - pattern replication is not necessarily dependent on system-internal optimization, nor vice versa - it should be clear that they do often *interact*, in the sense that the divergent patterns we observe in HS are the outcome of the combination of these (and other) factors. Thus, in practice, it may often be the case that the pressure coming from entrenchment of units from the contact language may indeed *fill gaps*, i.e. contribute to the eventual selection of a certain closest more accessible unit when a HL-target unit cannot be accessed. For instance, the utterance of *trabajar* 'to work' instead of *funcionar* 'to function', may (but need not) be caused by both HL-internal optimization - i.e. low resource availability and/or low entrenchment of *funcionar* - and pressure from the Dutch unit *werken* 'to work'.

However, it may be that HL-internal factors are simply a much stronger factor in the search for the 'closest more accessible unit' during system-internal optimization and that this accounts for the fact that the most pervasive divergences (DOM instability, retreat of the subjunctive, gender inaccuracy, extension of the progressive construction, omission of clitics) are more readily modeled in terms of system-internal optimization, while those phenomena which could be more readily modeled in terms of cross-linguistic activation have a much more limited range in the system and do not lend themselves for quantitative analysis. This lends support to the idea that activation between language systems may be simply much less powerful than activation within one system.

The third major factor shaping the system of heritage speakers alongside cross-linguistic influence and incompleteness, labeled *variety properties*, was defined as follows in Chapter 1: 'This final category would include all phenomena which in fact stem from *completeness* (complete acquisition and non-attrition) of properties of a particular variety or register, whether this was brought about through exposure in a vertical (parent-child) or also in a horizontal manner (between members of a speech community).' In cognitive linguistic terms, I would rephrase that this factor stems from *maximal entrenchment of HL-material*, and consequently the successful replication of this material (patterns and matter). This could be seen as the opposite of *system-internal optimization*, which stems from *low entrenchment of HL-material*, and leads to the non-activation (or diverted activation) of target units. It could also be regarded as similar to cross-linguistic influence in the sense that the latter phenomenon also stems from maximal entrenchment (be it of material in the 'other system'). Both types of maximal entrenchment exert pressure on the system. Figure 6.5 represents the macro-factors that shape heritage language systems, in a revised version on the basis of the above considerations.

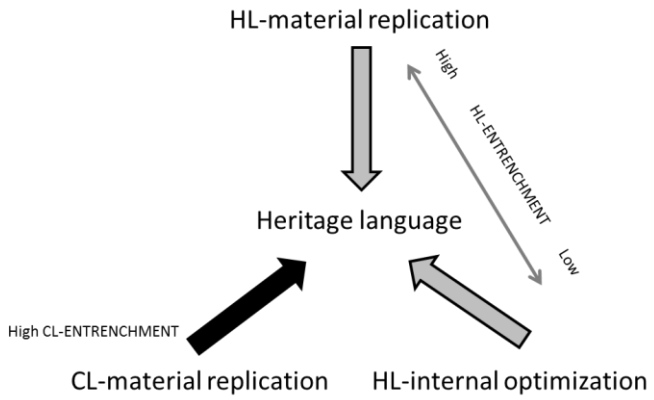

Figure 6.5 Factors shaping the heritage language system, refined version in cognitive linguistic terms.

As argued in Chapter 1 (section 1.2.4), the replication of properties of the variety can also bring along dynamicity/divergence. This is because people are creative with the material they have available, and can use it for purposes such as expressiveness, identity marking, etc., thus leading to innovative patterns of use of maximally entrenched linguistic material. However, I also argued that there would be little of this kind of dynamicity to expect in the second generation, because the sociolinguistic investigation in Chapter 2 pointed out that they do not form part of a speech community (contrary to the G1) in which they have a regular need to use this type of creativity to position themselves in interaction with other speakers.

In Chapter 3 I discussed some examples in which linguistic elements seemed to be used intentionally to mark identification with a certain group, namely the abundant use of Chilean colloquialisms to express identification with fellow Chileans (although of course this behavior in many cases may also have eroded towards becoming unintentional). However, these were rather isolated instances, limited to few individuals and contexts. I believe they can be considered marginal effects compared to the extent of divergence brought about by *system-internal optimization* and *pattern replication*.

I would consider that another way in which dynamicity/divergence may arise is through *unintentional* replication of properties of the variety, namely when the pressure arising from their maximal entrenchment interacts with system-internal optimization. One could say that a speaker using the *vos*-conjugation extensively without an apparent identity-marking function (e.g. SimG2N in Chapter 3, section 3.3.1) is replicating maximally entrenched units, because alternative units (the *tú*-conjugation) are non-

accessible due to low entrenchment. This person may have been exposed extensively to the *vos*-conjugation and much less to the *tú*-conjugation in the family, because interaction in the intimate sphere tends to make use of intimate, informal language forms.

The register-induced extension of progressive constructions proposed by Torres Cacoullos (2000) could not be investigated in the present data, but if it were operative, and system-internal optimization also favors progressive constructions, then it would be another example of the factors *system-internal optimization* and *variety properties* working together in the same direction. At the moment that low resource availability causes a simple present target unit not to be accessible, the likelihood of a progressive construction being more accessible is even higher in heritage speakers, who already have a slightly higher entrenchment of progressive constructions due to the nature of the informal/oral Spanish they are predominantly exposed to. This and other possible instances of interaction between macro-factors would be an interesting terrain for future research.

Most importantly, however, the factor HL-replication/*variety properties* is responsible for the fact that most of a speaker's system is stable, i.e. *non-divergent*. Rather than operating independently, the mechanisms of system-internal optimization and cross-linguistic influence draw on the available, i.e. maximally entrenched matter and patterns in the HL-system. Therefore, the possibilities of divergent outcomes are strongly constrained by the possibilities offered by this system (cf. Backus 2004; Silva-Corvalán 1994a; Muysken 2013). In other words, HL-material replication is the 'system-preserving' force; it is what makes the system of a heritage speaker only a fraction different from that of parents and peers, so that communication is perfectly possible. This is true for heritage speakers and all language users.

The present thesis shows that successful replication of heritage language matter and patterns is by far the prevalent phenomenon in the system of these speakers, whether monolingual, bilingual, late, early or simultaneous. That is, even for the most divergent speakers, one can say that they managed to replicate the immensely complex and elaborate linguistic system transmitted by their parents, while the divergences arising on the way do not prevent them from being recognizable as highly proficient, indeed *native* speakers of the language. Some of the people I spoke to consider this not much of an achievement, since they feel that it came to them without effort or question. Others take pride in the fact that they managed to transmit or acquire the language through alternating periods of adversity and motivation. Some regard their heritage language primarily as a utility, others as a source of enjoyment. I regard it as a source of wonder, a reason to be fascinated by language.

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Appendices

Appendix I: Bibliography of literature on grammatical aspects of Spanish as a heritage language

The following bibliography is intended to give a concise overview of linguistic studies of heritage Spanish, i.e. of the types discussed in Chapter 1, section 1.2.2: (1) Sociolinguistic-variationist; (2) UG-oriented; (3) Other linguistic U.S.; and (4) European. The aim was to try to capture what is known to me as influential and/or interesting, and by no means do I pretend to be complete. I may have overlooked some important works, but the list may serve as a starter for getting a grip on the field.

(1) Sociolinguistic-variationist studies in the U.S.

Study	Broad topic	Linguistic variables	Data
Fishman et al., 1968	Sociolinguistic, sociological, psychological and linguistic aspects of NY bilinguals	Various	Various, multiple studies
Flores-Ferrán, 2004	Comparing generations; Convergence	Subject pronoun expression	Recorded interviews
Flores-Ferran, 2007a	Variationist analysis of bilingual speech	Verb tense	Elicited personal narratives
Flores-Ferran, 2007b	Describe bilingual variety; Combining variationist and ethnographic data	Subject pronoun expression	Data from other studies
Flores-Ferrán, 2014	Description of properties of bilingual speech; Grammaticalization; CLI in discourse	Discourse markers	Recorded interviews

Lapidus & Otheguy, 2005	Convergence	Overt nonspecific *ellos*	Recorded interviews
Lapidus & Otheguy, 2009	Mechanism of constraint shift under contact	Subject pronoun realization	Large corpus of interviews
Lynch, 1999	Comparing generations; Nature of change under contact	Subjunctive	Recorded interviews
Morales, 1995	Description of ongoing change in bilinguals	Impersonal particle *se*	Recorded interviews
Otheguy & García, 1999	Function of lexical borrowing	Lexical borrowings	Recorded interviews
Otheguy & Lapidus, 2003	Structural adaptation of loan words	Articles and adjectives with English loan words	Recorded interviews
Otheguy et al., 2007	Convergence, dialect leveling	Subject pronoun realization	Large corpus of interviews
Otheguy, 1993	Nature of loan translation	Various	Spontaneous speech sources not mentioned
Otheguy, 2011	Explaining contact phenomena in terms of functional adaptation and conceptual convergence	Various	Various sources
Otheguy, García, & Fernández, 1989	Code-switching; CLI: Calques	Discourse, lexicon	Corpus of collected oral speech
Poplack et al., 1982	Variationist analysis of bilingual speech; Comparing HS with G1; Comparison with Montreal French	Assignment of gender to loanwords	Corpus of recordings made through participatory observation
Pousada & Poplack, 1982	Convergence	Tense, aspect, mood	Sociolinguistic interviews, corpus study
Sánchez-Muñoz, 2004	CLI: Structural transfer	Progressive aspect	Picture description
Shin, 2014	Complexification; Nature of constraint shift under contact	3sg subject pronoun realization	Recorded interviews

Silva-Corvalán, 1986	Nature of language change under contact	Estar vs. ser	Recorded interviews
Silva-Corvalán, 1991	Nature of language change under contact	Complementizers, external possessor constructions, VS order, subject pronoun realization	Recorded interviews
Silva-Corvalán, 1994a	Comparing generations, convergence, Nature of language change under contact, Sociolinguistics of a bilingual population	Various	Recorded interviews
Silva-Corvalán, 1994b	Comparing generations, convergence	Mood distinctions	Recorded interviews
Silva-Corvalán, 2008	Nature of language change under contact, convergence	Various	Data from other studies
Toribio, 2004	Relating convergence to code-switching	Subject pronoun realization	Elicited narratives
Torres Cacoullos & Travis, 2010	Relating convergence to code-switching	Subject pronoun realization	Recorded conversations
Torres Cacoullos, 2000	Convergence	Progressive aspect	Corpus study
Travis, 2007	Variationist analysis of bilingual speech; Priming across discourse; Comparison between bilingual and monolingual Spanish variety	Subject expression	Recorded interviews

(2) UG-oriented studies in the U.S.

Study	Broad topic	Linguistic variables	Data
Alarcón, 2011	Comparing HS and SLL	Gender agreement	Picture description, form decision
Fuertes, Liceras, & De la Fuente, 2008	Comparing HS with SLL; Comparing simultaneous with sequential bilinguals	Gender in mixed DPs; articles; clitics; subject pronouns; deverbal compounds	Various spontaneous and experimental
Liceras, Fernández Fuertes, Perales, Pérez-Tattam, & Spradlin, 2008	Comparing HS with SLL; Comparing simultaneous with sequential bilinguals	Gender in mixed DPs	Various spontaneous and experimental
Mikulski, 2010	Role of OB; Role of Exposure	Subjunctive mood	Error identification, GJT
Montrul & Bowles, 2009	Core syntax vs. interfaces	DOM, dative clitics, reverse psychological predicates	GJT, Elicited narrative
Montrul & Bowles, 2010	Effect of instruction to HS	Dative clitic	GJT, elicited written production
Montrul & Perpiñán, 2011	Comparing HS and SLL	TAM-morphology	Tasks testing interpretation
Montrul & Potowski, 2007	Comparing child HS and child SLL	Gender	Elicited narratives, picture description
Montrul & Sánchez-Walker, 2013	Comparing child HS, adult HS, G1	Differential Object Marking	Story retelling, picture description
Montrul, 2002	Comparing HS with G1; Role of OB	Preterite-Imperfect contrast	Elicited narratives, meaning interpretation, written completion
Montrul, 2004a	Morphosyntactic convergence at syntax-interfaces	Subject realization, object realization	Narrative elicitation
Montrul, 2004b	Bilingual acquisition among other topics	Overview book	-
Montrul, 2005	Comparing HS and SLL	Unaccusativity	GJT

Montrul, 2007	Relation between productive competence and interpretation	Subjunctive mood	Tasks testing recognition and interpretation
Montrul, 2008	Nature of incompleteness, Role of Exposure, Role of OB, Comparing HS and SLL, Early attrition, etc.	Overview book	-
Montrul, 2009	Relative vulnerability of linguistic features	Preterite-Imperfect contrast, Mood selection	Elicited oral/written production, GJT
Montrul, 2010a	Comparing HS and SLL	Realization of Dative and Accusative clitics	Story retelling, GJT, picture-sentence matching
Montrul, 2010b	Comparing HS and SLL	Clitic realization, Clitic left dislocation, DOM	Oral production, GJT
Montrul, 2011a	Attrition in childhood	Gender agreement, DOM, verb morphology	Longitudinal, production and interpretation tasks, GJT
Montrul, 2011b	Comparing HS and SLL	Gender agreement, TAM, DOM	Comprehension and production tasks
Montrul, 2012b	Nature of HS grammar	Various	Various
Montrul, 2014	Role of OB; Role of Exposure	Differential Object Marking	Comprehension, Written production experiments
Montrul, Davidson, De La Fuente, & Foote, 2013	Comparing HS and SLL	Gender agreement	Word repetition, judgment
Montrul, Foote, & Perpiñán, 2008	Comparing HS and SLL	Gender agreement	Comprehension and production tasks

(3) Other linguistic studies in the U.S.

Study	Broad topic	Linguistic variables	Data
Bohman, Bedore, Peña, Mendez-Perez, & Gillam, 2010	Child HS, Role of Input and Output	Semantic knowledge, clitics, articles	Semantic association, cloze, sentence repetition
Bowles, 2011	Measuring Implicit and Explicit Linguistic Knowledge	17 variables	GJT; imitation; story retelling; metalinguistic awareness
De Prada Pérez & Pascual y Cabo, 2011	Understanding HS divergence	Reverse psychological predicates	GJT
García & Cuevas, 1995	Analysis of factors determining Spanish ability and use in Nuyorican HS	Proficiency and extent of use of Spanish	Sociolinguistic interviews, various linguistic tasks
Klein, 1980	CLI: Syntactic transfer	Progressive aspect	Conversation, picture description
Koontz-Garboden, 2004	Optimality theoretic analysis of convergence phenomenon	Progressive aspect	Conversation, picture description
Lipski, 2008	Description of Spanish varieties in the U.S.	Various	Various
Martinez-Gibson, 2011	Comparing HS and SLL	Gender agreement	Picture description, spontaneous speech
Nash, 1970	Description of 'Spanglish' of Puerto Rico	Various	Miscellaneous observations
Perez-Cortés, 2012	Comparing HS and SLL	Progressive aspect	Comprehension
Sánchez-Muñoz, 2007	Style and register variation	Discourse particles	Recorded conversations and presentations

Silva-Corvalán, 2003	Comparing child and adult HS, incomplete acquisition vs. attrition	Verbal system	Recorded interviews
Valenzuela et al., 2014	Comparing HS and G1	Gender agreement	Code-mixed stimuli, a.o.
Zapata, Sanchez, & Toribio, 2005	Nature of HS grammatical knowledge	Clitic left dislocation, topicalization, unergativity, unaccusativity	Multiple choice, fill-in-the-blank

(4) European linguistic studies

Study	Broad topic	Linguistic variables	Data
Bylund & Jarvis, 2010	Relation between conceptualization and linguistic encoding in bilinguals	Conceptualization of events; grammatical aspect	Picture description; GJT (Sweden)
Bylund, 2009	Role of OB; Conceptual convergence	Endpoint encoding and temporal perspectivation in goal-oriented motion events	Picture description (Sweden)
Bylund, 2010	Relation between conceptualization and linguistic encoding in bilinguals	Conceptual segmentation and linguistic temporal structuring of events	Online retelling of film fragments (Sweden)
Casanova Seuma, 1986	Broad study of the Spanish of second generation speakers	Various	Test results, essays of school children (The Netherlands)
Cazzoli-Goeta & Young-Scholten, 2011	Attrition in G1; Comparison UK-USA; Relation betw. sociolinguistic and indi-vidual linguistic processes	Dative constructions; Sentence-initial non-nominative NPs	Picture description (United Kingdom)

Di Venanzio, Schmitz, & Rumpf, 2012	Comparing generations; Origin of divergence in HS grammar	Object expression	Recorded interviews (Germany)
Haast & Van Haastrecht, 1982	Broad study of the Spanish of G2 speakers	Various	? (The Netherlands)
Irizarri van Suchtelen, 2014	CLI, incompleteness	Dative constructions	Oral production data obtained through visual elicitation, interviews (The Netherlands)
Moro & Irizarri van Suchtelen, in press	CLI, incompleteness; comparison with heritage speakers of Ambon Malay	Dative constructions	Oral production data obtained through visual elicitation, interviews (The Netherlands)
Lahuerta, 1984	Broad study of the Spanish of G2 speakers	Various	? (The Netherlands)
Schmitz, submitted	Comparing generations; Origin of divergence in HS grammar	Differential object marking	Recorded interviews (Germany)
Sierra Martínez, 1991	Broad study of the Spanish of G2 speakers	Various	? (The Netherlands)
Sierra Martínez & Kremers, 2001	Overview of sociolinguistic situation of Spanish in the Netherlands	Various	Previous work (The Netherlands)
Van Osch, Hulk, Sleeman & Irizarri van Suchtelen, 2014	Comparison of generations; core syntax vs. interfaces	Gender	Oral production data (The Netherlands)

Appendix II: Overview of visual stimuli and their references

Below are the visual stimuli organized according to their source. In the elicitation interview, the order of presentation of stimuli was randomized.

1. Stories (video stimuli with more than one semantic event; to be described while watching).

Kita's People Films for studying frames of reference

BOX
Man enters screen pushing box; collects balls; boy steals balls; man goes after boy; collects balls; pushes box out of screen.

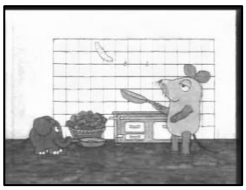
BALL
Man plays with ball; boys steal ball; man captures boy; boys return ball and leave.

SHIRT
Boys try to reach a shirt up in a tree using various utensils, and eventually succeed to get it out; one boy puts on the shirt and they leave.

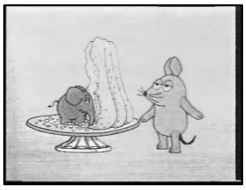
REFERENCE: S. Kita. (1995). Recommendations for data collection for gesture studies. In D. Wilkins (Ed.), *Extensions of space and beyond*: *Manual for field elicitation for the 1995 field season*, 35-42. Nijmegen: Max Planck Institute for Psycholinguistics.

MAUS episodes

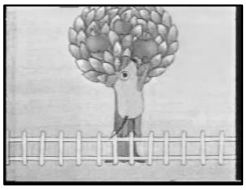
DRUM
Elephant disturbs Mouse's reading with his drum. Mouse tries to silence him in several ways and eventually succeeds.



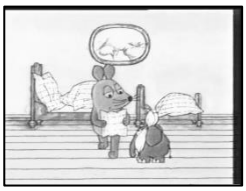
PANCAKES
Mouse is baking pancakes and asks the Elephant for help to toss a pancake from one pan to the other.



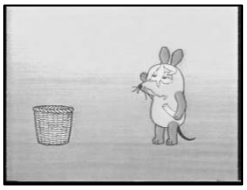
CAKE
Mouse is happy to find an enormous cake, but then discovers that Elephant has eaten large part of it from the other side.



APPLE TREE
Mouse reaches apples in a tree by transforming a fence into a ladder.

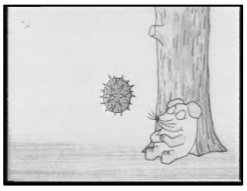


PILLOW
Elephant has a toothache and cannot sleep. To eliminate the noise of his walking, Mouse ties pieces of a pillow under his feet.



BANANA

After eating a banana, Mouse throws away the peel, but it is returned several times by the waste basket. It turns out that Elephant is in the basket.



CHESTNUT

A chestnut falls from a tree in front of Mouse, who wakes up and finds out a way to open the thorny chestnut and eat it.

GUITAR

Mouse is happily playing on a guitar, untill a string snaps. He replaces the string with his tail, and puts the broken string in place of his tail.

REFERENCE: The Mouse stories are animations from German television edited by Sotaro Kita a the Max Planck Institute for Psycholinguistics, Nijmegen. S. Kita. (1995). Recommendations for data collection for gesture studies. In D. Wilkins (Ed.), *Extensions of space and beyond: Manual for field elicitation for the 1995 field season*, 35-42. Nijmegen: Max Planck Institute for Psycholinguistics.

GRAID Stimuli

APPLE
Man washes an apple and then takes a bite from it.

MATCH
Man takes out a match from a box and lights it.

WASH HANDS
Man washes his hands and then wipes them with a towel.

REFERENCE: Haig, G. & Schnell, S. 2011, Annotations using GRAID (Grammatical Relations and Animacy in Discourse). Introduction and guidelines for annotators. Version 6.0. Kiel: Seminar für Sprachwissenschaft der Universität. (http://www.linguistik.uni-kiel.de/GRAID_manual6.0_08sept.pdf).

Stories by Pablo Irizarri

LAPTOP STORY
Man has a malfunctioning laptop and goes out to buy a new one. It falls from the bike. He cannot get back in the house because he left the keys inside. While he is ringing the neighbours, a thief steals the new laptop.

TUNE INTERRUPTION STORY
Man plays piano and is interrupted by his bike falling and then by his cat causing noise in the kitchen.

REFERENCE: These stimuli were created by the author.

2. Clips (visual stimuli depicting a single semantic event; to be described after watching).

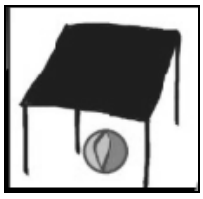
ENTER-EXIT clips

Man exiting house

Man entering house

REFERENCE: S. Kita. (1995). Recommendations for data collection for gesture studies. In D. Wilkins (Ed.), *Extensions of space and beyond*: *Manual for field elicitation for the 1995 field season*, 35-42. Nijmegen: Max Planck Institute for Psycholinguistics.

SPACE clips



Ball under table (picture)

Stick on table (picture)

Pot in front of trunk (picture)

Person puts bottle on table

Person squeezes ball between tree trunks

Person sticks stick into the ground

Table balancing upside-down on balloons (picture)

Person putting ladder against tree

Wine bottle in basket (picture)

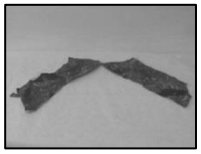
REFERENCE: F. Ameka, C. de Witte & D. Wilkins. (1999). Picture series for positional verbs: Eliciting the verbal component in locative descriptions. In D. Wilkins (Ed.), *Manual for the 1999 Field Season*, 48-54. Nijmegen: Max Planck Institute for Psycholinguistics.

CUT AND BREAK clips

Person breaking rope

Person smashing pot with hammer

Person cutting branch from tree



Piece of cloth tearing magically into two

Person separating plastic cups

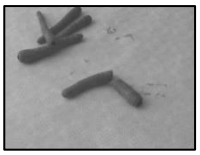
Person breaking stick into two

Person cutting fish into three pieces

Person accidentally cutting in finger

Person cutting other person's hair

Person tearing cloth into two parts



Carrot breaking magically into two

Person cutting carrots

REFERENCE: J. Bohnemeyer, M. Bowerman & P. Brown. (2001). Cut and break clips. In S. C. Levinson & N. J. Enfield (Eds.), *Manual for the field season 2001*, 90-96. Nijmegen: Max Planck Institute for Psycholinguistics.

RECIPROCITY clips

Man and woman sitting next to each other

Books leaning against each other

Four women shaking hands among each other

REFERENCE: N. Evans, S. C. Levinson, N. J. Enfield, A. Gaby & A. Majid. (2004). Reciprocal constructions and situation type. In A. Majid (Ed.), *Field Manual Volume 9*, 25-30. Nijmegen: Max Planck Institute for Psycholinguistics.

PLACEMENT clips

	Person removing head from bucket		Person putting head in bucket
	Person putting apple in bag		Person taking can from other person
	Person removing picture from wall		Person putting picture on wall

REFERENCE: M. Bowerman, M. Gullberg, A. Majid & B. Narasimhan (2004). Put project: the cross-linguistic encoding of placement events. In A. Majid (Ed.), *Field Manual Volume 9,* 10-24. Nijmegen: Max Planck Institute for Psycholinguistics.

NAVS clips

	Boy smiling to girl		Boy kissing girl on the cheek
	Boy kicking ball		Boy applauding to woman
	Person scribbling on flip-over		Person lifting up heavy bucket
	Person licking envelope		Person drinking glass of water
	Person following other person		Person grabbing other person's arm
	Person hitting ball with baseball bat		Person sleeping on the floor

Person sitting down on chair

Person washing clothes

Person smelling flower

Man pushing other man

Man hugging woman

Person sneezing once

REFERENCE: D. B. den Ouden and colleagues, Northwestern University, IL, USA.
See D. B. den Ouden, S. Fix, T. B. Parrish, & C. K. Thompson (2009). Argument structure effects in action verb naming in static and dynamic conditions. *Journal of Neurolinguistics*, *22*(2), 196-215.

DOC clips

	Man showing jacket to boy		Man showing book to other man
	Man offering box of cereals to woman		Man taking icecream from woman
	Man giving one of two backpacks to other man		Man giving backpack to other man
	Man throwing ball to other man		Man handing shoes to one of two girls

REFERENCE: F. Jäger, K. Housel and colleagues, University of Rochester, NY, USA. Set of transitive and ditransitive videos developed by Katrina Housel with help from Andy Wood, Jerry Yizhou, and Cassandra Jacobs for studies on animacy, constituent length, and givenness effects on word order and voice preferences in Yucatec Maya (under NSF grant BCS-0848353 by Jaeger, Norcliffe and Bohnemeyer).

HURDLES clips

	Man descending stairs		Toy boat sailing to shore
	Hand writing		Person sewing pants
	Person sewing unknown object		Person swimming
	Toy boat sailing		Tin cans rolling off table
	Hand writing letter		Person swimming to edge of pool

REFERENCE: M. Starren and the team members of the NWO Project "Grammaticised forms underlying information structure: Hurdles for advanced learners in achieving native-like competence." (2005-2012). See http://www.nwo.nl/en/research-and-results/research-projects/i/68/968.html [Last accessed on January 14th, 2016].

3. Additional stimuli for eliciting subjunctive and DOM (with preamble sentences on screen that were asked to be completed orally)

TEST EXAMPLE ITEMS

MAN KICKING FLOWER POT
un hombre pateó...

BOY WITH BIKE HELMET
un niño se pone una cosa que sirve para...

SUBJUNCTIVE

RAILROAD TRACKS
unos elementos que sirven para que los trenes...

CAT FLAP
una puertita que sirve para que el gato...

CHINESE WALL
una muralla que construyeron en China para que...

BIRDHOUSE
una casita que sirve para que los pájaros...

PAPERWEIGHT
un objeto que se usa para poner encima de papeles para que...

SCARECROW
una cosa que sirve para que los pájaros...

MAN ACTING AS IF WASHING CLOTHES
un chico hace como si...

GIRL ACTING AS IF NOT SEEING NO-SMOKING SIGN
una chica hace como si...

MAN WANTING CAT TO PLAY WITH BALL
un hombre quiere que un gato...

MAN CALLING CAT
un hombre quiere que un gato...

GIRL CALLING OTHER GIRL TO WINDOW
una chica le pide a otra que...

MAN OFFERING SEAT TO WOMAN
un hombre le dice a una mujer que...

GIRL ASKING OTHER GIRL TO ANSWER PHONE CALL
una chica le pide a otra que...

PIANO TEACHER TELLING STUDENT TO PUT DOWN COAT AND BAG
un profe le dice a su alumno que...

PIANO TEACHER ASKING STUDENT TO SIT DOWN AND PLAY
un profe le pide a su alumno que...

PIANO TEACHER WANTING STUDENT TO STOP PLAYING
un profe quiere que su alumno...

PIANO TEACHER TELLING STUDENT TO PUT BAG ON PIANO
un profe le dice a su alumno que...

DOM

PIANO TEACHER RECEIVING STUDENT
un profe de piano recibe...

MAN BITING ROPE
un joven muerde...

VAMPIRE ABOUT TO BITE WOMAN
un vampiro que quiere morder...

MAN KICKING TABLE
un hombre patea...

MAN KICKING OTHER MAN
un hombre de polera roja pateó...

MAN PUSHING BATHTUB
un hombre va empujando...

GOALKEEPER PUSHING FAN OFF PLAYFIELD
un arquero va empujando...

WOMAN SCRATCHING CHAIR
una chica está rascando...

MAN SCRATCHING WOMAN
un hombre está rascando...

MAN COVERING PLATE WITH CLOTH
un hombre cubre...

MAN COVERING LYING WOMAN WITH VEIL
un muchacho cubre...

GIRL KISSING BAG
una chica besó...

MAN KISSING WOMAN
un muchacho besó...

MAN SMELLING FLOWER
un chico huele...

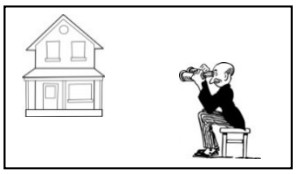
WOMAN SMELLING MAN
una muchacha huele...

WOMAN HUGGING AIRPLANE
una mujer está abrazando...

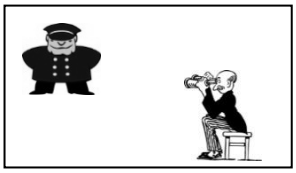
MAN HUGGING WOMAN
un joven está abrazando...

MAN LIFTING UP BUCKET
un chico está levantando...

MAN LIFTING UP CHILD
un hombre está levantando...



MAN SEEING HOUSE
un hombre calvo ve...



MAN SEEING POLICE OFFICER
un viejo ve...

REFERENCE: These stimuli were created by the author, partly in collaboration with Alejandra Rojas.

Appendix III: Sociolinguistic interview format

Below is the interview form translated to English. The original version was in Spanish. Each topic was initiated by the interviewer with the question in the left column. While the participant was speaking, the interviewer could check (in the middle column) whether certain key information was provided, and ask about it if necessary after the participant finished his 'story'. Some questions were merely to elicit potentially interesting connected discourse for linguistic analysis (rather than sociolinguistic background information), such as 'Can you tell something about the 2010 earthquake?' or 'What are your thoughts about the story of the 33 miners?'. An asterisk means that that question was not included in the homeland interviews.

Name:

Location:

Age: Living with: parent(s) / partner / child(ren) / ...

Topic	Check questions	Hints for additional questions/room for notes
Can you tell something about how you grew up?	Where: ◯	
	Who lived at home? ◯	
	How do/did you usually spend the holidays? ◯	

Can you tell something about your moving to the Netherlands?*	When/How old were you?: ◯	Why?
Can you tell something about your parents?	Origin mother: ◯	
	Education mother: ◯	
	Origin father: ◯	
	Education father: ◯	
Can you tell something about your partner and children?	Origin partner: ◯	Child(ren) optional
	Years together: ◯	
	Ex-partner origin ◯	
	Ex-partner yrs together ◯	
Can you tell something about your education and the work you have done?	Kinds of schools attended/studies ◯	
	Years/kind of education in HL ◯	
	Previous jobs ◯	
	Current job ◯	
	Where have you lived? ◯	

Can you tell something about your link with Chile?*	How often do you visit it? ◯	
	How much contact do you have w. friends/family there? ◯	E.g. Facebook, Skype
	What kind of HL media do you watch/read/listen to? ◯	E.g. Internet, TV, literature
How would you imagine your life in 10 years?		Do you plan to go back to Chile?*
With which persons do you spend most time?	Relation ◯ Origin ◯	
What languages do you speak and how well?	Languages Level ◯ L1/L2/FL ◯	
Can you estimate how much you use these languages in daily life?	Spanish ◯	
	Dutch ◯	
	Others ◯	
Can you tell something about your language habits according to different persons?	With mother ◯	
	With father ◯	
	With siblings ◯	

	With partner ◯	
	With children ◯	
	With friends ◯	
	With relatives ◯	
	What situations? ◯	
Can you tell something about the importance of these languages for you?	Practical or emotional value of Spanish ◯	
Do you have something to say about Chilean Spanish?	What type of Spanish he/she speaks ◯	
	Practical or emotional value of Chilean Spanish ◯	
Do you have any thoughts about the future of Spanish in the Netherlands?*	How much is it used at present? ◯	
	How well is it spoken at present? ◯	
Do you have any thoughts about raising your children in Spanish?	How well do your children command Spanish? ◯	
	How much do they use it? ◯	

	Would you have raised them differently, regarding languages, if you could do it again? ◯	
	If you were to have children, would you raise them in Spanish? ◯	
Can you tell something about your feeling of identity?	What do you consider yourself? (Chilean, Dutch, mixed, etc.) ◯	
	How do you feel about that? ◯	
What are your thoughts about the story of the 33 miners?	What sorts of opinions or emotions does it evoke in you? ◯	
	Do you think something like this could happen again? ◯	
Can you tell something about the 2010 earthquake?	Where were you at that moment? ◯	
	How did the news reach you?* ◯	
	Did it affect you or your family? ◯	

Samenvatting

Het in dit boek beschreven onderzoek brengt het Spaans in kaart zoals gesproken door eerste generatie migranten en tweede generatie *heritage speakers*[i] in Nederland. *Heritage speakers* worden in het kader van dit proefschrift gedefiniëerd vanuit psycholinguïstisch perspectief, namelijk als *tweetaligen die op natuurlijke wijze en vanaf de geboorte zijn blootgesteld aan de* heritage language *(HL; d.w.z. de thuistaal en niet de maatschappelijk dominante taal), die gelijktijdig of later, maar nog op jeugdige leeftijd zijn blootgesteld aan een andere taal, en die verschillende niveaus van taalvaardigheid kunnen vertonen in de* heritage language.

In hoofdstuk 1 worden basisbegrippen, belangrijke bevindingen en open vragen in het onderzoeksgebied van de *heritage languages* in het algemeen, en van het Spaans als HL in het bijzonder behandeld. Vervolgens worden de vraagstellingen, aannames en het theoretische kader voor het proefschrift uiteengezet: de cognitieve linguïstiek. De eerste centrale vraagstelling luidt: *Wat zijn de verschillen en overeenkomsten tussen de taalsystemen van individuen met verschillende geschiedenissen wat betreft blootstelling aan de* heritage language *en de contacttaal?* De tweede centrale vraagstelling luidt: *Hoe kan structurele divergentie in de taalsystemen geïnterpreteerd worden, met name in termen van HL-interne mechanismes ('incompleetheid') en mechanismes van beïnvloeding tussen talen (*'pattern replication'*)?* Het eerste en tweede type mechanismes wordt in een cognitief linguïstisch kader gedefiniëerd aan de hand van het begrip *entrenchment* (vrij vertaald: 'inslijping'): de mate waarin linguïstische eenheden in het brein routinematig geactiveerd kunnen worden als gevolg van eerdere activatie. Lage mate van *entrenchment* van eenheden van het Spaans leidt tot verschijnselen van 'incompleetheid'. Hoge mate van *entrenchment* van het Nederlands leidt tot *pattern replication.*

Hoofdstuk 2 onderzoekt de sociolinguïstische context van de *heritage speakers* van Chileense afkomst in Nederland. Op basis van gegevens uit ander werk, observaties en

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[i] Mogelijke Nederlandse vertalingen voor *heritage language* en *heritage speaker* zijn *erftaal* en *erftaalspreker*, maar voor deze samenvatting wordt gekozen voor gebruik van de oorspronkelijke Engelstalige termen *heritage language* en *heritage speaker.*

systematisch verzamelde gegevens met behulp van vraaggesprekken en een online enquête, wordt een indruk verkregen van de sociale netwerken, huidige taalgebruikspatronen, overlevering van het Spaans over de generaties, identiteitsbeleving, taalattitudes en impressies van linguïstische fenomenen in deze populatie.

Er kunnen grofweg twee sociolinguïstische subgroepen worden onderscheiden. De eerste subgroep bestaat uit de eerste generatie immigranten (aangekomen in Nederland als volwassenen en vóór 1990), de nieuwkomers (immigranten van ná 1990) en een deel van de 'tussen-generatie' (aangekomen vóór 1990, en toen tussen 7 en 18 jaar). Deze subgroep kan worden gekenschetst als een kleine Spaanstalige *speech community:* Ze zijn actief in het opzoeken en onderhouden van sociale netwerken waarin Spaans wordt gesproken. De tweede subgroep bestaat voornamelijk uit de tweede generatie (geboren in Nederland of aangekomen vóór de leeftijd van 6 jaar). Degenen die tot deze tweede subgroep behoren, geven over het algemeen aan een goede beheersing van het Spaans te hebben, maar zijn niet actief in het opzoeken en onderhouden van sociale netwerken waarin ze Spaans gebruiken. Met andere woorden, hun dagelijks leven is overwegend Nederlandstalig, en hun gebruik van het Spaans beperkt zich voornamelijk tot het gezin waarin ze zijn opgegroeid.

Waar dus het Spaans in de eerste groep waarschijnlijk voortdurend onderhevig is aan accomodatie tussen generatiegenoten en conventionalisering van eventuele nieuwe verschijnselen, ontbreekt deze dimensie van 'horizontale overlevering' van taalverschijnselen in de tweede generatie (de eigenlijke *heritage speakers*). Dat betekent dat de taal zoals gesproken door de *heritage speakers* beter niet als een variëteit kan worden bestudeerd, met al zijn bijkomende complexiteit, maar als individuele voorbeelden van tweetalige spraak. Wat deze individuele voorbeelden onderling gemeenschappelijk hebben, moet in de eerste plaats worden geïnterpreteerd als product van drie macro-factoren: *beïnvloeding* door het Nederlands, *incompleetheid* door beperkte blootstelling aan het Spaans, en de specifieke *eigenschappen van de variëteit* die ze 'verticaal', oftewel via hun ouders hebben verworven.

Hoofdstuk 3 beschrijft de selectie van deelnemers en de methode van verzameling van gegevens voor het linguïstische onderzoek in dit boek, evenals een brede verkenning van het Spaans van de deelnemers in de vorm van een reeks studies van uiteenlopende taalkundige aspecten. De in totaal 40 deelnemers aan het onderzoek kunnen worden ingedeeld op verschillende manieren. Op het hoogste niveau is er een tweedeling tussen *baseline sprekers* (degenen die eentalig zijn of dat waren tot minstens hun 18e) en *heritage speakers* (degenen die tweetalig zijn geworden vóór hun 18e). De eerste groep kan weer worden verdeeld in eentalige sprekers in het moederland (G0) en eerste generatie immigranten in Nederland (G1). De tweede groep, die van de *heritage speakers* of tweede generatie (G2), omvat de subgroepen 'vroeg sequentiëel tweetaligen' (SeqG2) en 'gelijktijdig tweetaligen' (SimG2). De laatste twee worden onderscheiden op grond van of ze opgegroeid zijn in een gezin waar de ouders elk een andere taal spraken (SimG2) of waar enkel Spaans werd gesproken (SeqG2). De taalkundige

onderzoeksprocedure bestond uit een deel visuele elicitatie, waarin de deelnemers werd gevraagd video's en plaatjes te beschrijven, en een sociolinguïstisch interview. Beide delen samen leveren het corpus voor de linguïstische analyses in het boek.

De linguïstische verkenning in hoofdstuk 3 levert de volgende bevindingen op. De deelnemers uit de G2 lijken de *vos*-vervoeging en andere *chilenismos* (woorden en constructies behorend tot de Chileense spreektaal) op een andere manier, en in sommige gevallen vaker te gebruiken dan de G0 en G1. Mogelijke redenen voor deze verschuivingen in frequentie en functie zijn de wens om de Chileense identiteit te onderstrepen, een gebrek aan blootstelling aan andere, meer formele registers van het Spaans, en een cultureel verschil waardoor de context van het linguïstische interview als minder formeel wordt beschouwd.

Matter replication, oftewel gebruik van Nederlandse woorden en zinsneden zonder fonologische aanpassing aan het Spaans, komt in beperkte mate voor in de G1 en G2. De meeste gevallen betreffen invoeging van Nederlandse woorden, maar zelden codewisseling. Ook is het duidelijk dat de deelnemers niet geneigd zijn over te schakelen naar het Nederlands na invoeging van losse Nederlandse woorden. Over de natuurlijkheid van dit gedrag kan echter weinig worden gezegd, aangezien de deelenemers expliciete instructies kregen om zo veel als mogelijk in het Spaans te blijven spreken. Terwijl sommige invoegingen, zoals het Nederlandse *ja* meer onopzettelijk lijken, hebben andere duidelijk specifieke motivaties, van het oplossen van woordvindingsmoeilijkheden tot het uitdrukken van betekenisnuances die ze niet zo snel paraat hebben in het Spaans, tot taalspel.

Het overnemen van Nederlandse patronen met gebruik van fonetisch Spaanse woorden, oftewel *pattern replication,* komt voor bij alle tweetaligen. Een kwalitatieve analyse leidt tot een voorgestelde classificatie in drie types, namelijk hybride replicatie, leenconstructies en relexificatie van afzonderlijke woorden. Het eerste type, de hybride replicatie, betreft vermenging van *pattern replication* en *matter replication:* fonetisch Spaans klinkende woorden die de fonologische vorm reflecteren van Nederlandse woorden - bijvoorbeeld *acceptar* in plaats van *aceptar* (naar analogie met het Nederlandse equivalent 'accepteren').

Het tweede type, de leenconstructies, kan worden beschouwd als voortkomend uit de activatie van Nederlandse betekenis-eenheden en hun organisatie of 'manier van verpakken', waarbij tegelijk gebruik wordt gemaakt van Spaanse fonetische vormen als vehikel. Een analyse van alle gevallen van de constructie WW + *de vuelta* 'terug' (bijvoorbeeld *dar de vuelta* 'teruggeven') in het corpus, wijst uit dat door *pattern replication* deze constructie door de tweetalige sprekers met andere functies wordt gebruikt, en ook frequenter dan constructies die de semantische component 'terug' integreren in een ondeelbaar werkwoord (bijvoorbeeld *devolver* 'teruggeven').

Het derde type *pattern replication* betreft relexificatie van afzonderlijke woorden: de importering van de semantische structuur van een Nederlands woord in de fonetische vorm van een Spaans woord. Dit soort importering leidt tot uitbreiding van de semantische toepasbaarheid van het oorspronkelijke Spaanse woord. Een voorbeeld is de

uiting *explicaba cómo trabajaban las máquinas* ‘ik legde uit hoe de machines werkten’ door een G2-spreker. In oorspronkelijk Spaans zou in plaats van het onderstreepte werkwoord *funcionaban* ‘functioneerden’ worden gebruikt, maar de spreker importeert - in de Spaanse fonetische ‘mal’ *trabajaban* - de bredere toepasbaarheid van het Nederlandse woord ‘werken’, namelijk zowel voor het ‘werken’ van een mens als voor het ‘functioneren’ van een machine.

In een bescheiden kwantiatieve analyse van het gebruik van de indicatief en de subjunctief wordt een afname geconstateerd in het gebruik van de subjunctief, in gedifferentiëerde mate naar gelang de deelnemersgroep en de linguïstische context. Terwijl het gebruik van de subjunctief stabiel is in de eerste generatie, vertoont de tweede generatie een afname in het gebruik van de subjunctief die drastischer is dan die van vergelijkbare groepen in onderzoeken in de Verenigde Staten. Er zijn aanwijzingen dat de mate waarin de subjunctief afneemt, gerelateerd is aan de individuele geschiedenis met betrekking tot blootstelling aan het Spaans, evenals aan de relatieve *entrenchment* van de subjunctief met bepaalde schemas. Deze bevindingen sluiten aan bij een verklaringsmodel in termen van de eerdergenoemde macro-factor ‘incompleetheid’, oftewel een lage mate van *entrenchment* van schemas met subjunctiefvormen.

Een andere kleinschalige kwantitatieve analyse betreft differentiële markering van directe objecten. De deelnemers laten soms de prepositie *a* weg waar hij eigenlijk verwacht zou zijn (*abraza ø la mujer* ‘hij omhelst de vrouw’) en spreken soms een *a* uit waar deze niet verwacht is (*ví a un tronco* ‘ik zag een boomstronk’). Beide onconventionele verschijnselen komen vaker voor naarmate men de lijn volgt van G0 naar G1 naar SeqG2 naar SimG2, en kunnen worden verklaard door interactie van verschillende idiosyncratische factoren, waaronder de activatie van akoestische of conceptuele schemas. Bijvoorbeeld, een conceptuele associatie tussen ‘definietheid’ en *a*-markering kan helpen verklaren waarom definiete direct objecten vaker *a* krijgen dan indefiniete. Een akoestische/fonetische associatie tussen *a* en het definiete lidwoord *los* kan helpen verklaren waarom niet-menselijke direct objecten met generieke referentie (die dus conceptueel niet verwijzen naar een definiete verzameling entiteiten), soms worden gemarkeerd met *a* (bijvoorbeeld *para espantar a los pájaros* ‘om vogels te verschrikken’).

In een volgende paragraaf worden de twee maten van vloeiendheid gepresenteerd die in de rest van het boek ook worden gebruikt. Het gaat om het aantal woorden per minuut (WPM), berekend over het gehele sociolinguïstische interview van een individu, en het aantal ‘gevulde spreekpauzes’ zoals ‘eh’ (*uh-rate*) als proportie van het totaal aantal woorden in de volledige opname van een individu. Volgens verwachting is er een afname in WPM en een toename in *uh-rate* te zien die samenhangt met mate van blootstelling aan het Spaans, oftewel van G0 naar G1 naar SeqG2 naar SimG2. Er is een significante correlatie tussen de maten binnen de tweede generatie, wat verdere onderbouwing geeft van het idee dat ze uitingen zijn van een gemeenschappelijke onderliggende factor van *cognitieve vloeiendheid* - die per individu verschilt naar gelang

de mate van *entrenchment* van Spaanse structuren door blootstelling. In de eentalig opgegroeide groep (G0 + G1) is deze correlatie afwezig. De aanname is dat in deze groep effecten van taalverlies op cognitieve vloeiendheid enkel meetbaar worden in de vorm van een lichte toename in de frequentie van gevulde pauzes, aangezien de G1 wel een significant hogere *uh-rate* hebben dan de G0.

Het idee dat linguïstische divergentie zou moeten samenhangen met vloeiendheid wordt aan een eerste proeve onderworpen in de laatste studie van hoofdstuk 3, waarin gekeken wordt naar het gebruik van de progressief-constructie *estar* + *-ndo* (bijvoorbeeld *está cantando* 'hij is aan het zingen') doorheen het gehele corpus. Waar de G0 en G1 vergelijkbaar zijn in de mate van gebruik van deze constructie, vertoont de G2 een toename, ten koste van alternatieve niet-perifrastische uitdrukkingsvormen (bijvoorbeeld *canta* 'hij zingt'). Er is een significante correlatie binnen de G2 tussen de vloeiendheidsmaten en de mate van gebruik van progressief-constructies. Om precies te zijn, de subset van individuen in de G2 die een hoge mate van gebruik van de progressief-constructie vertonen, hebben ook een lage mate van vloeiendheid. Eerdere onderzoeken die een toename van de progressief-constructie constateerden in Spaans als *heritage language*, verklaarden dit op basis van *pattern replication* vanuit de contacttaal, Engels, waarin progressief-constructies zeer frequent zijn. De huidige gegevens zijn echter niet compatibel met een dergelijke verklaring. De semantische contexten waarin de *heritage speakers* de progressief-constructies gebruiken reiken verder dan die waarin Nederlandstaligen hem gebruiken. In plaats daarvan wordt gesteld dat de bevindingen kunnen worden verklaard in termen van cognitieve optimalisatie, gedreven door incompleetheid. De progressief-constructie, die gebruik maakt van het zeer frequente werkwoord *estar* 'zijn' (hoge mate van *entrenchment*) en een onverbogen vorm van het lexicale werkwoord (gerundium), kan namelijk in systemen met een lage mate van vloeiendheid als een cognitief aantrekkelijk alternatief worden beschouwd voor niet-perifrastische vormen.

Hoofdstuk 4 onderzoekt het grammaticaal geslacht, en wel in een uitputtende statistische analyse van alle gevallen van geslachtscongruentie (adnominale, predicatieve en anaforische) geuit door 8 G0-sprekers, 7 G1-sprekers, 10 SeqG2-sprekers en 7 SimG2-sprekers. In deze omvangrijke dataset wordt de invloed van een aantal onafhankelijke variabelen bekeken op de accuraatheid van congruentie, namelijk het geslacht, de animaatheid, de morfologie en frequentie van de *controller* (het nomen dat het geslacht draagt); het type en de afstand van de *target* (het element dat hoort te congrueren); en de vloeiendheid van de spreker (gemeten met eerdergenoemde WPM en *uh-rate*). Het doel is om inzicht te verkrijgen in het verschijnsel incompleetheid door de inter- en intra-individuele patronen van prestatie te onderzoeken.

De analyse laat zien dat onvolkomenheden in geslachtscongruentie in alle groepen voorkomen, en dat er tegelijk een algemeen hoge mate van accuraatheid is: 97,6% in de *baseline*-groep (bestaande uit de G0 en G1, die niet te onderscheiden zijn in accuraatheid) en 94% in de *heritage*-groep (SeqG2 en SimG2). Er is sprake van plafondeffecten in de *baseline*-groep - dat wil zeggen, factor-effecten die niet aan de

oppervlakte komen door zeer lage aantallen onvolkomenheden - en grote inter- en intra-individuele variatie in de *heritage*-groep. De patronen met betrekking tot de invloed van variabelen zijn vergelijkbaar in beide groepen: de vatbaarheid voor onvolkomenheden neemt toe van adnominale naar predicatieve naar anaforische congruentie, van mannelijke naar vrouwelijke *controller*s, van hoog- naar laag-frequente *controllers*, van *controllers* die verwijzen naar personen naar *controllers* die verwijzen naar dingen, en van kleine naar grote afstand tussen *controller* en *target.* In geen van beide groepen komt de morfologie van de *controller* naar voren als significante onafhankelijke variabele. Dit laatste wijst erop dat de 'incomplete verwerving' van *heritage speakers* niet per se betekent dat men blijft steken in een 'kindertaalfase'. Onderzoek met kinderen toont aan dat hun accuraatheid met geslacht relatief gevoelig is voor de morfologie van de controller (meer dan voor andere factoren), maar dit is niet het geval in de *heritage* groep - net als in de *baseline* groep.

De overeenkomst in factor-effecten tussen de twee groepen illustreert dat *heritage speakers* grammaticaal geslacht niet anders verwerken dan *baseline*-sprekers. Degenen die verondersteld worden onderhevig te zijn aan 'incomplete taalverwerving', zijn op dezelfde manier vatbaar voor onvolkomenheden in geslachtscongruentie en met dezelfde resultaten als *baseline speakers* zonder incomplete verwerving, alleen in hogere mate.

Er wordt ook geconstateerd dat deelnemers zelden onvolkomenheden in geslachtscongruentie blijven herhalen met eenzelfde lemma of set lemma's. Dit levert een argument ter ondersteuning van de stelling dat incompleetheid niet gebonden is aan specifieke 'entiteiten' zoals regels of lemma *features,* maar de reflectie van een complex samenspel van effecten op alle niveaus van taalverwerking, waaronder de specifieke lemma's, de generalisatie over sets van lemma's en *targets,* en de specifieke omstandigheden van het systeem op het moment van activatie. De correlatie tussen accuraatheid en de vloeiendheidsmaten is een aanwijzing in dezelfde richting, namelijk dat de mate van 'compleetheid' van geslachtscongruentie niet los kan worden gezien van de mate van 'compleetheid' van het taalsysteem als geheel.

Hoofdstuk 5 onderzoekt het gebruik van datiefconstructies versus alternatieve constructies bij het beschrijven van een set visuele stimuli, door alle 40 deelnemers. Er worden vijf soorten datiefconstructies onderscheiden: *external possessor datives, dative experiencers, dative sources, dative of interest* en *recipient datives.* De eerste vier kunnen samen worden gevat onder de noemer 'optionele datiefconstructies' omdat ze een niet-datief constructie als alternatief hebben, en de laatste kan worden beschouwd als niet-optionele datiefconstructie, omdat er geen alternatief is. De bevinding is dat G2-sprekers met een lage mate van vloeiendheid en beperkte blootstelling aan het Spaans in de kindertijd (d.w.z. de SimG2), de optionele datiefconstructies relatief minder gebruiken en de niet-optionele datiefconstructies herstructureren, namelijk door het gangbare *clitic doubling* achterwege te laten (*le da el libro al chico* wordt *da el libro al chico* 'hij geeft het boek aan de jongen'). Beide divergenties kunnen worden verklaard als voortkomend uit incompleetheid, oftewel een lage mate van *entrenchment* van de *heritage language*, in termen van de gekozen cognitief linguïstische benadering. Dit zou

de correlatie verklaren tussen de geconstateerde linguïstische divergentie, taalverwervingsgeschiedenis en vloeiendheid. De activatie van *clitic indexing* wordt overgeslagen omdat deze cognitieve routine niet voldoende *entrenchment* heeft bereikt, en/of omdat het vaak de complexere, en daardoor meer *resource*-verslindende optie is van de verschillende opties om 'min of meer hetzelfde' uit te drukken. In het geval van niet-optionele datiefconstructies leidt het overslaan van *clitic indexing* tot de activatie van constructies zonder *clitic doubling,* terwijl het in het geval van optionele datiefconstructies leidt tot de activatie van niet-datiefconstructies.

Er is ook aanwijzing dat de macro-factor *invloed van het Nederlands* een rol speelt bij de bevindingen met betrekking tot datiefconstructies. Een psycholinguïstische modellering laat zien hoe de significante afname in het gebruik van *dative experiencers* en de *dative of interest* door alle tweede generatie-sprekers te rijmen is met de aanname dat de activatie van deze twee datiefconstructies plaatsvindt in vroege fases van verwerking, waarin eenheden van relatief meer specifieke of 'betekenisvolle' aard worden verwerkt, terwijl de andere drie datiefconstructies het gevolg zijn van activatie in latere fases, waarin eenheden van meer schematische aard worden verwerkt. De conceptueel specifiekere aard van de alternaties waarin *dative experiencer* en *dative of interest* participeren, en daarmee hun vroegere activatie in het proces van spraakproductie, zorgt ervoor dat deze twee constructies relatief vatbaarder zijn voor een bijkomend effect van cross-linguïstische activatie.

Hoofdstuk 6 bevat de synthese van de bevindingen uit het boek. De bestudeerde groep sprekers bevindt zich weliswaar in een snel voortschrijdend proces van intergenerationele taalverschuiving naar het Nederlands, en de tweede generatie neemt in het algemeen niet actief deel in Spaanssprekende netwerken, maar de omstandigheden van taalverwerving in de gezinnen van de geïnterviewden zijn gunstig genoeg geweest om een hoog niveau van taalbeheersing en non-divergentie in het Spaans te bereiken. In subtiele aspecten verschilt het Spaans van de verschillende deelnemers, waarbij de mate van linguïstische divergentie toeneemt van eentalige sprekers in het moederland (G0) naar late sequentiële tweetaligen (G1) naar vroege sequentiële tweetaligen (SeqG2) naar gelijktijdige tweetaligen (SimG2). Dit bevestigt de verwachting met betrekking tot de eerste centrale vraagstelling in hoofdstuk 1.

De G1 vertonen stabiele systemen die zelfs op fijnmazig niveau praktisch niet te onderscheiden zijn van die van de G0, al zijn er hier en daar wel 'verrijkingen' aan te wijzen als gevolg van Nederlandse invloed. De G2 is tamelijk heterogeen: sommigen vertonen aanzienlijk meer divergentie dan anderen. De variatie binnen de G2 is aantoonbaar gecorreleerd met de indeling in sequentiële en gelijktijdige tweetaligen, wat een bevestiging levert van het belang van de factoren *leeftijd* en *mate van blootstelling aan talen.* De relatief sterk divergente prestaties van vier sequentiële tweetaligen die in hun kindertijd gedurende lange periodes enkel in het Spaans werden toegesproken door hun ouders maar ze zelf in het Nederlands te woord stonden, wijst op het belang van de vraag of blootstelling een *productieve* of enkel een *passieve* component heeft.

De volgende paragrafen van hoofdstuk 6 gaan in op de interpretatie van de rol van de macro-factoren *incompleetheid* en *pattern replication* in het ontstaan van divergentie in het taalsysteem. De hypothese van de Systeem-Interne Interdependentie, geformuleerd in hoofdstuk 1, stelt dat de divergentie van een linguïstische eenheid bepaald wordt door een wisselwerking tussen enerzijds de mate van *entrenchment* van die betreffende eenheid, en de beschikbaarheid van *attentional resources* - waarbij dit laatste weer een functie is van de mate van *entrenchment* van andere linguïstische eenheden die het systeem te verwerken heeft. De consistent aangetroffen correlatie tussen linguïstische divergentie, geschiedenis van taalblootstelling en de vloeiendheidsmaten ondersteunt deze hypothese. In dit laatste hoofdstuk wordt, voortbouwend op het idee van Systeem-Interne Interdependentie, het begrip 'incompleetheid' nog preciezer gekarakteriseerd, namelijk in essentie als de uitwerking van een eenvoudig mechanisme van generalisatie op basis van beschikbaar (*entrenched*) linguistisch materiaal. Dit mechanisme van *systeem-interne optimalisatie* kan als uitkomst divergentie hebben, maar ook non-divergentie, wanneer de generalisatie leidt tot een conventioneel resultaat. Hoewel in verschillende mate, zijn de systemen van alle taalgebruikers onderhevig aan systeem-interne optimalisatie, ook die van eerste- en tweede taalverwervers. In moedertaalsprekers is het het verantwoordelijke mechanisme voor versprekingen.

Aangaande *pattern replication* werd in hoofdstuk 1 de Conceptuele Activatie-hypothese voorgesteld, die stelt dat de activatie tussen taalsystemen betrekking heeft op de conceptuele structuur van een linguïstische eenheid, en dat hoe specifieker/betekenisvoller deze conceptuele structuur, hoe sterker het activatie-effect van de ene taal naar de andere, en uiteindelijk hoe waarschijnlijker het is dat er *pattern replication* plaatsvindt. Deze hypothese wordt ondersteund door de bevindingen in het hier beschreven onderzoek. Uitgaande van een cognitief linguïstisch kader dat lexicon, constructies en grammatica beschouwt als categorieën van linguïstische representatie die op een continuum van specifiek naar schematisch liggen, wordt gesteld dat *pattern replication* in de eerste plaats geassocieerd is met eenheden uit de contacttaal aan het specifieke eind van het continuum. De divergenties in het boek die geanalyseerd konden worden in termen van systeem-interne optimalisatie lijken niet onderhevig aan dit principe, en zijn juist van sterk schematische aard. Een ander verschil tussen systeem-interne optimalisatie en *pattern replication* in het hier voorgestelde kader is dat divergenties die voortkomen uit systeem-interne optimalisatie noodzakelijkerwijs leiden tot reductie van het paradigma, terwijl dat niet geldt voor divergenties voortkomend uit *pattern replication*. Toekomstig onderzoek kan profiteren van een toespitsing op gevallen waar *pattern replication* verantwoordelijk lijkt voor paradigmatische *uitbreiding*, en van meer kwantitieve analyse van de kwestie 'specificiteit-schematiciteit'.

Tot slot wordt gesteld dat het *heritage language* systeem vormgegeven wordt door de interactie van de bovengenoemde twee macro-factoren, evenals een derde macro-factor, die op dit punt geherformuleerd wordt in cognitief linguïstische termen, namelijk als *de replicatie van materie en patronen uit de heritage language*. Hoewel deze derde

factor soms in interactie met andere factoren tot divergentie kan leiden, is het ook de belangrijkste verantwoordelijke factor voor non-divergentie ─ het overheersende verschijnsel in de systemen van de bestudeerde sprekers.

Resumen

La presente tesis explora las divergencias estructurales en el español como lengua de herencia en Holanda. Los hablantes de lenguas de herencia pueden ser definidos como aquellas personas que, habiendo estado expuestas a una lengua de herencia en un ambiente natural desde su nacimiento, han convivido, además, intensamente y de forma simultánea o secuencial, con otra lengua, que es la lengua dominante de la sociedad. Su nivel de manejo en la lengua de herencia puede variar.

El Capítulo 1 discute nociones básicas, hallazgos globales y preguntas generales que pertenecen al campo de investigación en lenguas de herencia, en particular el español como lengua de herencia. Presenta, asimismo, las preguntas que guían esta investigación, las asunciones y el marco de la lingüística cognitiva en el cual se basa esta tesis. Se plantean dos preguntas centrales: la primera explora las diferencias y similitudes que podrán hallarse entre los sistemas lingüísticos de individuos cuyas historias personales difieren de acuerdo a la exposición que han tenido a la lengua de herencia; la segunda, las posibles divergencias estructurales entre estos sistemas y cómo estas pueden ser interpretadas, especialmente en cuanto a si se trata de mecanismos internos al sistema de la lengua de herencia (‘*incompletitud’*) o mecanismos de influencia interlingüística (*‘replicación de patrones’*).

El Capítulo 2 investiga la situación sociolingüística de los hablantes de lengua de herencia de origen chileno en Holanda. Basándonos en datos ofrecidos por investigaciones precedentes, observación participante, así como información sistemáticamente recolectada a partir de entrevistas personales y un cuestionario digital, obtuvimos una impresión acerca de esta población en cuanto a redes sociales, patrones actuales de uso lingüístico, transmisión intergeneracional, aspectos de identidad, actitudes lingüísticas y fenómenos lingüísticos observados. Se concluye que hay mayormente dos sub-grupos en cuanto a comportamientos sociales y lingüísticos. El primero está constituido por inmigrantes de primera generación (adultos que inmigraron antes de 1990); recién llegados (arribaron después de 1990) y algunos de los inmigrantes ‘inter-generacionales’ (arribaron antes de 1990 cuando tenían entre 7 y 18 años de edad). Este grupo se comporta como una pequeña comunidad de habla hispana que activamente busca y mantiene redes sociales hispanohablantes. El segundo grupo está compuesto principalmente por la segunda generación (aquellos que nacieron en Holanda o que llegaron antes de los 6 años de edad). De forma general, los individuos pertenecientes a este grupo indican tener un buen manejo del español, pero no reportan mantener redes sociales en las cuales practiquen español. Su vida diaria se da, en otras palabras,

predominantemente en holandés, y su uso del español está limitado mayormente a su propio núcleo familiar.

De esta forma, mientras se puede asumir que el español del primer grupo está siendo moldeado continuamente a través de la acomodación a los pares y de la convencionalización de nuevos fenómenos, esta dimensión dinámica de 'transmisión horizontal' de patrones lingüísticos está ausente en la segunda generación, es decir, en los hablantes de herencia como tales. Con toda la complejidad que supondría abordar el discurso de los hablantes de herencia como una variedad, suponemos que es más fructífero tratarlos como ejemplos individuales de habla bilingüe. Los puntos en común entre estos ejemplos individuales deben interpretarse, principalmente, de acuerdo a, por un lado, la naturaleza general de la influencia interlingüística proveniente del holandés; por otro, fenómenos de incompletitud debidos a la baja exposición al español; y, por último, las propiedades particulares de la variedad que adquirieron de sus padres.

El Capítulo 3 describe los procedimientos de selección de los participantes y de recopilación de datos utilizados en la presente tesis, así como una amplia exploración del español de los participantes a través de una serie de estudios sobre diversos temas lingüísticos. Un total de 40 participantes fueron entrevistados, los cuales fueron agrupados en: hablantes monolingües en Chile ('generación 0' - G0), inmigrantes de primera generación (G1), bilingües secuenciales de lengua de herencia (SeqG2) y bilingües simultáneos de lengua de herencia (SimG2). Los dos últimos grupos se distinguen en cuanto a si los participantes se han criado en un hogar donde ambos padres hablaban dos idiomas (SimG2) o donde sólo se hablaba español (SeqG2). El corpus utilizado a lo largo de esta tesis, y sobre el cual se basan los análisis lingüísticos, está conformado por una entrevista compuesta por elementos de elicitación visual en que los participantes tenían que describir vídeos e imágenes, y una entrevista sociolingüística.

La sección de exploración lingüística arroja los siguientes hallazgos principales. Una examinación impresionista del uso de chilenismos (formas dialectales de origen chileno) indica que parece estar sujeto a patrones de distinto carácter en Holanda si se los compara con su uso en Chile. Los ejemplos que aquí se presentan muestran que los participantes de segunda generación usan coloquialismos, la conjugación con *vos* (examinada de forma cuantitativa) y otros chilenismos de una manera distinta, y a veces de forma más frecuente que la G0 y la G1. Suponemos que las posibles razones tras este cambio en la frecuencia y la función son el deseo de marcar la identidad chilena, la falta de exposición a otros registros más formales del español y una diferencia cultural que conduciría a una percepción de la situación de entrevista como menos formal.

La ocurrencia de *replicación de materia* holandesa sin adaptación fonológica al español en la G1 y la G2 es limitada. La mayor parte corresponde a inserciones de palabras, y por lo general rara vez se observan cambios de código. También es evidente que los participantes no están inclinados a cambiar al holandés después de las inserciones de palabras holandesas. Sin embargo, dado que los participantes recibieron la instrucción explícita de atenerse al español en la medida de lo posible, poco puede ser concluido en cuanto a la naturalidad de este comportamiento. Mientras que algunas

inserciones del holandés, como el vocablo *ja* 'sí' parecen menos intencionales, otras sirven a intenciones particulares. Estas últimas pueden ir desde resolver la búsqueda de una palabra que exprese un matiz de significado no fácilmente disponible en español, hasta cubrir el uso lúdico del lenguaje.

La *replicación de patrones* del holandés usando formas fonéticas del español, aparte de ser hallada en todos los bilingües, es asimismo heterogénea en cuanto a sus apariciones y las áreas que afecta. El estudio cualitativo nos permite distinguir tres tipos de replicación de patrones. A saber: replicación híbrida, construcciones calcadas, y calcos de palabras individuales. El primer tipo abarca híbridos entre la replicación de patrones y la replicación de materia: palabras que suenan españolas pero que reflejan la forma fonológica de sus equivalentes holandeses. Un ejemplo sería *acceptar* en vez de *aceptar*, por analogía con el verbo equivalente holandés *accepteren*.

En cuanto al segundo tipo, las construcciones calcadas, se argumenta que estas reflejan la activación de significados holandeses y su 'organización' o 'empaquetado' a la vez que se emplean cadenas fonéticas existentes en el español. Un análisis exhaustivo de todos los casos de la construcción VERBO + *de vuelta* en el corpus fortalece la idea de que la replicación de patrones podría conducir a que esta construcción sea utilizada con mayor frecuencia por los bilingües a expensas de otras construcciones en que el verbo y el componente semántico de 'de vuelta' confluyen (p. ej. *devolver* > *dar de vuelta*). Contrariamente a lo que otros han propuesto para una construcción similar como la de VERBO + *patrás* en bilingües de español e inglés, la extensión del esquema *de vuelta* a nuevos verbos es más bien sutil y no-saliente; por lo tanto, no debe ser asumida como un foco de marcador de identidad.

El tercer tipo de replicación de patrones está relacionado con lo que el autor denomina calcos de palabras individuales o relexificación: la importación de la estructura semántica de una palabra proveniente del holandés a una palabra existente en español. Estas importaciones conducen a la extensión de la aplicabilidad semántica de la palabra original en español. Se plantea la hipótesis de que si dos o más unidades son igualmente apropiadas para cubrir el contenido conceptual de una unidad en holandés, la más frecuente es semánticamente extendida de modo que coincida con su equivalente en holandés. Así, por ejemplo, 'trabajar' es extendido hasta incluir el significado de 'funcionar' en el enunciado 'explicaba cómo trabajaban las máquinas' - por analogía con el verbo equivalente holandés *werken*, que puede significar tanto 'trabajar' como 'funcionar'. Por otro lado, el vocablo menos frecuente 'funcionar' no es extendido de modo que también pueda incluir el significado de 'trabajar'.

Una investigación cuantitativa más sencilla referente al modo verbal arrojó una disminución en el uso del subjuntivo, el que difiere entre grupos de participantes y contextos. La primera generación muestra un uso no divergente del subjuntivo en casi todos los casos. Sin embargo, en la segunda generación de hablantes, tanto la SimG2 como la SeqG2 evidencian una disminución más notoria si se las compara con estudios llevados a cabo en Estados Unidos con grupos de individuos de similares características. Indicios adicionales pueden ser hallados de que el alcance de la retirada del subjuntivo

se relaciona tanto con la historia de exposición al español de un individuo, así como con la consolidación relativa del subjuntivo a un cierto esquema. En este sentido, sostenemos que estos hallazgos son congruentes con una posible reducción de los procesos internos del español como consecuencia de una baja consolidación de dichos esquemas.

Un análisis cuantitativo menor acerca de la marcación diferencial de objetos (MDO) muestra que hay casos de ausencia del marcador *a* en aquellos casos en que debería haber estado presente (p. ej. *abraza la mujer*), así como una presencia de este marcador en casos en que debió haber estado ausente (*vi a un tronco*). Ambos resultados 'poco convencionales' son más frecuentes a medida que se avanza desde la G0 a la SimG2 pasando por los grupos de generaciones intermedias. Las omisiones y las sobre-generalizaciones del marcador *a* en el análisis del MDO apuntan a que la incompletitud no debería ser vista como una condición que envuelve la 'ausencia' de ciertas cosas. No hay razón para asumir una reducción unidireccional, es decir 'vacíos' o 'ausencias'. Ambos tipos de resultados deberían ser analizados, por el contrario, como instancias de sobre generalización tanto de la marca *a*, como del marcador cero. Por ejemplo, una asociación conceptual entre 'definido' y el marcador *a* puede dar cuenta del hecho de que frases sustantivas de complemento directo atraen más el marcador *a* que las frases sustantivas de objeto indirecto. Una asociación acústico-fonética podría dar cuenta del hecho de que las frases sustantivas no-humanas de referencia genérica (aquellas que conceptualmente no abarcan un set definido de entidades) comúnmente aparecen con el marcador *a* cuando contienen un artículo definido (p. ej. *para espantar a los pájaros*).

La próxima sección introduce las medidas de fluidez a ser usadas en el resto de la tesis. Estas son el número de palabras por minuto (PPM), calculado sobre la base de la entrevista sociolingüística completa, y el número de pausas rellenadas con elementos como 'eh' y otras hesitaciones, en cuanto a la proporción del número total de palabras producidas por un individuo durante toda su grabación (*proporción de hesitaciones* - PDH). De acuerdo a lo esperado, los grupos muestran una disminución en la PPM y un aumento de la PDH de acuerdo a su nivel de exposición al español. También hallamos una correlación significativa entre las medidas al interior de la segunda generación, lo cual avala la idea que estas reflejan un factor subyacente común, a saber, la fluidez cognitiva. En el grupo de individuos con un pasado monolingüe (G0 y G1) esta correlación está ausente, lo cual es congruente con la hipótesis de que, en este grupo, los efectos de una posible atrición en la fluidez cognitiva sólo se visibilizan superficialmente en cuanto a un declive significativo de la PDH.

Un primer examen de la idea de que la divergencia lingüística debería correlacionarse con la fluidez es llevado a cabo en la última sección del Capítulo 3, el cual investiga el uso de la construcción *estar + -ndo* (construcción progresiva) a lo largo de todo el corpus. Usando como base comparativa la G0 y la G1 (grupos similares en cuanto a sus rangos), el análisis evidencia un aumento en el uso de esta construcción al interior de la segunda generación; esto a expensas del uso de alternativas no perifrásticas. Asimismo, los resultados arrojan una correlación significativa entre las medidas de fluidez y el rango de uso de construcciones progresivas al interior de los

grupos con un pasado bilingüe (grupos G2). En otras palabras, el subgrupo de individuos de G2 con el mayor uso de construcciones progresivas se caracteriza también por una baja fluidez. Mientras que estudios anteriores sobre el español como lengua de herencia argumentan por un aumento en el uso de construcciones progresivas como consecuencia de fenómenos de replicación de patrones como resultado del uso extendido de estas construcciones en la lengua de contacto (inglés), los datos analizados en esta tesis no avalan tal explicación. Los contextos semánticos en los cuales los hablantes de herencia utilizan la construcción progresiva se extienden más allá de aquellos en los que los hablantes de neerlandés los utilizan. Alternativamente, argumentamos que los hallazgos son congruentes con una explicación en términos de una optimización inducida por incompletitud. Se arguye que la construcción progresiva constituye una alternativa cognitivamente atractiva a las formas no perifrásticas en aquellos hablantes que presentan una menor fluidez.

El Capítulo 4 investiga la precisión de *todos* los casos de concordancia de género (frases, predicativos y anafóricos) utilizados por 8 hablantes monolingües de español, 7 inmigrantes de primera generación, 10 bilingües secuenciales y 7 bilingües simultáneos. En este extenso conjunto de datos se incluye una serie de variables explicativas, a saber: el género del controlador (el sustantivo que lleva el género), su animacidad, su morfología, su frecuencia, así como el tipo de meta (el elemento que concuerda en género), como la distancia entre controlador y meta y la fluidez del individuo. La inclusión de estos tiene como objetivo contribuir a la comprensión de la naturaleza de la incompletitud mediante el examen de los patrones inter- e intra-individuales de proficiencia.

Si bien el estudio revela imprecisiones de concordancia de género en todos los grupos, también da muestras de una alta tasa de precisión global: 97.6% en el grupo que funciona como base comparativa o grupo de control (constituido por ambos la G0 y la G1, cuyas actuaciones son, al igual que en el capítulo anterior, indistinguibles) y un 94% en el grupo de hablantes de lengua de herencia (SeqG2 y SimG2 agrupados). El número de imprecisiones es tan bajo que representa serios desafíos para el modelamiento linear generalizado de efectos mixtos (Generalized Linear Mixed Effects Modeling). En el 'grupo base', muchos sectores de los datos evidencian un efecto límite, es decir, los efectos de las variables independientes no afloran a la superficie debido a la baja ocurrencia de imprecisiones. En el 'grupo herencia' se observa una variación inter- e intra-individual relativamente alta.

Los patrones factoriales, cuando son distinguibles, son similares en ambos grupos. El grado de susceptibilidad a imprecisiones aumenta de la concordancia nominal, a la concordancia predicativa y a la concordancia anafórica; de los controladores masculinos a los femeninos; de los controladores menos frecuentes a los más frecuentes; de los controladores animados a los inanimados; y de menor a mayor distancia entre controlador y meta. Se argumenta que todo esto ilustra el punto de que los hablantes de lengua de herencia no procesan el género de forma distinta al grupo de control monolingüe. Los individuos que supuestamente son sujetos a la 'adquisición incompleta'

son susceptibles a cometer imprecisiones de la misma manera y con el mismo resultado que los hablantes nativos, solo en mayor grado.

Otro hallazgo destacable es que la morfología de los controladores no parece desempeñar un papel significativo en el rendimiento relativo a la concordancia de género, en ninguno de los grupos, lo cual sugiere que, en términos lingüístico cognitivos, la generalización esquemática sigue las mismas líneas en los hablantes de herencia y los hablantes criados en entorno monolingüe, pero difiere de lo que reflejan estudios llevados a cabo en niños, quienes parecen ser particularmente susceptibles a las generalizaciones en base a la morfología, por sobre las generalizaciones a base de otros aspectos.

También se encontró que las imprecisiones de concordancia de género rara vez son coherentes con el mismo lema o conjunto de lemas. Argumentamos que esto avala la caracterización de la concordancia de género 'incompleta' como no vinculada a reglas sintácticas o lemas específicos, sino como un reflejo de la compleja interacción de efectos palpables en todos los niveles de procesamiento del lenguaje, incluido el nivel de generalización sobre conjuntos paradigmáticos de lemas o de objetivos, el nivel de lemas particulares, y el nivel de procesamiento momentáneo. Es importante destacar que la correlación entre la precisión y las medidas generales de procesamiento indican que la 'completitud' de la concordancia de género no puede ser vista por separado de la 'completitud' del sistema lingüístico en su conjunto.

La discusión esboza un enfoque lingüístico cognitivo que explica la incompletitud de género como un fenómeno de gradiente que surge de la interacción entre la consolidación de las asociaciones lingüísticas y la disponibilidad de recursos atencionales.

El Capítulo 5 investiga el uso de construcciones de dativo versus codificaciones alternativas en las descripciones de un conjunto de estímulos visuales llevadas a cabo por el total de 40 participantes. Las construcciones de dativo corresponden a cinco tipos. Los primeros cuatro son denominados 'dativos opcionales' debido a que presentan una construcción alternativa no-dativa, y corresponden a dativo de poseedor externo, dativo de experimentador, dativo de fuente y dativo de interés; el último de los cinco es denominado 'dativo canónico' y corresponde al dativo de recipiente. Los hallazgos indican que los hablantes de segunda generación con un bajo dominio del español y una baja exposición al español durante la niñez (SimG2) se alejan de las construcciones de dativo opcionales y reestructuran el dativo canónico; es decir, lo utilizan sin el doble clítico (*le da el libro al chico* > *da el libro al chico*). Se plantea la hipótesis de que ambas divergencias son atribuibles a la adquisición incompleta o, en términos del marco lingüístico cognitivo usado en esta tesis, una baja consolidación de la lengua de herencia. Esto explicaría la correlación entre divergencias lingüísticas, exposición en la infancia y fluidez. Se argumenta que la indexación clítica es pasada por alto debido a que la rutina no está lo suficientemente consolidada, y / o porque a menudo representa la opción más compleja y por lo tanto la que más recursos consume para decir 'más o menos lo mismo'. En el caso del dativo canónico, pasar por alto la indexación clítica trae

consigo el uso de construcciones en que el doble clítico está ausente, mientras que en el caso de los dativos opcionales conduce a la selección de construcciones no-dativas.

Se argumenta, además, que la influencia del holandés representa otro factor en juego. El modelamiento sicolingüístico muestra cómo la significativa evitación de los experimentadores de dativo y los dativos de interés en todos los hablantes de segunda generación encaja con la asunción de que la activación de estas dos construcciones es regulada en niveles más tempranos de procesamiento, en los que se procesan partes del mensaje con significado más específico, mientras que las otras construcciones de dativo son el resultado de activaciones en niveles de procesamiento tardíos, más esquemáticos. Las alternancias en las que participan las construcciones de dativo de experimentador y de dativo de interés involucran un contraste más específico, y por lo tanto una activación más temprana en el proceso de producción, y esto tiene como consecuencia que estas dos construcciones sean más propensas a un efecto adicional producto de la activación interlingüística.

El Capítulo 6 provee una síntesis de los hallazgos hechos a lo largo de esta tesis. Se concluye que aunque la población estudiada está caracterizada por un rápido desplazamiento intergeneracional hacia el holandés y poca participación en redes nucleares de habla hispana por parte de la segunda generación, las condiciones de exposición a la lengua en el entorno familiar de los entrevistados ha sido favorable hasta el punto de haberle permitido a la G1 y la G2 alcanzar un alto nivel de manejo en español. No obstante, partes menores del sistema lingüístico de los hablantes difieren del español convencional; el número de estas divergencias aumenta si se va de la G0 a la SimG2 (G0 > G1 > SeqG2 > SimG2) de tal manera que se confirma lo esperado en cuanto a la primera pregunta central formulada en el Capítulo 1.

La G1 exhibe, por su lado, sistemas robustos que no han sido susceptibles a la atrición, los cuales prácticamente no se distinguen de la G0 en cuanto a particularidades gramaticales importantes, aunque sus sistemas estén ‘coronados’ por algunos ‘enriquecimientos’ que aparecen de vez en cuando y que probablemente tienen su origen en la influencia interlingüística. La G2 representa, por otra parte, un grupo heterogéneo: algunos individuos han adquirido sistemas considerablemente más estables que otros. La variación al interior de la G2 da muestras de estar correlacionada con la agrupación de los individuos de acuerdo a su edad de adquisición de la L2 (momento en que comenzó su bilingüismo), lo cual confirma la importancia de la *edad* y la *cantidad* de exposición a las lenguas. La relativa divergencia en el rendimiento global de cuatro individuos pertenecientes a la SeqG2, quienes –volviendo nuevamente al holandés-, indicaron haber estado expuestos solo de forma pasiva al español durante periodos largos en la infancia, revive nuevamente la discusión acerca del rol adicional que tiene la exposición receptiva versus la productiva a una lengua.

Las próximas secciones del Capítulo 6 desarrollan la forma en que los macro-factores en cuestión, incompletitud y replicación de patrones, conducen a las divergencias en el sistema. La Hipótesis de la Interdependencia Sistémica formulada en el Capítulo 1 sostiene que la divergencia de una unidad particular es una función de la

consolidación de tal unidad, así como de la disponibilidad de recursos atencionales, la cual, a su vez, es una función de la consolidación de unidades que están siendo procesadas en cualquier otra parte del sistema al mismo tiempo. La observación llevada a cabo en la presente tesis sobre la correlación existente entre historia de exposición, fluidez y divergencia lingüística es compatible con esta hipótesis. En este capítulo conclusivo, la noción de imcompletitud es caracterizada de forma más precisa como producto de un mecanismo de generalización en base al material disponible (consolidado) de la lengua de herencia, a lo cual el autor propone denominar *optimización interna.* Este fenómeno opera de la siguiente forma: *Cuando la interacción entre el nivel de consolidación de una unidad meta y el de otras unidades procesadas (Interdependencia Sistémica) conduce al fracaso de la activación de la unidad meta, la unidad accesible más cercana en la red es activada.* La 'unidad meta' hace referencia a la unidad que convencionalmente sería seleccionada por un hablante nativo de español bajo circunstancias normales de procesamiento. 'Más cercana' se refiere a la unidad que, aparte de la unidad meta, más encaja con el significado pretendido. 'Más accesible' se refiere a la unidad que presenta un nivel más alto de consolidación que cualquier otra unidad en aquel punto temporal. Este mecanismo de optimización interna puede tener, como resultado, tanto la divergencia como la no-divergencia (lo último ocurre cuando la generalización tiene, por casualidad, un resultado convencional). La *optimización interna* es operativa (sólo que en diferentes grados) en todos los usuarios de la lengua, e incluye también a los hablantes de primeras y segundas lenguas, siendo asimismo responsable de los errores del habla en los hablantes nativos.

En cuanto a la replicación de patrones, en el Capítulo 1 se propuso la hipótesis de la Activación Conceptual, que plantea que lo que se activa por influencia interlingüística es la *estructura conceptual* de una unidad lingüística, y que mientras más específica/significativa es esta estructura conceptual, más fuerte se vuelve la activación interlingüística y consecuentemente, más probable es que ocurra la replicación de patrones. En el presente capítulo se concluye que esta hipótesis es avalada por los hallazgos presentados en esta tesis. Tomando como punto de partida el marco de la lingüística cognitiva que considera al léxico, las construcciones y la gramática como categorías de representación lingüística distribuidas a lo largo de un continuo que va de lo más específico a lo más esquemático, y dado que la replicación de patrones debería estar más a menudo asociada con unidades de la lengua de contacto en el extremo más específico del continuo, se plantea que la replicación de patrones generalmente conduce a divergencias en el extremo más específico, mientras que la optimización interna no parece estar sujeta a tal principio. De hecho, las divergencias encontradas en esta tesis que pudieron ser analizadas en términos de optimización interna, son más bien de tipo esquemático. Otra diferencia entre la optimización interna y la replicación de patrones en el marco aquí esbozado, es que las divergencias causadas por la optimización son, necesariamente, reducciones paradigmáticas, mientras que las últimas no lo son. Estudios futuros podrían beneficiarse de un enfoque en aquellos casos en que la replicación de patrones parece conducir a una *extensión* paradigmática; asimismo, sería

fructífero llevar a cabo más estudios cuantitativos acerca del tema de la 'especificidad' versus la 'esquematicidad'

Finalmente, se argumenta que el sistema de la lengua de herencia es moldeado por la interacción de macro-factores, tanto de los dos discutidos anteriormente - la optimización interna y la influencia interlingüística - como del tercer macro-factor, el cual es redefinido en términos lingüístico-cognitivos como la *replicación de materia y patrones de la lengua de herencia*. Mientras que a veces este tercer factor puede actuar en conjunto con otros factores causando divergencias, es también el principal factor responsable de los casos en los que *no* se produce divergencia del sistema nativo. Efectivamente, la falta de divergencia es el fenómeno que prevalece en los sistemas lingüísticos de los hablantes estudiados en esta tesis.

Curriculum vitae

Pablo Irizarri van Suchtelen studied at the University of Amsterdam, completing a BA in Spanish and Linguistics, followed by an MA in Linguistics, with minors in Dutch as a Second Language and Hungarian. His MA thesis was titled ‘Language, Music and Working Memory: an exploration into relations between musical aptitude, language aptitude and second language acquisition.’ Before starting his PhD, he worked several years as a lecturer at the Dutch Department of Károli University, Budapest. He has also worked for many years, up to the present, as a science journalist and musician.