

# **Is the Heritage Language like a Second Language?**

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## **Abstract**

Many heritage speakers (bilinguals in a minority language context) turn to the second language (L2) classroom to expand their knowledge of the heritage language. Critical questions arise as to how their linguistic knowledge compares to that of post puberty L2 learners. Focusing on recent experimental research on grammatical domains typically affected in both L2 learners and heritage speakers, this article addresses whether exposure to the family language since birth even under reduced input conditions leads to more native-like linguistic knowledge in heritage speakers as opposed to L2 learners with a later age of acquisition of the language, how differences in input and language learning experience determine the behavioral manifestations of linguistic knowledge, and whether formal instruction in the classroom is beneficial to heritage speakers. I argue that the extension of theoretical frameworks and methodologies from SLA has significantly advanced the field of heritage language acquisition, but deeper understanding of these speakers will also need more fruitful integration of the psycholinguistic and sociolinguistic factors that contribute to the acquisition and maintenance of heritage languages.

## **Heritage languages and heritage speakers**

Heritage language acquisition has emerged as a “new” field of study that focuses on heritage languages and heritage speakers (Polinsky & Kagan, 2007). This article is concerned with recent advances in the field of heritage language acquisition and its relationship with the field of L2 acquisition (or SLA). Although Valdés et al. (2006) have referred to heritage

language acquisition and teaching as largely atheoretical, I argue in this article, as I have elsewhere (Montrul, 2008a), that the theoretical questions and methodological paradigms from theoretical linguistics, psycholinguistics, and second language acquisition are highly relevant for heritage language acquisition. Indeed, I will show how these have been successfully extended to heritage language acquisition in the past few years, and I will highlight the significant progress we have been able to achieve as a result in our current understanding of heritage language speakers. I begin by clarifying basic terms.

In the context of the United States and Canada the term *heritage languages* refers to the languages spoken by immigrants and their children. Sociopolitically, the languages spoken by the wider speech community in the host country are majority languages with official status while the heritage language is a minority language. Analogous terms used in Europe and Australia to refer to the same population are *ethnic minority languages* or *community languages*.

*Heritage speakers* are the children of immigrants born in the host country or immigrant children who arrived in the host country some time in childhood. In sociolinguistic terms, the parents are the first generation, the children second, and the grandchildren the third (Silva-Corvalán, 1994). Heritage speakers are early bilinguals due to their upbringing because they are exposed to the heritage language and the majority language since birth or in childhood. Some heritage speakers grow up speaking the majority and the heritage language since birth – *simultaneous bilinguals* – whereas others may have lived in a monolingual setting in early childhood and became bilingual when they started school in the majority language at around ages 5 or 6. These heritage speakers would be considered *sequential bilinguals* because one language is in place before the other is acquired. Regardless of whether they are simultaneous or sequential bilinguals, what heritage speakers have in common is that by the time they reach adulthood the heritage language is their weaker

language. In recent years, there has been increasing research on understanding the specific linguistic abilities of heritage speakers and how their abilities compare to those of fully fluent speakers on the one hand, and to second language learners on the other. We will see representative research in section 2.

To understand the linguistic profile of heritage speakers, it is important to keep in mind the distinction between the two languages of these bilinguals in terms of order of acquisition of the languages (i.e. *first* vs. *second* language), the functional dimension of the languages (*primary* vs. *secondary* language), and the sociopolitical dimension (*minority* vs. *majority* language). As an example, we will consider a hypothetical typical profile of a Hindi heritage speaker attending college in the United States – let us call him Rajesh. Rajesh is in his early 20s and was born in the United States to Hindi-speaking parents of very high socioeconomic status (SES) (e.g., doctors or engineers). He was exposed to Hindi at home and schooled exclusively in English. When he was growing up, Rajesh’s parents always addressed him and his siblings in Hindi, but Rajesh often responded in English and also used English with his siblings. At age 22, Rajesh’s knowledge of English is native both in pronunciation and grammatical ability in the four skills (listening, speaking, reading and writing). By contrast, his knowledge and communicative command of Hindi is intermediate overall: he is somewhat fluent but makes many grammatical errors in production. In terms of language skills, Rajesh’s listening abilities are the most developed, followed by speaking, but they are not nativelike. Rajesh is illiterate in the Hindi script and can barely read and write the language.

Another example of heritage speakers within the European context would be the 5 expatriate Swedes described in Håkansson (1995). They were Norwegian/English/French-Swedish bilingual Swedes who grew up abroad in the United States and France and returned to Sweden in late childhood or adolescence. When they sought admission to the university,

their language skills in Swedish were not at the native speaker level. As a result, they enrolled in courses of Swedish as a second language to pass the admission test at a Swedish University. Teachers reported that these Swedish speakers had forgotten parts of Swedish lexicon and grammar. Thus, as this case shows, heritage speakers are often unbalanced bilinguals, and while unbalanced bilingualism is not uncommon, it is manifested in at least two types depending on the sociopolitical context.

In a typical monolingual situation, when a child is learning the majority language at home and school and later learns a second language, the first language is also the stronger, dominant or primary language, while the second language is the secondary language, used less frequently (see Figure 1). But in the case of heritage speakers, as the ones just described, when the first language is a minority language, there is a shift in the functional dimension of the languages as the child grows up, with the first and primary language eventually becoming secondary in language use. This functional shift, in turn, affects the linguistic competence and fluency in the heritage language, which ends up resembling a second language (Figure 2).

L1 = native language (majority L)  
 L2 = second language (international L)

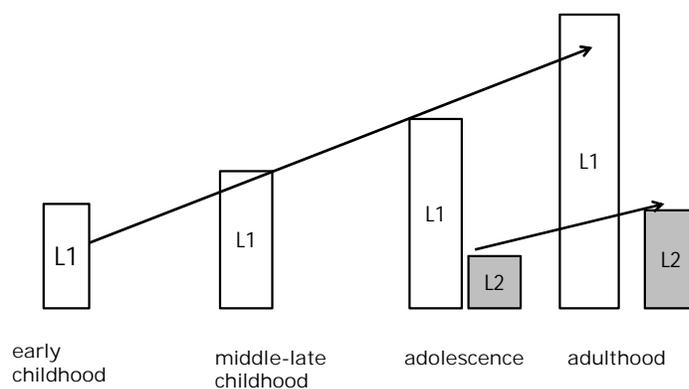


Figure 1. Typical development of a first (L1) and second language (L2) (after puberty) in a majority language context.

L1 = Heritage Language  
 L2 = English (in the US)

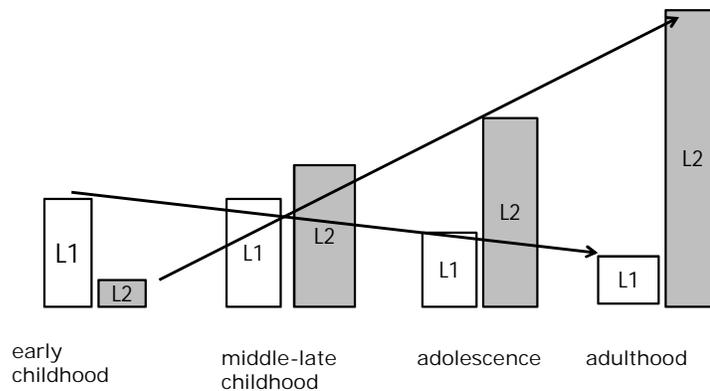


Figure 2. Typical development of a heritage language (L1) in a majority language context.

Another concrete example of how the acquisition and functional dimensions of language may or may not go together is shown in Table 1. In this example, the same language – Spanish in the United States – can be acquired as a second/foreign language or as a minority/heritage language. In the L2 situation, if Spanish is acquired as an L2 by a speaker whose native language is English, English is both the L1 and the primary language throughout the lifespan. In this case, the order of acquisition, the functions of the languages, and their sociopolitical status are aligned for the two languages (English is the first, primary and majority language whereas Spanish is the second, secondary and minority/international language). By contrast, in the acquisition of Spanish as a heritage language, the three linguistic dimensions are shifted or dissociated: Spanish is the first language, but it is also the secondary and minority language; English is the second language, but it is also the primary and majority language.

Table 1. Example of Spanish in the United States as a second or heritage language.

linguistic dimensions		L2 learner of Spanish in the United States	Spanish heritage speaker in the United States
sociopolitical dimension	majority language	English	English
	minority language	Spanish	Spanish
order of acquisition	first language	English	Spanish
	second language	Spanish	English
functional dimension	primary language	English	English
	secondary language	Spanish	Spanish

Because the heritage language is used less than the majority language and in restricted contexts (home only) in early childhood, it tends to lag behind in morphosyntactic and lexical development by comparison to the speaker's stronger language, and even to monolingual development norms, thus becoming the weaker language (Schlyter, 1993). Later on, if the heritage language does not receive academic support at school during the age of later language development, as it is often the case, it never has a chance to develop much further; that is, at age-appropriate levels. Consequently, typical outcomes of the heritage language acquisition process by the time these children reach early adulthood are non-native like competence and use of the language, better ability with receptive than productive language, non-uniform levels of proficiency, and linguistic gaps that resemble the patterns attested in second language acquisition (in gender agreement, verb paradigms, pronouns, case marking, word order, prepositions, etc.) (Kondo-Brown, 2004; Montrul, 2011; Montrul et al., 2012; O'Grady et al., 2011; Song et al., 1997). Like L2 learners, heritage speakers show signs of transfer from the dominant language and "apparent" fossilization (arrested development) of the heritage language (Montrul, 2008b).

Much research in recent years has tried to address the potential causes behind the linguistic patterns exhibited by heritage speakers, such as language change in progress (Silva-

Corvalán, 1994), incomplete or interrupted acquisition due to insufficient input and use throughout childhood (Montrul, 2008b; O'Grady et al., 2011; Polinsky, 2006; Rothman, 2007); language attrition during the critical period (Bylund, 2009; Montrul, 2008b; Polinsky, 2011), and different parental input. From an acquisition perspective, incomplete acquisition implies that some grammatical aspect of the language did not reach age-appropriate levels when the bilinguals were still in the process of acquiring the family language. Attrition occurs when heritage speaker did reach age appropriate proficiency some time in childhood but it later decreased. Attrition and incomplete acquisition are not mutually exclusive and can even co-exist with respect to the same or different grammatical phenomena, but teasing these apart requires longitudinal studies (Montrul, 2008). For example, Anderson (1999) followed two Puerto Rican siblings longitudinally for two years soon after their immigration to the United States. The study focused on control of gender agreement in noun phrases, which typically developing monolingual Spanish-speaking children master with close to 100% accuracy by age 3 (see details in Montrul, 2004). The younger sibling did not show mastery of gender agreement with nouns at age 4;7 and the error rates increased dramatically two years later at age 6;5 after intense contact with English through daycare. The older sibling, on the other hand, was producing gender agreement in nouns with 100% accuracy at age 6;7 but two years later, at age 8;5, she exhibited a 5.8% error rate, a sign of attrition. All these factors appear to play a role to some extent in determining the outcome of heritage language acquisition. Indeed, the acquisition process and outcome of this particular bilingual population raises fundamental theoretical questions with no straightforward answers: How long does it take for a *native language* to be acquired and solidified so that it does not go away with fluctuations in input? How stable is early childhood acquisition in a bilingual environment? What exactly is the role of input in the development vs. maintenance of a language? What are the roles of attitude, motivation, and aptitude in these developments?

We have recently begun to address these questions through a variety of descriptive studies of heritage speakers and heritage learners of different languages (Brinton et al., 2008; Kondo-Brown, 2006), sociolinguistic studies of language use (Otheguy et al., 2007), and formal linguistic and psycholinguistic oriented experimental studies investigating the nature of heritage language knowledge (Sekerina & Trueswell, 2011). Many of these studies include comparisons of heritage speakers with fully fluent monolingually raised native speakers living in the country of origin or recently arrived to the host country (first generation immigrants) and have shown linguistic differences and potential changes between the linguistic abilities of heritage speakers (second generation), first generation immigrants, and the full variety spoken in the country of origin. In addition to the critical questions that the linguistic abilities of heritage speakers raise for linguistic theory and language acquisition in general, the study of heritage speakers has become relevant to the field of second language acquisition and teaching. A very prominent line of research has directly compared heritage speakers to second language learners, guided by theoretical questions drawn from typical debates in L2 acquisition. In the rest of this article, I focus on the state of the science in this particular approach.

## **Heritage Languages and Second Languages**

According to some theoretical accounts of adult L2 acquisition, maturational effects (age) explain fundamental differences between L1 acquisition by children and L2 acquisition by adults (Bley-Vroman, 2009; DeKeyser, 2000; Hyltenstam & Abrahamsson, 2009; Long, 2007). On some accounts, the main difference between L1 and L2 acquisition lies in the nature of linguistic knowledge, while by other accounts the fundamental nature of the linguistic system is the same but the differences lie in the degree of ultimate attainment due to extragrammatical factors (Prévost & White, 2000). Another area of increasing interest is the role of experience and, more specifically, how the emergent linguistic competence may be shaped by input (Ellis & Collins, 2009).

Both age of acquisition and type and amount of input are relevant to understand the linguistic abilities of L2 learners and heritage speakers. Table 2 lists major differences and similarities, showing that both L2 learners and heritage speakers receive variable and perhaps non-optimal amounts of input in restricted environments. At the same time they differ in the timing of input (early in heritage speakers and late in L2 learners), the setting (home with naturalistic exposure in heritage speakers versus exposure via instruction in the classroom in L2 learners), and the modality of the input, which is predominantly aural in heritage speakers and written and (aural) through literacy in post puberty L2 learners. By comparing heritage speakers and L2 learners we can re-evaluate more precisely the role of age and experience in bilingual language development.

Table 2. Input differences and similarities between heritage speakers and L2 learners.

<b>Input</b>	<b>Heritage Speakers</b>	<b>L2 Learners</b>
<i>timing</i>	early (childhood)	late (around puberty)
<i>setting</i>	naturalistic (home)	instructed (classroom)/ (naturalistic, study abroad)
<i>mode</i>	aural	written and aural (literacy)
<i>amount and frequency</i>	variable	variable
<i>quality</i>	restricted to environment	restricted to environment

Heritage speakers and L2 learners are also relevant to language teaching. Heritage speakers need motivation to maintain and develop their heritage language beyond what they acquired at home. Many young adult heritage speakers seek to reacquire or improve their knowledge of the heritage language in the second/foreign language classroom, and it is very common to find heritage language speakers and learners in several second and foreign language classes in North American and European universities (for example, Håkansson's, 1995, study mentioned earlier, to which we return below). To language practitioners, the presence of these speakers in classes designed for second language learners with no previous background in the language presents significant challenges. Many language practitioners have felt the need to develop new programs and pedagogical materials to address the specific needs of heritage speakers (Brinton et al., 2008). Consequently, identifying how L2 learners and heritage speakers differ in their linguistic competence and processing abilities is a critical step towards developing efficient pedagogical strategies in language teaching.

We now have a good number of descriptive studies, case studies, sociolinguistic studies, psycholinguistic studies, pedagogical research and classroom research. Three main

themes that have received significant attention so far are 1) the resilience vs. vulnerability of different aspects of grammatical knowledge as a function of age of acquisition, 2) how input and experience may shape heritage language grammars, and 3) the potential reacquisition of the heritage language in the classroom. We turn to these themes next.

### *Linguistic modularity and maturational effects*

In recent years, explanations and predictions of developmental delays or inability to reach native-like attainment in specific areas of grammatical knowledge have been linked to the architecture of the language faculty. Different linguistic models establish that the language faculty consists of a series of discrete modules (syntax, semantics, phonology), each with their own structural and hierarchical organization, as well as connections between modules, or “interfaces” (Burkhardt, 2005; Jackendoff, 2002; Ramchand & Reiss, 2007). A recurrent claim is that properties at interfaces are inherently more “complex” than properties internal to a specific domain (syntax, phonology, semantics) due to the integration of different levels of linguistic knowledge/analysis (see Sorace, 2011, and commentaries). In the context of L2 learners and heritage speakers, an important question is which specific areas of grammatical knowledge are robust and which are fragile under reduced and variable input conditions in both types of learners? A related issue is whether age of acquisition (early in heritage speakers versus late in L2 learners) brings an advantage (in terms of grammatical proficiency) to heritage speakers with early acquired aspects of language, as maturational accounts of L2 acquisition would predict (DeKeyser, 2000; Hawkins & Chan, 1997; Hyltenstam & Abrahamsson, 2009; Long, 2007; Montrul, 2008b; among many others).

These questions were first addressed by Terry Au and collaborators in a series of studies on Spanish and Korean. Au et al. (2002) and Knightly et al. (2003) conducted an experimental study of incipient L2 learners of Spanish and Spanish heritage speakers with

receptive knowledge of the language (*overhearers*). Participants completed a production task aimed at eliciting VOT measurements of the Spanish [p, t, k, β, ð, ʔ], an aural grammaticality judgment task testing different aspects of Spanish morphosyntax broadly defined (clitics, gender agreement, verbal agreement, tense, aspect, mood, etc.), and an oral narrative task testing gender agreement. They found that the heritage speakers were significantly more native-like on the phonetics/phonology and pronunciation measures than the L2 learners. On the morphosyntactic measures, the L2 learners and the heritage speakers did not differ from each other, performing at slightly above 60% accuracy in the grammaticality judgment task (cf. native speakers 92%) and about 50% accuracy on the narrative task (cf. native speakers 97%). They concluded that early input as predicted by critical period accounts brings advantages for phonology, but not for morphosyntax in heritage speakers.

Au et al.'s (2002) findings of an advantage for heritage speakers in phonology and pronunciation have since been confirmed by other research on different aspects of phonology and different languages. For example, Saddah (2011) studied the vowel production of L2 learners and heritage speakers of Arabic. Arabic has 3 vowels that contrast in length (/i, i:, u, u:, a, a:/). Formant measures of F1 and F2 taken at vowel midpoints showed that the Arabic heritage speakers produced vowels closer to the native speakers' values, while the Arabic vowels produced by the L2 learners were different and closer to English values (their L1). Chang et al. (2008) also found that heritage speakers of Mandarin are able to keep their L1 and L2 sounds distinct in oral production, unlike L2 learners. In phonological perception, heritage speakers have also been shown not to differ from native speakers while L2 learners are far from native-like. An example is Lukyanchenko & Gor (2011), who examined the perceptual correlates of the hard-soft /t-t'/ and /p-p'/ stop contrasts in Russian native speakers, heritage speakers and L2 learners. The results of two discrimination experiments (AXB and AX tasks) showed that the L2 learners were very inaccurate at discriminating these

Russian contrasts, unlike the native speakers and the heritage speakers who did not differ from each other. Thus, when it comes to phonological abilities, all studies to date point to significant native-like abilities for heritage speakers as opposed to L2 learners, advantages which are most likely related to early exposure to the language. This does not mean that all heritage speakers manifest an intact phonological system at the level of production and perception, as some studies have also found significant differences between native speakers and heritage speakers in production (Au et al., 2002). For example, Godson's (2004) study of Western Armenian heritage speakers found that heritage speakers tend to have less native pronunciations when the sounds in the two languages are phonetically very close. Thus, the nature of heritage accents is a topic that deserves more in-depth study.

Another area of interest that remains highly unexplored is lexical knowledge and representation in the two types of learners. We know that lexical knowledge, retrieval and access are highly affected in L1 attrition, especially nouns (Hulsen, 2000). Yet, when looking at lexical categories more broadly (nouns, verbs and adjectives), Polinsky (2005) found selective retention and forgetting of words by lexical category. Results of a lexical recognition and a translation task administered to Russian heritage speakers showed that the heritage speakers retained verbs more than nouns and adjectives; that is, they were more accurate and faster in recognition and translation of verbs as compared to nouns and adjectives. Montrul & Foote (in press) asked whether such selective retention of verbs would also hold in Spanish heritage speakers and L2 learners of Spanish. In addition, Montrul & Foote investigated the role of age of acquisition of words in lexical access (words acquired early in the L1 and early in the L2, words acquired late in the L1 and early in the L2, and words acquired early in L1 and late in L2). Results of a visual lexical decision task and a translation judgment task failed to show statistical effects of lexical class, although the tendency was that both groups were more accurate and faster on nouns than on verbs and

adjectives, contrary to what Polinsky found. There were no overall speed and accuracy advantages for heritage speakers over L2 learners, but there was an effect of age of acquisition of words: the heritage speakers were faster and more accurate than the L2 learners with words acquired early in the L1 and late in the L2, whereas the L2 learners were faster and more accurate on words acquired late in L1 and early in L2. These findings suggest that L2 learners differ in their knowledge of vocabulary, which is highly dependent on frequency, the context of acquisition and language use (see Grosjean's, 2008, Complementarity Principle). But more studies should investigate the nature of lexical knowledge in these two types of learners and in terms of existing models of lexical representation and access in bilinguals with different profiles of language dominance.

The vast majority of studies comparing the grammatical abilities of heritage speakers and L2 learners to date have focused on the potential vulnerability of morphosyntax, syntax-semantics, and syntax-discourse phenomena, perhaps because the findings in these areas are less clear cut with respect to an effect of onset of acquisition. Although Au et al. (2002) found no significant advantages for heritage speakers in aspects of morphosyntax broadly defined, other studies have suggested otherwise. For example, Håkansson's (1995) study of 5 expatriate Swedes who returned to Sweden compared the performance of these subjects on verb placement (V2 phenomenon) and nominal agreement in the NPs (gender, number and definiteness) in spoken language, written tests and free composition with those of 6 L2 learners of Swedish enrolled at the university. Håkansson found that although the Swedish heritage speakers had several problems with vocabulary and grammar, they did not violate the V2 rule. By contrast, the L2 learners were highly inaccurate on V2 (24% errors), leading Håkansson to conclude that syntax resists attrition in the Swedish heritage speakers. However, the Swedish heritage speakers whose other languages were English, French and Norwegian, were highly inaccurate on nominal agreement (53% errors), more so than the L2

learners (37% errors). As for the syntax-discourse interface, Keating et al. (2011) investigated preference for antecedent assignment of null and overt pronouns in Spanish L2 learners and heritage speakers, an area that has been identified as highly vulnerable to attrition in first generation bilinguals who speak pro-drop languages and to permanent optionality in near native speakers of a second language (Sorace, 2011). The question was whether in sentences as in (1a) and (1b) with two potential antecedents, the subject of the adverbial clause refers to subject of the main clause when null, and to the object or another antecedent in discourse when it is overt, which is the preference of native speakers (see also Carminati, 2002, for Italian).

(1) a. Juan vio a Carlos cuando *pro* caminaba en la playa.

Juan saw prep Carlos when  $\emptyset$  was walking on the beach

b. Juan vio a Carlos cuando *él* caminaba en la playa.

Juan saw prep Carlos when he was walking on the beach

Results of an off-line written comprehension task showed that while the native speakers showed the subject antecedent bias for null subjects and object antecedent bias for overt subjects, (a difference of almost 20%); the experimental groups did not show a clear statistical difference. There was no overall difference between L2 learners and heritage speakers in the choice of subject antecedent for the null subject, although their antecedent biases were slightly different. The L2 learners preferred overt subjects (67.12%) to null subjects (65.64%), while the heritage speakers preferred subject antecedents for null subjects by a difference of about 5.9%, the trend attested in the native speakers.

In the area of semantics, Montrul & Ionin (in press) investigated the interpretation of definite plural articles in Spanish by L2 learners of Spanish and Spanish heritage speakers whose dominant language is English. Although both Spanish and English have definite and indefinite articles, the languages vary in the semantic interpretations of these features. For

example, genericity in English is expressed through bare plural noun phrases, as in (2a). With the definite article, as in (2b), the sentence refers to a specific group of tigers. In Spanish, bare plurals in subject position are typically ungrammatical, as in (3a), but the definite article can be used to express both a generic statement and a specific statement. So, sentence (3b) can be a generic statement about tigers (generic reading) or can also refer to a specific group of tigers (specific reading), depending on the context.

- (2) a. Tigers eat meat.                      generic  
      b. The tigers eat meat.                specific
- (3) a. \*Tigres comen carne.  
      b. Los tigres comen carne.        generic, specific

Montrul and Ionin asked whether L2 learners and heritage speakers would tend to interpret definite plural determiners as generic, as Spanish native speakers tend to interpret definite articles, or as specific due to transfer from English. Results of an acceptability judgment task and a truth value judgment task showed significant differences between the native speakers and the two experimental groups. The L2 learners and the heritage speakers did not differ from each other, and unlike the native speakers who preferred a generic interpretation for plural definites, they showed a preference for specific readings instead. Thus, in this regard, there were no advantages for the heritage speakers in terms of more native-like knowledge of semantics.

It is widely known that inflectional morphology is difficult to master in second language acquisition (DeKeyser, 2005; Prévost & White, 2000; Slabakova, 2008), and several studies of heritage speakers have also uncovered that inflectional morphology is highly vulnerable in heritage language grammars as well (Benmamoun et al., 2010). In the nominal domain, heritage speakers of Russian, Spanish and Swedish, as we have seen, exhibit errors with gender agreement (Håkansson, 1995; Montrul et al., 2008; Polinsky,

2008a; Schmitt, 2010), while heritage speakers of Swedish and Hungarian exhibit errors with definiteness agreement (Bolonyai, 2007; Håkansson, 1995). Other studies have reported omission, simplification and/or reanalysis of case marking in Russian, Korean, Spanish and Inuktitut (Montrul & Bowles, 2009; Polinsky, 1997, 2006, 2008b; Sherkina-Lieber et al., 2011; Song et al., 1997). The verbal domain displays similar patterns of morphological instability with respect to agreement, as observed in heritage speakers of Arabic, Spanish, and Russian (Albirini et al., 2011; Bruhn de Garavito, 2002; Foote, 2010; Polinsky, 1997, 2006), lexical aspect in Russian (Laleko, 2010; Pereltsvaig, 2005; Polinsky, 1997, 2006, 2008b), grammatical aspect in Spanish and Hungarian heritage speakers (Fenyvesi, 2005; Montrul, 2002), mood in Spanish, Russian, and Hungarian heritage speakers (Fenyvesi, 2005; Montrul, 2007; Polinsky, 1997, 2006; Silva-Corvalán, 1994), and inflected infinitives in heritage speakers of Brazilian Portuguese (Rothman, 2007). As for direct comparisons of L2 learners and heritage speakers in the same study and using the same tasks, we saw that Au et al. (2002) found no differences between the two groups in Spanish gender agreement, for instance. Montrul et al. (2008) revisited the question originally posed by Au et al. (2002) – whether early exposure to the language confers an advantage in linguistic ability to heritage speakers over L2 learners – and investigated syntactic knowledge of gender agreement in three tasks: a comprehension task, a written morphological recognition task, and an oral production task. While the native speakers performed at ceiling on all tasks (almost 100% accuracy), the two experimental groups were much less accurate. Yet, the results also revealed task effects: the L2 learners were significantly more accurate on the two written tasks than the oral production task, and were more accurate than the heritage speakers in the two written tasks. The heritage speakers, by contrast, were more accurate on the oral task than the two written tasks, and more accurate on the oral task than the L2 learners. If one considers that the results of the oral task are more representative of implicit linguistic

knowledge than the two written tasks, which are more metalinguistic, then the results of this study could suggest that the heritage speakers have more nativelike ability for aspects of morphosyntax as well, but these are modulated by type of task and experience, a topic we cover more in depth in the next section. Similar findings with tense, aspect, mood and differential object marking are reported in Montrul (2011).

To summarize thus far, we have considered whether and how different areas of linguistic knowledge are equally affected in heritage speakers and L2 learners, and whether the timing of input (early *vs.* late) contributes to more nativelike ability in heritage speakers than in L2 learners. The broad picture that emerges from these findings can be summarized in Table 3.

Table 3. Summary of findings of empirical studies on different aspects of grammatical knowledge in L2 learners and heritage speakers

Area of linguistic knowledge	Example	Affected in L2 learners?	Affected in Heritage speakers?	Advantage for HS?
phonology	VOTs, vowels consonantal contrasts	yes	yes	yes
lexicon	lexical classes	yes	yes	no (but differences by words)
syntax	V2 phenomenon	yes	no	yes
discourse-syntax	null/overt subject anaphora	yes	yes	no
semantics	genericity expression	yes	yes	no
morphology	gender agreement tense-aspect-mood	yes	yes	no (but differences by task)

Syntax and phonology seem to be the most resilient areas of grammar in heritage speakers, whereas syntax-discourse, semantics and inflectional morphology are quite vulnerable. Early input seems to provide a clear advantage to heritage speakers in perception and production of phonology and in core aspects of syntax, such as V2 in Germanic languages. Advantages for heritage speakers in other areas, such as in lexicon and inflectional morphology, seem to be highly influenced by other factors related to experience, to which we now turn.

### ***Input and experience***

It is not always easy to tease apart the timing of input from how that input is experienced and processed by children (heritage speakers) and adolescents (L2 learners). By experience, I am referring to the type, modality, frequency and amount of exposure to relevant input and use of the language, which differ in these two groups of language learners (see Table 1). L2 learners typically acquire the language in an instructed setting through visual and aural input, while heritage speakers were exposed to the language since early childhood at home, through aural input and interactions with caregivers. Thus, the question that arises is what is the role of type of input and modality of input in shaping the linguistic abilities and outcomes of the two types of learners? In what follows, I present the results of three studies that stress the importance of register and of how input modality may impinge on processing patterns in L2 learners and heritage speakers.

Montrul (2010a, 2010b) tested knowledge of object expression in Spanish heritage speakers and L2 learners of comparable proficiency in Spanish. Knowledge of direct object clitic placement with respect to verb finiteness, as in (4) and (5), the possibility of clitic climbing in restructuring constructions (6), and object topicalizations with obligatory clitic

doubling (also called clitic left dislocations) (8) (cf. [7]), were some of the structures tested via an oral narrative task and a visual acceptability judgment task.

- (4) Juan la vio. vs. \*Juan vio la.  
“Juan saw her.”
- (5) Para leerlo. vs. \*Para lo leer.  
“To read it.”
- (6) Juan la quiere comprar.  
\*Juan quiere la comprar.  
Juan quiere comprarla.  
“Juan wants to buy it.”
- (7) Juan llevó las carpetas a la oficina.  
“Juan took the folders to the office.”
- (8) Las carpetas las llevó Juan a la oficina.  
“The folders, Juan took them to the office.”

Although English (the primary language of the participants) does not have clitic pronouns, both L2 learners and heritage speakers demonstrated solid knowledge of clitics and did not differ from Spanish native speakers on their correct production of clitics with finite and nonfinite verbs. They were also able to correctly judge grammatical and ungrammatical sentences with clitic placement in the judgment task. However, significant differences between heritage speakers and L2 learners were evident in the production of clitic climbing and in the judgment of sentences with topicalizations in the judgment task. Unlike the L2 learners who only produced 14% of clitic climbing, the heritage speakers produced 65%, and the native speakers 60%. In the judgment task, the heritage speakers also accepted significantly more clitic climbing than the L2 learners. The oral narrative did not elicit spontaneous examples of topicalizations, but these were included in the judgment task. The

heritage speakers were more accepting of topicalizations than the L2 learners. A possible explanation for these results could be related to experience and language use. According to Davies (1995) and Torres Cacoullos (1999), clitic climbing in Spanish occurs more often in spoken than in written registers. Topicalizations in general, and clitic left dislocations in particular, are a feature of informal, spoken language. If these structures occur in written language at all, they typically occur under strict stylistic conditions (Sornicola, 2003). Since heritage speakers have more experience with spoken Spanish than L2 learners, it is not surprising that they are more accepting of clitic climbing and of topicalizations than the L2 learners.

Another example of studies showing that heritage speakers behave closer to native speakers than L2 learners with certain structures as a function of register comes from a recent study of case ellipsis in Korean L2 learners and heritage speakers conducted by Chung (2012). Korean marks nominative case for subjects with the particles *-ka/-i* and accusative case for objects with the particle *-lul/-ul*. In spoken registers, Korean allows optional case marking in informal, casual speech. That is, the case marker of the subject or the object can be dropped in certain contexts (case ellipsis), as in (9). Chung (2012) shows that case ellipsis is regulated by highly complex and abstract linguistic and non-linguistic properties.

- (9) Mary-(*ka*) sakwa-(*lul*) mek-nun-ta.  
 Mary-NOM apple-ACC eat-NONPST-DECL  
 "Mary is eating an apple."

The purpose of Chung's study was to investigate whether L2 and HL learners can successfully develop sensitivity to multiple cues that would lead them to acquire target-like competence in Korean. Participants completed a written elicited production task consisting of dialogues in informal speech. Participants had to choose a case-marked or a bare NP within the context of a short conversation. The variables that may condition case ellipses –

contrastive focus, animacy, and definiteness – were examined. The results showed that the heritage speakers and the L2 learners were different from the baseline group of Korean speakers, for whom the factors of contrastive focus, animacy, and definiteness determined the omission of case markers. At the same time, the two bilingual groups differed from each other in significant ways. The heritage speakers were sensitive to multiple cues, behaving more like the native speakers, and seemed to have attained a certain degree of implicit knowledge of Korean case ellipsis, whereas the L2 learners developed their own pattern of judgment exclusively depending on animacy with almost no interaction with contrastive focus and definiteness. Because the higher proficiency heritage speakers are capable of attaining this subtle phenomenon while high proficiency L2 learners are not, one can assume that this is due to late onset of acquisition (maturational effects), as discussed in the previous section. But since case ellipsis in Korean is a conversational phenomenon, and heritage speakers have more experience in general with spoken language than L2 learners, experience with the spoken register clearly explains these results as well. These two studies suggest that even when we rely on written tasks, heritage speakers perform more target like than L2 learners with aspects of syntax, morphology and discourse that are typical or more frequent in spoken language. These findings add to the findings of Montrul et al. (2008) mentioned earlier – that heritage speakers are more native like than L2 learners with gender agreement in oral production than in written recognition, for example. Thus, in addition to register and modality, type of task matters for L2 learners and heritage speakers.

Following this line of research, Bowles (2011a) investigated more directly whether L2 learners and heritage speakers performed differently on tests of grammatical ability depending on the degree of implicitness or explicitness of the task. According to Ellis (2005), some tasks used to measure language ability maximize metalinguistic or explicit knowledge of language, while others minimize the opportunity to rely on metalinguistic, “studied”

knowledge and allow the participant to use their more implicit grammatical knowledge. Implicit knowledge is recalled and used automatically, without conscious awareness of the specific grammatical rules involved (Paradis, 2004, 2009). Bowles asked whether L2 learners, who have more experience with classroom instruction than heritage speakers, would score higher on tests of grammatical knowledge that maximize explicit knowledge, whereas heritage speakers would score lower on those measures because of their naturalistic language experience. The participants were Spanish native speakers, Spanish heritage speakers and L2 learners of Spanish (the latter had comparable proficiency in the language). The five tasks used tested aspects of Spanish morphosyntax (ser/estar, gender, *a* personal, preterite/imperfect, subjunctive, adjective placement, conditionals, and subject-verb agreement) and were an extension of the tasks proposed by Ellis (2005). An oral imitation test, and oral narrative task and a timed grammaticality judgment task were considered measures of implicit knowledge, whereas an untimed grammaticality judgment task (GJT) and a metalinguistic knowledge test were the measures of explicit knowledge. As predicted, the results showed that the L2 learners scored higher on the two tests that maximized reliance on explicit knowledge than on the three tests that minimized explicit knowledge. The heritage speakers showed exactly the opposite pattern, scoring much higher on the three tests of implicit knowledge and lower on the tests of explicit knowledge. As for direct comparisons between groups, the heritage speakers were more accurate than the L2 learners on the three implicit knowledge tasks. They scored as accurately as the L2 learners in the timed grammaticality judgment task. Not surprisingly, the only task in which the L2 learners scored statistically higher than the heritage speakers was the metalinguistic knowledge task. Not only does this study confirm what Ellis found with L2 learners of English, but it also shows how explicitness of the task and modality matter for heritage speakers and should be taken

into account when making comparisons between the two groups and drawing conclusions about their linguistic knowledge.

One potential problem with Ellis (2005) and Bowles's (2011a) replication and extension is that the issue of explicitness or implicitness of the task is confounded with modality. For example, two of the "implicit" tasks were oral, while the two "explicit" tasks were written. Were the L2 learners better at the implicit tasks than the L2 learners because the tasks elicited oral production or because they were targeting implicit knowledge? Similarly, did the L2 learners do better in the more explicit tasks because they were written or because they were more explicit? The tasks that can actually answer this question are the timed (implicit) and untimed (explicit) GJTs. Comparison of these two tasks, both of which were written, suggests that the more implicit the task, the better for the heritage speakers and the reverse for L2 learners.

To bring more clarity to the issue of modality and explicitness of tasks, Montrul et al. (under review) followed up on the findings of Montrul et al.'s (2008) study of gender agreement, focusing on the processing of spoken language exclusively. They implemented a different set of tasks that might prove more efficient in tapping the participants' more automatic and implicit knowledge of grammatical gender than the written tasks used in previous studies (Alarcón, 2011; Montrul et al., 2008). A group of Spanish native speakers, a group of L2 learners, and a group of heritage speakers of intermediate to advanced proficiency in Spanish completed three spoken word recognition experiments that varied on the degree of explicitness of the task: a gender monitoring task (GMT), a grammaticality judgment task (GJT) and a repetition task (RT). The GMT required participants to listen to grammatical and ungrammatical noun phrases containing a determiner, an adjective and a noun, and push one of two buttons on the keyboard (one for feminine, one for masculine), depending on the gender of the noun. In the GJT, participants listened to the noun phrases

and pushed one of two buttons to indicate whether the phrase was grammatical or ungrammatical. In the RT, participants heard the noun phrases and were asked to repeat the last word in each phrase as quickly and accurately as possible. The GJT and the GMT focus on gender more explicitly than the RT. Reaction times and accuracy were measured.

The results showed that all the groups demonstrated sensitivity to gender agreement violations in Spanish noun phrases in general, but the heritage speakers displayed more native-like performance than the L2 learners depending on the implicitness of the task. That is, in the more explicit tasks, the GMT and the GJT, the heritage speakers and the L2 learners did not differ from each other or the native speakers, but in the more implicit task, the RT, the heritage speakers patterned with the native speakers, while the L2 learners showed the reverse response. We then have more evidence that when we control for modality, the explicitness of the task matters for these two types of learners.

The collective results from all these studies suggest that the role of language experience – as it relates to type of input and input modality – seems to affect the processing of language and linguistic performance of heritage speakers and L2 learners as measured by different tasks. Heritage speakers outperform L2 learners typically in tests that minimize metalinguistic knowledge and especially in oral production tasks. If linguistic knowledge elicited in this way is closer to grammatical competence than the knowledge elicited through reading and writing, then one may say that the heritage speakers have linguistic advantages not only on phonology, but on aspects of morphosyntax and syntax discourse as well. This is a topic that certainly deserves further research and discussion, but at this point we will focus on task modality because, as we will see in the next section, task modality is very relevant for instruction.

### ***The role of instruction in L2 and heritage language development***

In addition to learning about the nature of second language knowledge, understanding how teaching helps learners restructure their grammars is of particular interest in instructed second language acquisition. A central question in instructed acquisition is what types of linguistic input are most beneficial for second language learners. One main difference between acquisition by very young children, both monolingual and bilingual, and L2 acquisition by adults is that because child acquisition takes place primarily in a naturalistic setting, there is typically no explicit instruction or information about grammaticality. Many researchers argue that negative evidence – information regarding the impossibility of certain linguistic structures in the language being acquired – is not necessary and perhaps not even consistently available for bilingual and first language acquisition (Pinker, 1989). However, research on L2 acquisition, especially in immersion contexts, has suggested that positive evidence alone may not be sufficient for the acquisition of certain L1-L2 contrasts or structures that are not present in the L1 (Lightbown, 1998; Long, 1996; Trahey & White, 1993, White, 1991). That is, L2 learners may benefit from occasional form-focused instruction, which often involves providing learners with explicit information before or during exposure to L2 input by means of either grammatical explanations or negative evidence in the form of corrective feedback (Sanz & Morgan-Short, 2004). Much research investigating the role of explicit grammatical explanation in second language acquisition has found form-focused instruction and feedback beneficial, especially for morphosyntax (Norris & Ortega, 2000; Russell & Spada, 2006).

The research summarized in the two sections above has used empirical methods and questions from second language acquisition to investigate the linguistic competence of heritage speakers. Identifying how heritage speakers and L2 learners are linguistically different or similar is very relevant information for classroom instruction and program development. We also want to know how heritage learners learn or relearn their heritage

language in the classroom and the best methods to help them develop their language beyond what they acquired in childhood. If, as established by recent research, heritage speakers have less developed metalinguistic knowledge than L2 learners, and have less experience with explicit tasks, then how do heritage language learners react to explicit instruction in general? Does form-focused instruction in particular help heritage language learners in the classroom?

Montrul & Bowles (2009) showed that two groups of Spanish heritage speakers with low to advanced proficiency displayed unstable knowledge of differential object marking (*a*-personal) and dative case marking with psychological verbs like *gustar* in written production and in written grammaticality judgment tasks. Another study by Bowles & Montrul (2009) investigated intermediate-level L2 learners' reactivity to instruction on these same grammatical phenomena, which are also problematic for L2 learners. Bowles & Montrul (2009) used a classic pre-post-test design to investigate the efficacy of an online instructional treatment on L2 learners' production and grammaticality judgments on structures requiring dative marking. The instructional treatment consisted of an explicit grammatical explanation of the uses of the preposition *a* followed by three practice exercises, for which participants received immediate, explicit feedback, including negative evidence. Results indicate that both recognition and production of *a*-marking improved significantly after the instruction, suggesting that at least in the short term explicit instruction facilitates classroom in L2 acquisition. Montrul & Bowles (2010) extended the same research design to investigate reactivity to instruction in heritage speakers. They found that explicit instruction and feedback was very beneficial to heritage speakers as well. In fact, in terms of the magnitude of the gains on all the structures tested in the tasks (a written grammaticality judgment task and a written production task), it was higher in the heritage speakers studied by Montrul & Bowles (2010) than in the L2 learners in Bowles & Montrul (2009). Although very preliminary, this research suggests that negative evidence plays a role in L2 acquisition and

in heritage language acquisition in a classroom setting, and that explicit form-focused instruction is beneficial for the two groups.

Potowski et al. (2009) asked whether the types of instruction mattered. They focused on the effectiveness of traditional output-based instruction as compared to input processing instruction (VanPatten, 1996). Six intact classes of Spanish for L2 learners and of Spanish for heritage speakers were randomly assigned to one type of instruction or the other. A production task, an interpretation task, and a grammaticality judgment task (all written tasks) were used to measure the learners' gains in accuracy on Spanish imperfect subjunctive after each type of instruction. L2 learners and heritage language learners showed significant improvements in comprehension, production, and grammaticality judgments regardless of type of instruction, although in this study the overall gains were greater for the L2 learners than for the heritage language learners. Interestingly, there were important task effects: the heritage speakers were more accurate on interpretation and production than on grammaticality judgments, the most metalinguistic task of the three. Only the L2 learners showed improvements in the grammaticality judgment, whereas the heritage speakers did not.

Moving away from form-focused instruction and into other types of classroom activities, Bowles (2011b) investigated linguistic gains through interaction in the classroom. A vast body of research in second language acquisition summarized in Mackey & Goo (2007) supports the Interaction Hypothesis (Long, 1996) demonstrating that adults learning a second/foreign language benefit from conversational interactions with native speakers. Following this tradition, Bowles (2011b) investigated interactions between heritage language learners of Spanish and L2 learners of Spanish enrolled in the same classes at the university. Pairs consisting of a heritage language learner and an L2 learner completed two-way information gap communicative tasks in written and oral modality. Bowles asked whether one type of learner (L2 or HL) initiated more language-related episodes (LREs) than the

other; whether one learner's (L2 or HL) language-related episodes get resolved more often than the other's; whether one learner's (L2 or HL) language-related episodes (LREs) get resolved in a more target like way than the other's overall; and whether the modality of the task (oral vs. written) plays a role in who initiates the language related episodes (LREs) and how they get resolved. Bowles found that both L2 and HL learners initiated a similar number of LREs across oral and written tasks and that the LREs initiated by both types of learners were resolved in equal proportion. Nevertheless, the data revealed different patterns by the two learner types on the written task: 47 of the 70 orthography-focused LREs (67%) were initiated by HL learners, while the other 23 (33%) were initiated by L2 learners, a finding underscoring once again the heritage speakers' gaps with written language as a result of their language learning experience.

To summarize, classroom research so far seems to suggest that heritage language learners, like L2 learners, benefit from form-focused instruction in the classroom. Although the teaching method itself does not appear to matter (e.g., traditional vs. input processing), the magnitude of gains on different aspects of morphosyntactic knowledge depends on type of structure and type of task. When it comes to interaction in the classroom, both types of learners benefit from and learn from each other, but differences again show up in task modality (written vs. oral). All these results suggest, once again, that the type of language experience shapes the type of linguistic knowledge heritage speakers and L2 learners possess and how it is manifested in different language skills and modalities.

### **What have we learned so far?**

Although the field of Heritage Language Acquisition has emerged in the United States and Canada as a "new" field (Brinton et al., 2008; Polinsky & Kagan, 2007; Kondo-Brown, 2006; Montrul, 2008a), the study of 2<sup>nd</sup> generation bilinguals and what we today call *heritage*

*speakers* is not new, but has been until now the realm of sociolinguistics (Dorian, 1989; Otheguy et al., 2007; Silva Corvalán, 1994). In general, sociolinguistic studies have focused on describing the language of heritage speakers as examples of different emerging regional and community varieties, and most frequently address theoretical issues in language contact and change as a sociohistorical phenomenon. Interest in heritage speakers from formal linguistics and psycholinguistics perspectives, including experimental designs drawn from second language acquisition, has been a more recent development. By extending research questions, theoretical models, and methodological designs from the field of L2 acquisition to heritage language acquisition, we have learned a great deal about the linguistic knowledge of heritage language speakers (a type of bilingual native speaker); we have learned more about the nature of linguistic knowledge in L2 learners (and their metalinguistic advantages); we have learned about the possible dimensions on which these two different types of bilinguals vary or not; and we have learned that the type of knowledge manifested by the two types of learners is profoundly shaped by experience. We can no longer claim that the field is “atheoretical”: in fact it has become sophisticated and increasingly informed by sister disciplines.

We have learned that heritage speakers are “interrupted” native speakers who retain a great deal of native abilities but whose competence in the heritage language is comparable to the linguistic abilities achieved by adult second language learners. Whereas monolingually raised native speakers are assumed to possess native-like command of their L1 and primary language, heritage speakers and L2 learners, for whom the heritage language and the second language are respectively non-dominant languages, display a wide range of abilities from very low to very high proficiency. Thus, in Figure 3 below, the white rectangle representing native speakers is taller. Heritage speakers retain more native ability in phonological perception and production, and perhaps in some core aspects of syntax developed during the

age of primary syntactic development (before age 3), when they received the most optimal input in the heritage language. Native-like abilities are represented by the white and black parts of the rectangle illustrating the abilities of both L2 learners and heritage speakers. Other grammatical areas (lexicon, semantics, discourse-pragmatics) show high variability and nonnative effects typically found in L2 learners. Thus, the competencies of both speakers in these areas seem to overlap, as shown by the grey intersection between the white and black rectangles. But when we add the dimension of input mode and modality, the abilities of both types of learners diverge: the heritage speakers pattern with native speakers and the L2 learners do not.

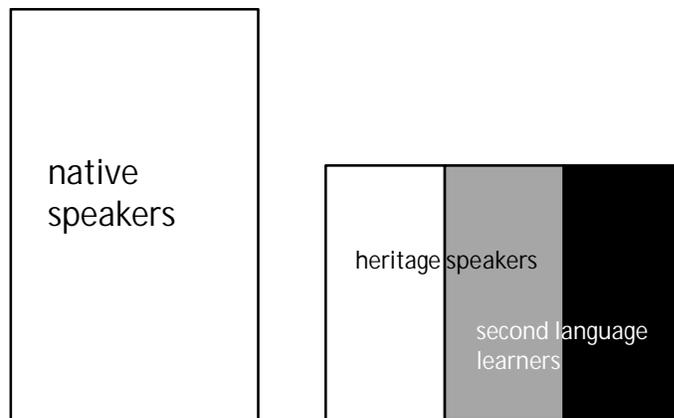


Figure 3. Native-like abilities of native speakers, heritage speakers, and L2 learners

Thus, it is clear that different aspects of language (modules and or interfaces) are affected differently by age of onset of bilingualism and experience in the two types of bilingual speakers or language learners, and this understanding could only have been

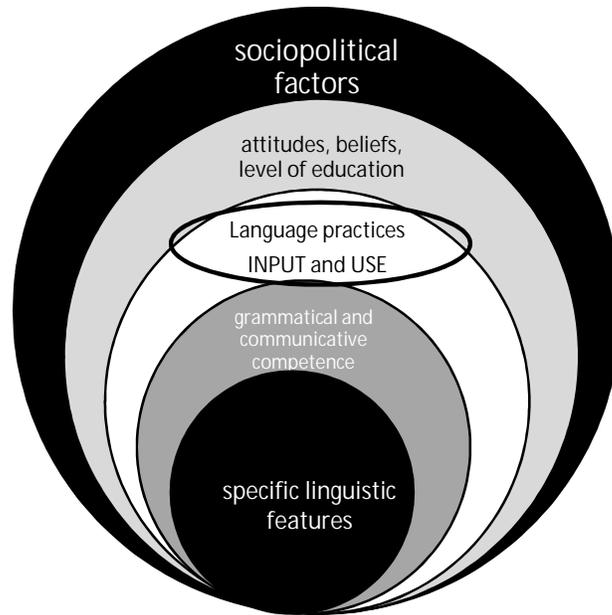
achieved by adopting theories and methods from linguistics and psycholinguistics. It appears that language experience shapes how the secondary language is acquired, processed, and accessed depending on the particular linguistic structure and the modality of the tasks used to draw conclusions about linguistic competence. At the same time, age of acquisition and experience affect how the language might be relearned in the classroom.

While we have made great strides in understanding heritage speakers' linguistic abilities in the heritage language, much more needs to be done to understand the internal and external factors that lead to these mature linguistic outcomes throughout the years of critical linguistic development. For example, it would be ideal to conduct more longitudinal studies of bilingual children and the development of the weaker language in a majority language context to trace more directly how changes and disruptions in input affects the development from early childhood to adolescence. Testing minority speaking children in their two languages longitudinally can be extremely informative to observe tradeoffs and interactions between the two languages throughout development, and catch language shift in real time, as it happens. Studies comparing child and adult heritage speakers, both sequential and simultaneous bilinguals, can also give us an indication of the developmental changes in heritage speakers, if only more indirectly. Furthermore, we also need more studies of heritage speakers and L1 learners, not just adult native speakers, especially in languages other than English and the major European languages, for which we have very limited to no documentation of the normal language learning process in monolingual children (e.g., Hindi, Arabic, and Turkish, among many others).

Despite the validity and suitability of extending linguistic and psycholinguistic perspectives on minority language development, minority languages are still deeply shaped by sociolinguistic and political factors. Although the sociolinguistic and psycholinguistic traditions have been advancing without much interaction in general, the study of heritage

speakers calls for an integration of sociolinguistics, psycholinguistics, and theoretical linguistics in addition to (second) language acquisition to understand how language internal and language external factors lead to different learning outcomes in child and adult bilingualism. Future research should investigate, for example, whether speakers of a given heritage language, say Hindi, develop different patterns of attrition or incomplete acquisition depending on the SES of the heritage community in the United States and the UK. We also do not know whether there are differences in heritage language acquisition if the heritage language is in contact with different languages, like Arabic in contact with English in the United States or in contact with Spanish in Spain, where language attitudes and the political approach to ethnic minorities in general may differ as well.

Language is, after all, both a sociopolitical and a psycholinguistic construction: in fact, the psycholinguistic construction is embedded within the sociopolitical construction. If linguists and psycholinguists are interested in investigating specific linguistic features of heritage speakers, as the inner circle in Figure 4 shows, these cannot be properly understood without consideration of how the status of the language indirectly affects knowledge, acquisition, processing and use of those features.



5

Figure 4. Factors affecting specific linguistic features in heritage language competence and use

Thus, at the macro-level, the sociopolitical status of the language (majority vs. minority status) affects the attitudes and beliefs of its speakers toward the language, as well as the availability of the language in education, and degree of public use, for example. In turn, language attitudes affect language practices and patterns of language use: if a language is not imparted in education and is not used beyond the home, it will not be heard and used as much by their speakers because they may not see its value. Input and use affect grammatical and communicative competence, as manifested in particular linguistic features that are now part of the psycholinguistic representation of the speaker. In sum, input seems to be the key factor linking psycholinguistic and sociolinguistic factors in heritage language acquisition. We need to find a way to understand the specific input heritage speakers receive and how it impinges on their linguistic competence.

In conclusion, understanding the language abilities of heritage speakers and how and why they differ from that of other types of monolingual and bilingual speakers, what drives attrition and maintenance, and how much of the language can eventually be recovered at the individual level and revitalized at the sociolinguistic level calls for future research combining both sociolinguistic and psycholinguistic approaches to the problem.

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